# Appendix for MPC Installation Guide - RS-485 (RS-232) Program Settings and Configuration

Part A -- Communication Specification

Part B -- To Set up USB-RS232 Control Configuration (applicable if computer does not have RS-232 port) Part C -- Programming

### Part A – Communication Specification

A MPC and a computer can be connected using a serial or USB port. The Motor/Power Controller (MPC) can be remotely controlled by sending commands from computer. Connect a USB -to- RS485 (RS-232) cable between computer (Laptop) and MPC.



### **RS-485** Connection

MPC		PC serial cable	Computer		
GND	-		5	GND	
RD	-	·	3	TD	

### **RS-232** Connection

Connector		PC serial cable	Com	puter
GND	5		5	GND
RD	2	·	3	TD
TD	3		2	RD

#### Legend:

GND = Common Ground

TD = Transmitted Data

RD = Received Data

# Part B – To Set Up USB-RS232 Control Configuration (Skip This Step If Computer have RS-232 port Direct)

- 1. In Windows, click Start button and choose Control Panel
- 2. Select Device Manager

Control Panel  All	Control Panel Items 🕨	<b>▼</b> \$9	Search Control Panel	_	
Adjust your computer's setting	View by: Small icons 🔻				
🏲 Action Center	administrative Tools	Ġ Aka	mai NetSession Interface Control		
🚽 Autodesk Plot Style Manager	📮 Autodesk Plotter Manager	Ed Aut	oPlay		
🐌 Backup and Restore	Color Management	Cree	dential Manager		
Pate and Time	🕢 Default Programs	📑 Desktop Gadgets			
📇 Device Manager	Devices and Printers	🔄 Display			
Ease of Access Center	🗾 Flash Player (32-bit)	📔 Fold	ler Options		
K Fonts	릚 Getting Started	🜏 Hor	neGroup		
🖗 HP Quick Launch Buttons	🖤 HP Wireless Assistant	🔒 Inde	exing Options		
📜 Intel(R) GMA Driver for Mobile	🔂 Internet Options	🍰 Java	(32-bit)		
📖 Keyboard	Location and Other Sensors	<li>Mai</li>	l (32-bit)		
J Mouse	👫 Network and Sharing Center	🔜 Not	ification Area Icons		
🐻 Parental Controls	Performance Information and Tools	Pers	onalization		
Phone and Modem	Power Options	ᡖ Pro	gram Updates (32-bit)		
Programs and Features	P Recoverv	🔊 Rea	ion and Language		

### 3. Click on Ports (Com & LPT)

File Action View Help	
<ul> <li>PAUL-PC</li> <li>Batteries</li> <li>Bluetooth Radios</li> <li>Computer</li> <li>Disk drives</li> </ul>	
<ul> <li>Keyboards</li> <li>Mice and other pointing devices</li> <li>Monitors</li> <li>Network adoptors</li> <li>Ports (COM &amp; LPT)</li> <li>Prolific USB-to-Serial Comm Port (COM1)</li> <li>Comd, video and game controllers</li> <li>System devices</li> </ul>	
<ul> <li>Universal Serial Bus controllers</li> <li>Intel(R) ICH8 Family USB Universal Host Controller - 2830</li> <li>Intel(R) ICH8 Family USB Universal Host Controller - 2831</li> <li>Intel(R) ICH8 Family USB Universal Host Controller - 2832</li> <li>Intel(R) ICH8 Family USB Universal Host Controller - 2834</li> <li>Intel(R) ICH8 Family USB2 Enhanced Host Controller - 2836</li> <li>Intel(R) ICH8 Family USB2 Enhanced Host Controller - 283A</li> </ul>	*

# 4. Right Clip $\rightarrow$ Properties

5. Select Port Settings

General	Port Settings	Driver	Details		
		Bits pe	er second:	9600	•]
			Data bits:	8	•]
			Parity:	None	•
			Stop bits:	[1	•]
		Flo	w control:	None	•]
			Adv	vanced	Restore Defaults

- 6. Select "Advanced"
- 7. Select "Com 1" in the drop down box for COM Port Number

Advanced Settings for COM1	-							×
Use FIFO buffers (requestions)	ires 16550 correct co	compatible   onnection pro	UART) oblems.					OK Cancel
Receive Buffer: Low (1)				-0		High (14)	(8)	Defaults
Transmit Buffer: Low (1)		<i>a</i> :	0	34	Ŧ	High (16)	(8)	
COM Port Number: COM1	•	>						

8. Click OK

### Part C – Programming MPC with Software Program

A Computer (Laptop) to program MPC for combine mode (by default MPC is programmed in Independent Mode). A program "MPC-851 Program.exe" can be download from Remaco website (<u>www.remacotech.com</u>) under download. The program has to be installed into your computer before continue with the following steps.

## **Entering Login Mode**

- 1. Connect MPC with computer through USB-to-RS485 (RS-232) Cable.
- 2. Open up "MPC-851 Program.exe".
- 3. Once Connected Top Left Hand Corner should display "Open=1" as shown on the picture.
- 4. Click on any of the program control Button (UP, DOWN, STOP), LED on MPC should flash. If it does not flash, change the direction of the RS232 Wire.
- If LED flashes, but Motor doesn't move. It means the communication between computer and MPC is not communicating. The MPC has not login into "Set Control" program.
   Following steps has to be done to login.
- Press and hold the learning button on the MPC, until the LED flashes.
   Click "UP" button on the program software of any channel, then the LED will stop flashing.
   It indicates login is successful.

### Program Setting – Independent Mode

In Independent Mode, Interval Time is unavailable. However you can still set the motor running duration of each motor.

# **Program Setting – Combine Mode**

Open=1			×
Com COM1 💌	⊙Independent ⊙Combine Mode Mode	Enter	
Motor1( <mark>20</mark> )	< ·	🗾 🚺 Up	
Motor2(50)	< ·	🔊 Stop Sto	p
Interval <mark>10</mark> ) Time (		Down Dow	'n
Dsr			

- Start Time: The time when you press "UP" or "Down"
- Motor 1: Running Time Duration (in seconds) of Motor 1
- Motor 2: Running Time Duration (in seconds) of Motor 2
- Interval Time: Duration (in seconds) between the start time of the first motor that run and the start time of the second motor that run.

If Interval is "+", Motor 1 will run first, If Interval is "-", Motor 2 will run first.

\*\* Maximum Running Duration for each motor is 240 Seconds.

\*\* **Important Remarks:** For safety reason, at any time if "Up" command follow by "Down" command or vice versa. MPC will stop all movement immediately and move onto last command activated.

Motor 1 = 80sec (start to run from the 1st blue marker, and stop in the 2nd blue marker) Motor 2 = 100sec (start to run from the 1st blue marker, and stop in the 2nd blue marker) Interval time = +60sec (between two red lines)



### Example 2: Assuming below is time settings, the motor runs as shown on picture below

Motor 1 = 45sec (start to run from the 1st blue marker, and stop in the 2nd blue marker) Motor 2 = 50sec (start to run from the 1st blue marker, and stop in the 2nd blue marker) Interval time = +60sec (between two red lines)



### Example 3: Assuming below is time settings, the motor runs as shown on picture below

Motor 1 = 60sec (start to run from the 1st blue marker, and stop in the 2nd blue marker) Motor 2 = 100sec (start to run from the 1st blue marker, and stop in the 2nd blue marker) Interval time = -60sec (between two red lines)

