

## Advantech AE Technical Share Document

<b>Date</b>	2017/3/7	<b>Related Product</b>	ADAM-4521	
<b>Category</b>	<input checked="" type="checkbox"/> FAQ <input type="checkbox"/> SOP	<b>Related OS</b>	N/A	
<b>Abstract</b>	ADAM-4521, How to test the communication between RS-485 and RS-232 when using addressable mode?			
<b>Keyword</b>	ADAM-4521, addressable mode, RS232, ASCII command			
<b>SR#</b>	1-2797409837			
Revision History				
Date	Version	Author	Reviewer	Description
2021/9/1	V2.0	Karen.Hsu	Owen.Chang	Utility: 2.6.00(B10)

■ **Problem Description:**

The ADAM-4521 addressable converter allows user to build up an RS-485 network with RS-232 devices by assigning each one an address for easier communication. This document explains how to configure the module into addressable mode successfully and test the communication between RS-485 and RS-232 devices.

■ **Answer:**

**Steps for configure module into addressable mode**

1. In Utility, make sure the below setting is correct as below picture
  - Addressable setting: select "Addressable" setting
  - Address: Enter a valid "device ID" in RS-485 network
  - Protocol: Choose "RS-485"

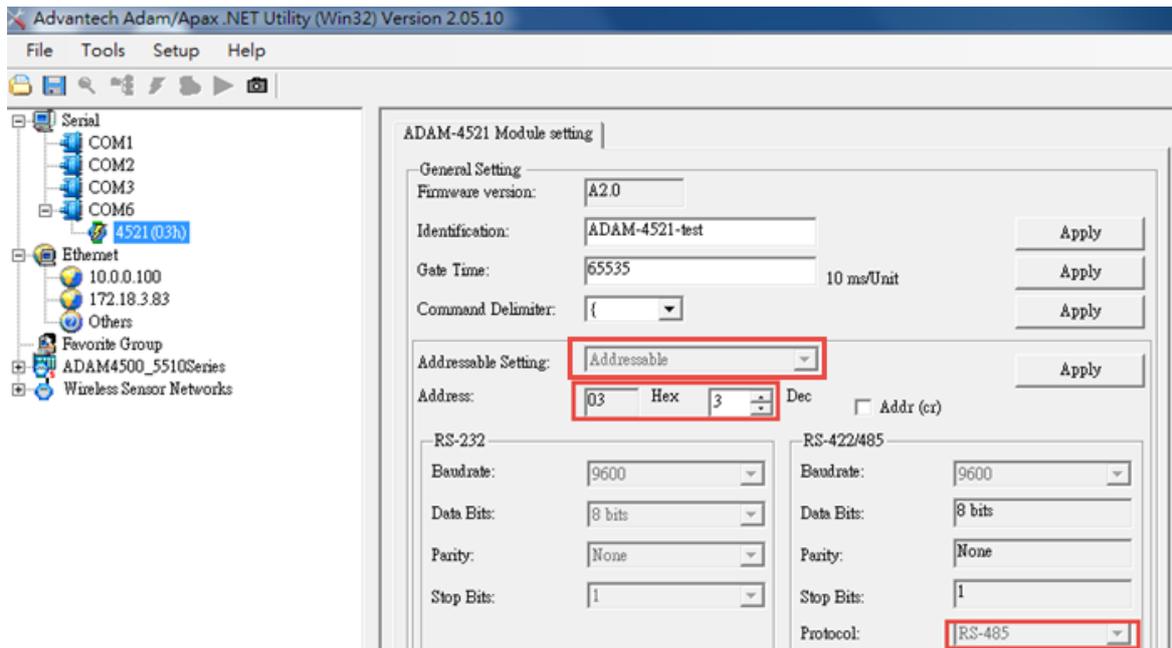


Figure 1 Utility addressable mode setting configuration page

### Steps to test the address setting of the module

- Use AccessPort to request model name of ADAM-4521
- \$AA7 is the command for request model name, so enter \$037 with carriage return will get model name shown on the top part of window.

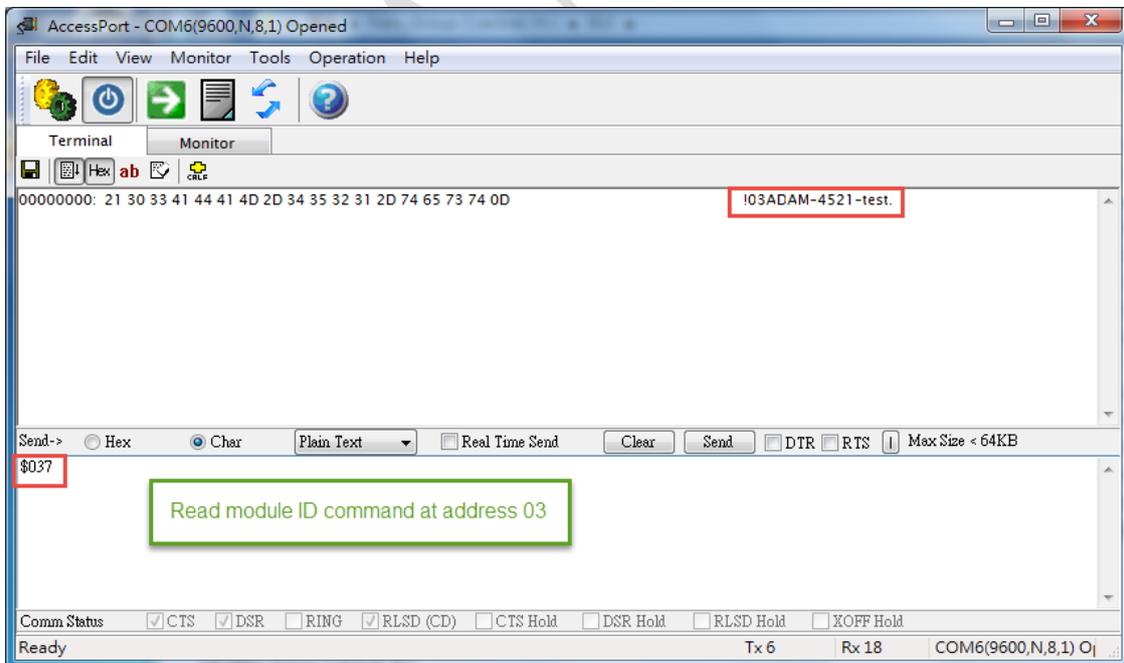


Figure 2 Use AccessPort to test the RS-485 communication with address setting

## Steps to test the communication between RS485 and RS-232

- Connect ADAM-4561, ADAM-4521 in below test topology as shown in Figure 3
- Open two AccessPort for creating two COM ports, one is used as the sender, the other is used as the receiver.

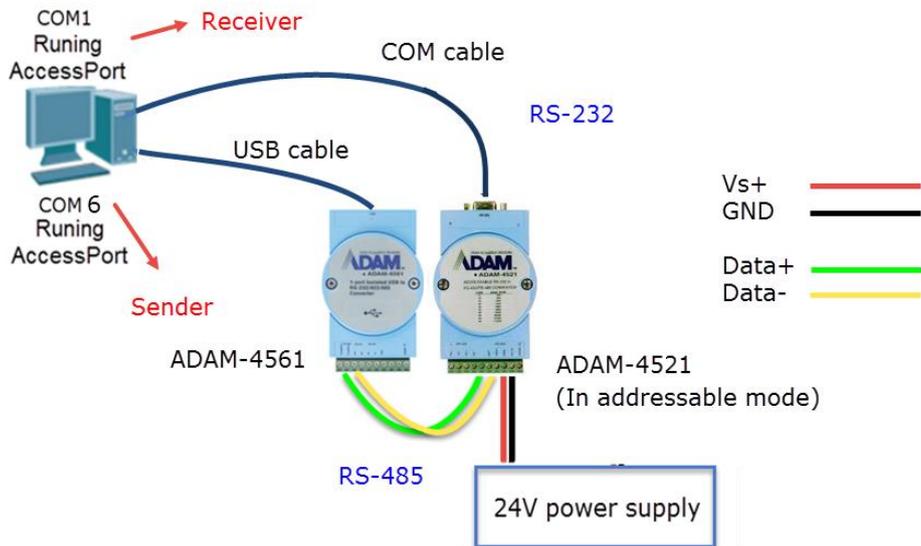


Figure 3 Test topology for the communication between RS-232 and RS-485

- Confirm with the command delimiter set in Utility, here is symbol “{” like the green box below.

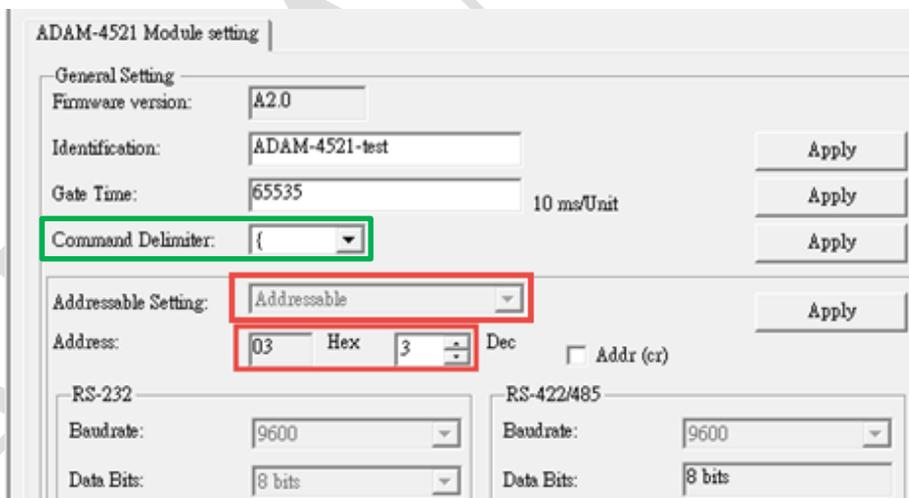


Figure 4 Command delimiter in Utility

- Command format is defined as Delimiter AA (Data) in ADAM-4521 user manual, so enter “**{03\$hello**” in request window in COM6 (RS-485), the response “**\$hello**” will show on the top part of window in COM1(RS-232)

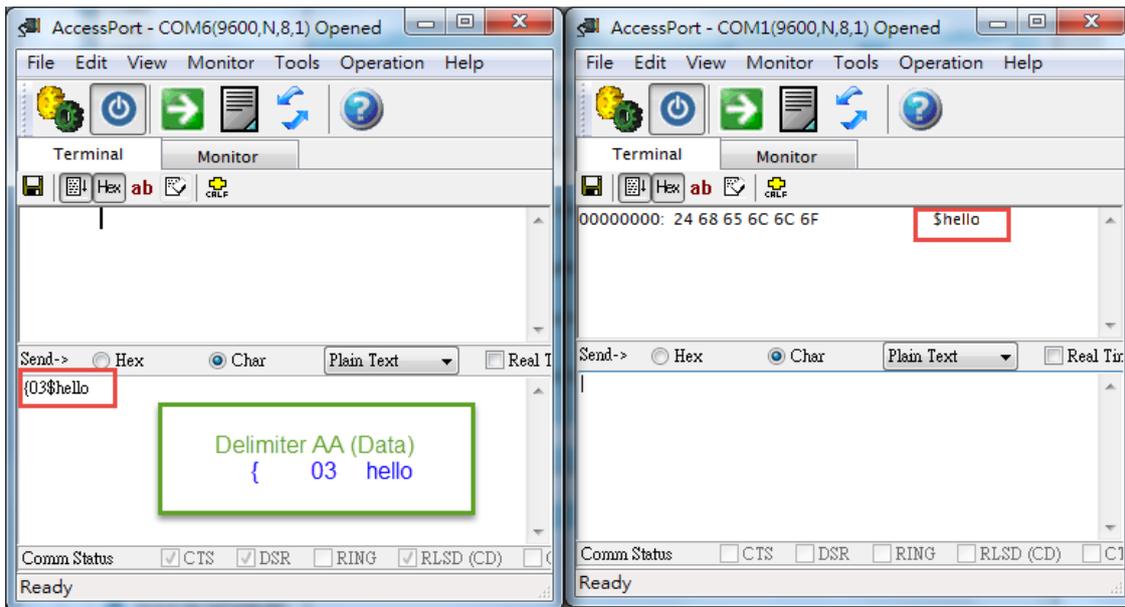


Figure 5 COM1(RS-232) receive command send from COM6 (RS-485)

■ **Addressable Mode Application:**

ADAM-4521 addressable mode allows users to send the command to specific address RS-232 devices. You can see several RS-232 devices without address in Fig6. With ADAM-4521 addressable mode, user could send command to device with specific address.

**Cautions:** The device connected by RS-232 in ADAM 4521 can't be master which means only receive the data from PC by RS-485/RS-422, but can't send the data from RS-232 to the PC side actively.

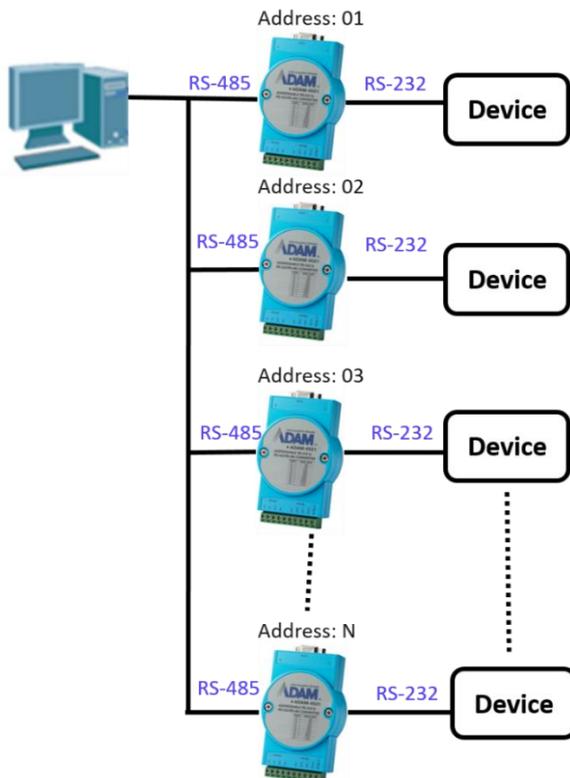


Figure 6 ADAM-4521 addressable mode application