

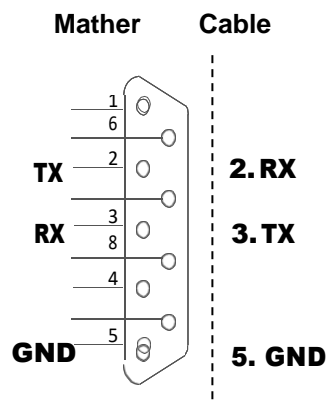
RS232 Protocol

RS-232C

1. Communication Specification

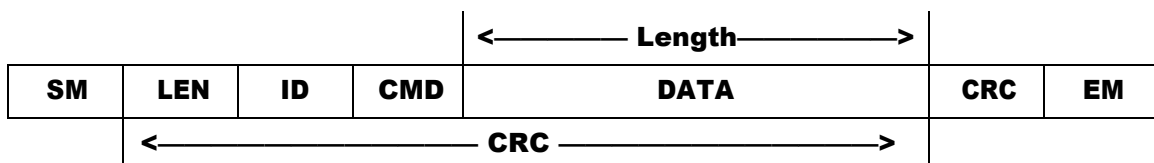
Baudrate	57,600bps
Data width	8bits
Parity	none
Stop bit	one
Flow control	none

Pin Map



D-sub 9P Female D-sub 9P Male

Communication Protocols



Name	Size	Function
SM	1	Start Marker (0x05)
LEN	1	Length
ID	1	ID
CMD	1	Command
DATA_n	n	DATA field
CRC	1	CRC (XOR calc.)
EM	1	End Marker (0x0A)

No	FUNCTION	DIR CTRL-RFU	START CODE	LEN	ID	CMD	D0	D1	D2	D3	D4	D5	CRX	END CODE
1	set matcher status	→	05	06	40	00							XX	0A
2	get matcher status	→	05	06	40	40							XX	0A
3	respond matcher status	←	05	02	40	C0							XX	0A
4	set load preset	→	05	06	40	01							XX	0A
5	get load preset	→	05	06	40	41							XX	0A
6	respond load preset	←	05	02	40	C1							XX	0A
7	set tune preset	→	05	06	40	02							XX	0A
8	get tune preset	→	05	06	40	42							XX	0A
9	respond tune preset	←	05	02	40	C2							XX	0A
10	get current load position	→	05	06	40	43							XX	0A
11	respond current load position	←	05	02	40	C3							XX	0A
12	get current tune position	→	05	06	40	44							XX	0A
13	respond current tune position	←	05	02	40	C4							XX	0A
14	get vpp value	→	05	06	40	45							XX	0A
15	respond vpp value	←	05	02	40	C5							XX	0A
16	get vrms and lrms	→	05	06	40	05							XX	0A
17	vrms and lrms response	←	05	04	40	C8							XX	0A
18	get matcher impedance	→	05	06	40	06							XX	0A
19	matcher Impedance Response	←	05	05	40	C9							XX	0A
20	get forward power	←	05	06	40	03							XX	0A
21	forward power response	←	05	03	40	C6							XX	0A
22	get ref power	←	05	06	40	04							XX	0A
23	ref power response	←	05	03	40	C7							XX	0A
24	Set Start and Stop SWR	→	05	06	40	0B							XX	0A
25	Get Start and Stop SWR	→	05	06	40	14							XX	0A
26	Start and Stop SWR Response	←	05	04	40	D0							XX	0A
27	Get SWR	→	05	06	40	07							XX	0A
28	Response SWR	←	05	03	40	CA							XX	0A
29	Set Phase gain	→	05	06	40	12							XX	0A
30	Set Position Threshold	→	05	06	40	0E							XX	0A
31	Set Load Manually	→	05	06	40	0F							XX	0A
32	Set Tune Manually	→	05	06	40	10							XX	0A
33	Motor Reset	→	05	06	40	08							XX	0A
34	Get Phase Shift	→	05	06	40	11							XX	0A
35	Phase Shift response	←	05	03	40	CE							XX	0A

3. Communication Command Information

1.set matcher status

[cmd] 0x00	15 3 2 0															
[id] 0x40																
	[2:0]	auto-I : 0														
		Manual : 1														
		auto-II : 2														
		auto Preset-I : 3														
		auto preset-II : 4														
	[15:3]	reserved														

3.respond matcher status

[cmd] 0xC0	15 12 11 10 9 8 7 4 3 2 1 0															
[id] 0x40	rsv lt pl zl pe rsv mv am															
	[0]	auto matching 0:auto 1:manual														
	[1]	reserved														
	[2]	Panel 0:Normal, 1:Abnormal														
	[3]	RF 0:OFF, 1:ON														
	[7:4]	reserved														
	[8]	Motor Error 0:normal, 1:abnormal														
	[9]	reserved														
	[10]	Temp 0:normal, 1:abnormal														
	[11]	Matching 0: not matched, 1:matched														
	[15:12]	reserved														

4.set load preset

[cmd] 0x01	15 10 9 0															
[id] 0x40	null lpw															
	[9:0]	load preset 0~1,000(0x0000~0x03E8)														
	[15:10]	null not assignment. write data is '0'.														
		[NOTE] load preset unit is "%". 12.3%=123(0x007B)														

6.respond load preset

[cmd] 0xC1	15 10 9 0															
[id] 0x40	null lpr															
	[9:0]	load preset 0~1,000(0x0000~0x03E8)														
	[15:10]	null not assignment. read data is '0'.														
		[NOTE] load preset unit is "%". 12.3%=123(0x007B)														

7. set tune preset

[cmd] 0x02	15 10 9 0		
[id] 0x40	null trw		
	[9:0]	tune preset 0~1,000(0x0000~0x03E8)	
	[15:10]	null not assignment. write data is '0'.	
		[NOTE] tune preset unit is "%". 12.3%=123(0x007B)	

9. respond tune preset

[cmd] 0xC2	15 10 9 0		
[id] 0x40	null trr		
	[9:0]	tune preset 0~1,000(0x0000~0x03E8)	
	[15:10]	null not assignment. read data is '0'.	
		[NOTE] load preset unit is "%". 12.3%=123(0x007B)	

11. respond current load position

[cmd] 0xC3	15 10 9 0		
[id] 0x40	null clpr		
	[9:0]	load position 0~1,000(0x0000~0x03E8)	
	[15:10]	null not assignment. Read data is '0'.	
		[NOTE] load position unit is "%". 12.3%=123(0x007B)	

13. respond current tune position

[cmd] 0xC4	15 10 9 0		
[id] 0x40	null ctrr		
	[9:0]	tune position 0~1,000(0x0000~0x03E8)	
	[15:10]	null not assignment. Read data is '0'.	
		[NOTE] tune position unit is "%". 12.3%=123(0x007B)	

15. respond vpp value

[cmd] 0xC5	15 14 13 0		
[id] 0x40	null vpr		
	[13:0]	vpp 0~10,000(0x0000~0x2710)	
	[15:14]	null not assignment. read data is '0'.	
		[NOTE] vpp unit is "V".	

17. respond Vrms and Irms value

[cmd] 0xC8	31 16 15 0		
[id] 0x40	vrms irms		
	[15:0]	Irms Scaled by 10.0	
	[31:16]	Vrms Scaled by 10.0	
		[NOTE] irms unit is "A".	

19. respond impedance

[cmd] 0xC9	39 24 23 8 7 0					
[id] 0x40						
	[7:0]	Sign of imaginary 0: positive, 1: negative				
	[23:8]	real scaled by 10.0				
	[39:24]	imaginary scaled by 10.0				
		[NOTE]				

21. respond forward power

[cmd] 0xC6	23 0	
[id] 0x40		
	[23:0]	Fwd power scaled by 10
		[NOTE]

23. respond reflected power

[cmd] 0xC7	23 0	
[id] 0x40		
	[23:0]	ref power scaled by 10
		[NOTE]

24. Set Start and Stop SWR

[cmd] 0x0B	31 16 15 0			
[id] 0x40	Stop SWR Start SWR			
	[15:0]	Start SWR 150 = 1.5 (0x0096)		
	[31:16]	Stop SWR 100 = 1.0 (0x0064)		
		[NOTE] scaled by 100		

26. respond start and stopswr

[cmd] 0xD0	31 16 15 0			
[id] 0x40				
	[15:0]	Start swr Scaled by 100		
	[31:16]	Stop swr Scaled by 100		
		[NOTE]		

28. respond swr reading

[cmd] 0xCA	23 8 7 0			
[id] 0x40				
	[7:0]	Sign 0: positive, 1: Negative		
	[23:8]	current swr scaled by 100		
		[NOTE]		

29. Set Phase gain

[cmd] 0x12	31 16 15 0			
[id] 0x40	Phase shift gain Target Impedance			
	[15:0]	Target Impedance 500 = 50 (0x01F4)		
	[31:16]	Phase shift gain 10 = 1 (0x000A)		
		[NOTE] scaled by 10		

30. Set Position Threshold

[cmd] 0x0E	<div> <div>7</div> <div>0</div> </div>	
[id] 0x40	threshold	
	[7:0]	tune preset 0~16(0x0000~0x10)

31. Set Load Manually

[cmd] 0x0F	<div> <div>15</div> <div>8</div> <div>7</div> <div>0</div> </div>	
[id] 0x40	Byte 2	Byte1
	[9:0]	Set load Position 0~1,000(0x0000~0x03E8)
	[15:0]	
		[NOTE] load position unit is "%". 12.3%=123(0x007B)

32. Set Tune Manually

[cmd] 0x10	<div> <div>15</div> <div>10</div> <div>9</div> <div>0</div> </div>	
[id] 0x40	null	tnw
	[9:0]	Set Tune Position 0~1,000(0x0000~0x03E8)
	[15:0]	
		[NOTE] Tune position unit is "%". 12.3%=123(0x007B)

33. Motor Reset

[cmd] 0x08	<div> <div>7</div> <div>0</div> </div>	
[id] 0x40	Reset Motor	
	[7:0]	0

35. respond Phase shift

[cmd] 0xCE	<div> <div>23</div> <div>8</div> <div>7</div> <div>0</div> </div>	
[id] 0x40		
	[7:0]	Sign 0: positive, 1: Negative
	[23:8]	Phase shift in radian scaled by 10
		[NOTE]