

Azur 851E Serial Control Protocol V2.0

1. RS232 Protocol

The protocol is accessed via COM1 i.e. the rear panel RS232C port.

2. Command format

Header	Command Group	Command Number	Command Data	Footer		
1 B	1 B	1 B	2 B	1 B		
#	1 to 6	,	01 to 18	,	XXXX	CR

Notes:

- All data consists of ASCII characters.
- Settings for RS232 com port are **115,200 bps** (default), **38,400 bps** or **9,600 bps**, **no parity**, **8 bits**, **1 stop bit**, **no handshake**
- CR is carriage return, value 0x0D (13 decimal)
- Command data consists of 10 characters maximum

3. Command groups

Commands are split into the following groups:

Command group	Description
1	Control commands
2	Setup commands
3	Replies from Setup commands
4	Replies from Control commands and Updates
5	Error messages

4. Commands and Messages

4.1. Group 1: Control commands

Command number	Command description	Command data	Example
01 to 07	Main Input Selects	Optional; For Input 1, 2 & 3 only 1 – Balanced; 0 – Unbalanced; <No data> – Toggle	#1,02\r – Select Input 2 or toggle if selected #1,01,1\r – Select Input 1 Balanced
08	Record In	0 – Off; 1 – On	#1,08,1\r – Record In On
09	Main Input Up	<No data>	#1,09\r – Next Input Up
10	Main Input Down	<No data>	#1,10\r – Next Input Down
11	Power State	0 – Standby; 1 – On	#1,11,0\r – Put 851E in Standby
12	Mute State	0 – Mute On; 1 – Mute Off	#1,12,1\r – Mute Output
13	Set Absolute Volume	00 to 91 – Volume Level	#1,13,10\r – Set Volume to 10
14	Auto Volume Up	<No data>	#1,14\r – Start Volume Up
15	Auto Volume Down	<No data>	#1,15\r – Start Volume Down
16	Auto Volume Stop	<No data>	#1,16\r – Stop Volume Changing
17	Set Balance	00 to 16 – Balance Level 00 – Max Left; 08 – Balanced; 16 – Max Right	#1,17,08\r – Balance Neutral
18	Balance Right	<No data>	#1,18\r – Balance Right
19	Balance Left	<No data>	#1,19\r – Balance Left
20	LCD Brightness	0 – Off; 1 – Dim; 2 – Bright	#1,20,2\r – LCD Bright
26	Set Direct	0 – Off; 1 – On	#1,26,1\r – Direct On

4.2. Group 2: Setup commands

Command number	Command description	Command data	Example
01	Get Software Version	<No data>	#2,01\r – Get Software Version
02	Get Protocol Version	<No data>	#2,02\r – Get Protocol Version
03	Set Input Name	1 to 8,<Name>	#2,03,3,iPod\r – Input 3 named 'iPod'

4.3. Group 3: Replies from Setup Commands

Command number	Command description	Command data	Example
01	Software Version	X.Y	#3,01,1.2\r – Software version is 1.0
02	Protocol Version	X.Y	#3,02,2.4\r – Protocol version is 1.0
03	Input Name Changed	1 to 8,<Name>	#3,03,3,DAB \r – Input 3 is named 'DAB'

4.4. Group 4: Replies from Control Commands and Updates

Command number	Command description	Command data	Example
01 to 07	Main Input Source Changed	For Input 1 & Input 2 only 1 – Balanced; otherwise <No data>	#4,02,\r – Main Input 2 Unbalanced selected #4,01,1\r – Main Input 1 Balanced selected
08	Record In Changed	0 – Off; 1 - On	#4,08,1\r – Record In On
11	Power State Changed	0 – Standby; 1 - On	#4,11,0\r – 851A in Standby
12	Mute State Changed	0 – Mute Off; 1 – Mute On	#4,12,1\r – Mute On
13	Volume Changed	00 to 91 – Volume Level	#4,13,15\r – Volume Level is set to 15
17	Balance Changed	00 to 16 – Balance Level	#4,17,08\r – Balance is neutral
20	LCD Brightness Changed	0 – Off; 1 – Dim; 2 - Bright	#4,20,1\r – LCD dim
22	Headphones In/Out	0 – Out; 1 – In	#4,22,1\r – Headphones inserted
26	Direct State Changed	0 – Off; 1 – On	#4,26,1\r – Direct is On

4.5. Group 5: Error Messages

Command number	Command description	Command data	Example
07	Command Group Unknown	<No data>	#5,07,\r – Command error
08	Command Number in Group Unknown	<No data>	#5,08,\r – Command error
09	Command Data Error	<No data>	#5,09,\r – Data error

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