



Jsm Comcap 2

Introduction

Welcome to Jsm Comcap 2!

This program allows you to accurately capture data flowing through a serial (COM) port using two serial ports on your computer. Then, using the captured data, you will be able to perform some analysis on the data using the various tools provided by Jsm Comcap 2. Jsm Comcap 2 also supports accurate playback, allowing you to simulate systems by repeating captured data on one or two serial ports.

First of all, the software will ask you to open a capture file. Select a new or an existing capture file then click on the Open button to open it. Adjust the settings to your need, then connect the RX wires of your serial ports to the TX and RX wires of the port being captured.

Then, press the "Start capture" button to launch data capture, and the "Stop capture" button to stop data capture.

Please view the various video tutorials by using the menu on the left to learn more about the features provided by Jsm Comcap 2.

We hope you will find this program useful.
The Jsm Micro team.

For comments, please write to :
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| DB9 and DB25 pinouts : | | | Error codes : | |
|------------------------|---------|----------|------------------|-----------------|
| ----- | | | ----- | |
| RX | DB9 (2) | DB25 (3) | *F=Framing error | *P=Parity error |
| TX | DB9 (3) | DB25 (2) | *B=Break error | |
| GND | DB9 (5) | DB25 (7) | | |

Important note : unfortunately, due to limitations in the serial port handling mechanisms in Windows, the software may not accurately report error codes (framing, parity and break errors). Those will be reported, but in some cases the error will not be at the same exact position as it should be : it might be offset by a few characters, which means that you should use caution when analysing protocols which use error codes. All protocols which do not use error codes (only characters) will work perfectly well. This is due to the poor performance of realtime events on Windows; we at Jsm Micro inc. tried and did our best to reduce the problem to the minimum, but in order to have a perfect and accurate analysis of protocols which use error codes, dedicated hardware is needed under Microsoft operating systems. Please note that in case of a break condition, a character 0x00 is captured. Since we cannot be sure at 100% where the break condition occurs, we cannot automatically remove this character. Also, the playback function will currently not reproduce breaks. Thank you for your comprehension.

Warning : This program is provided as-is with no warranties. Jsm Micro inc cannot be held responsible for any problems you may encounter. By using this software you accept these conditions and you agree not to modify the software.

For every installation, we require that you register your software. Registration and use of the software is free. If unregistered, the software will have restrictions. If the software is unregistered, the registration process will automatically launch at program startup, or you can launch it via the *Help* menu.

Conventions

- `0D 0A` : hexadecimal numbers in blue mean that these are control characters (0-31 incl.). In characters view, they are represented by a dot '.'.
- `FE FF` : hexadecimal numbers in green mean that these are extended characters (128-255 incl.). In characters view, they are represented by a dot '.'.
- `35|36` : hexadecimal characters separated by a pipe '|' mean that there was a long delay between the two characters (>10ms).
- The timestamps displayed on-screen indicate the timestamps of each of the **first** character of each line. To view more accurately the timestamps for each character, change the view mode to 1 character per line.

Tip for increasing timing accuracy

A registry modification can be performed to increase the accuracy of the capture under standard-compliant UARTS (not applicable to USB serial ports). This modification involves modifying the receive FIFO buffer to only 1 character. Please advice caution when performing this operation since modifying the registry incorrectly can be risky. To do so :

- Open the registry editor by clicking Start->Run and entering *regedit*
- Navigate exactly to the following location :
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Serial
- Note the RxFIFO parameter in case you want to restore the value later. Then replace it by 1.