

## Advantech AE Technical Share Document

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Category	■FAQ □SOP	Related OS	N/A
Abstract	How to connect RS-232 and RS-485 devices by using ADAM-4541?		
Keyword	Switch, RS-232, Fiber, RS-422, RS-485		
Related Product	ADAM-4541		

### ■ Problem Description:

This document explains how to setup a pair of ADAM-4541 to connect RS-232 devices and RS-485 devices.

### ■ Answer:

ADAM-4541 is a multi-mode fiber optic to RS-232/422/485 converter, but the default setting is for RS-485 application. There is something that we have to configure before connecting RS-232 to ADAM-4541.

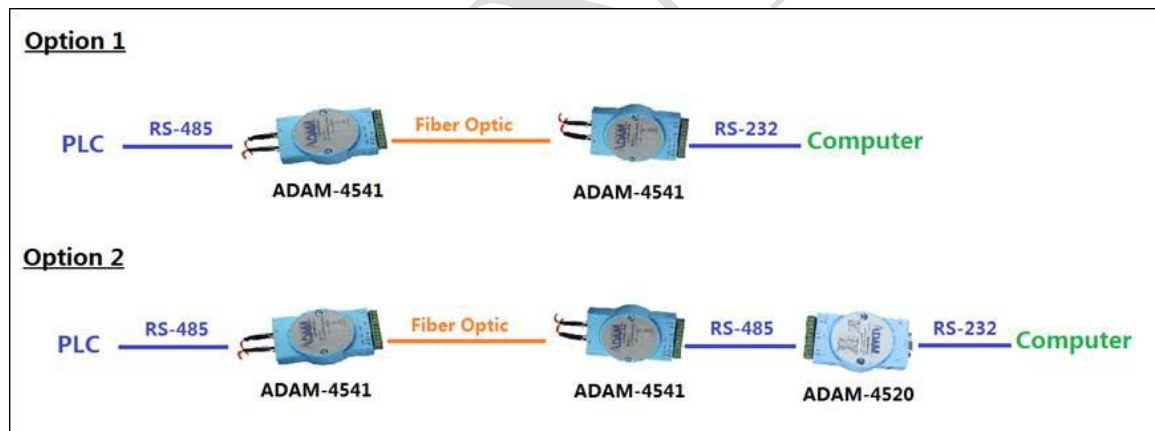


Figure 1. Two options for ADAM-4541 application

In Figure 1. Option2 will apparently work correctly, but it will need one ADAM-4520. In Figure 1. Option1, it can also can work by setting the DIP9 on switch2 “ON”.

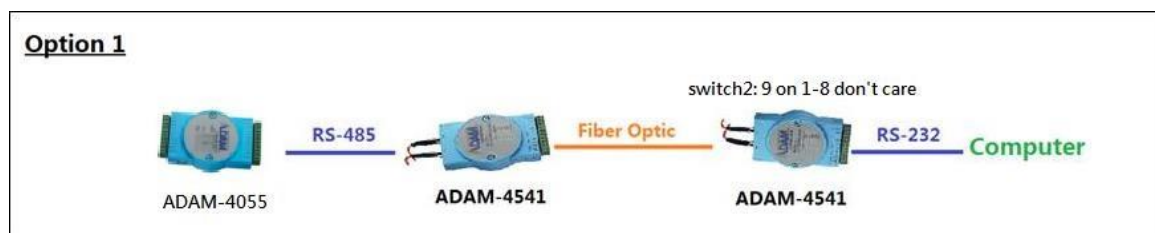


Figure 2. Switch setting on the ADAM-4541 at RS-232 side

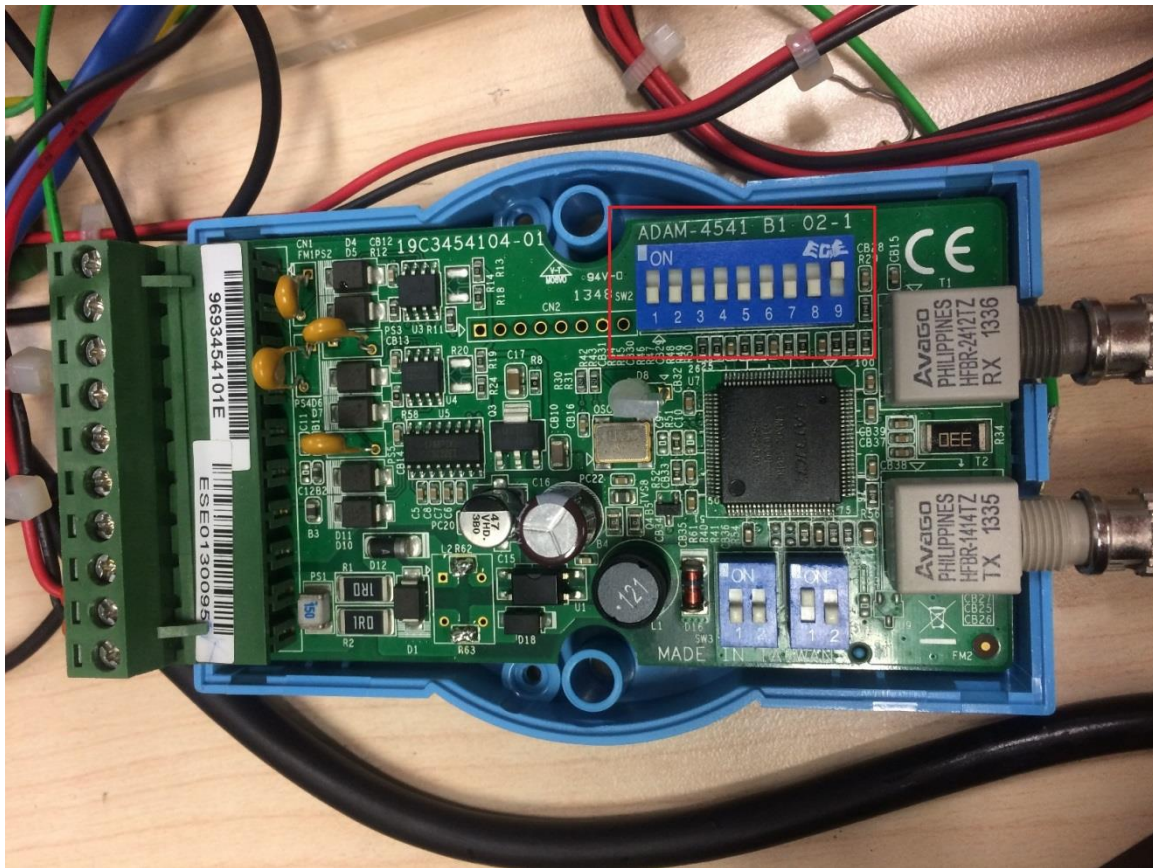


Figure 3. ADAM-4541 switch2 DIP9 is set to “ON” for RS-232/422 use

Baud Rate									
SW2	1	2	3	4	5	6	7	8	9
1200 bps	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2400 bps	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
4800 bps	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
9600 bps*	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
19.2 kbps	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
38.4 kbps	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
57.6 kbps	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
115.2 kbps	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
RS-232/422	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON

Figure 4. Switch2 setting rule

Operating Status		Status LED	
		Green	Red
RS-232/422	Fiber to Serial	ON	OFF
	Serial to Fiber	OFF	ON
	Fiber to Fiber	ON	OFF
	Idle	OFF	OFF
RS-485	Fiber to Serial	OFF	OFF
	Serial to Fiber	ON	ON
	Fiber to Fiber	OFF	OFF
	Idle	ON	OFF

Figure 5. Operating status for LED

There will be more settings we have to configure if we want to use it in different ways. (change data format, reserved, ring/normal mode, RS-232/422, baud rate) For example, switch1 is for data format, switch2 is for baud rate and RS-232/422, switch3 is for reserved and ring/normal mode.

You can find out in the following document.

[http://downloadt.advantech.com/download/downloadsr.aspx?File\\_Id=1-QO3AAK](http://downloadt.advantech.com/download/downloadsr.aspx?File_Id=1-QO3AAK)