

Azur 851A Serial Control Protocol V1.0

1. History

Based on Azur 840A (V1 & V2) and 840E Serial Control Protocol V1.1.

2. RS232 Protocol

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

3. Command format

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

Notes:

- All data consists of ASCII characters.
- Settings for RS232 com port are 9600 bps, N, 8, 1 with no handshake
- CR is carriage return, value 0x0D (13 decimal)
- Command data consists of 10 characters maximum

4. 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

5. Commands and Messages

5.1. Group 1: Control commands

Command number	Command description	Command data	Example
01 to 07	Main Input Selects	Optional; For Input 1 & Input 2 only 1 – Balanced; otherwise or <No data> – Unbalanced	#1,02,\r – Select Input 2 Unbalanced #1,01,1\r – Select Input 1 Balanced
08	Tape Monitor	0 – Off; 1 – On	#1,08,1\r – Tape Monitor 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 851A in Standby
12	Mute State	0 – Mute On; 1 – Mute Off	#1,12,1\r – Mute Output
13	Goto Volume	00 to 96 – Volume Level	#1,13,10\r – Set Volume to 10
14	Volume Up	<No data>	#1,14,\r – Start Volume Up
15	Volume Down	<No data>	#1,15,\r – Start Volume Down
16	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
21	Speaker Select	0 – A; 1 – AB; 2 – B	#1,21,1\r – Speaker AB
24	Set Bass	00 to 30 – Bass Level 00 – Min Level; 15 – Neutral; 30 – Max Level	#1,24,15\r – Bas Neutral
25	Set Treble	00 to 30 – Treble Level 00 – Min Level; 15 – Neutral; 30 – Max Level	#1,25,15\r – Treble Neutral
26	Set Direct	0 – Off; 1 – On	#1,26,1\r – Direct On

5.2. 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'

5.3. 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 1.2
02	Protocol Version	X.Y	#3,02,2.4\r – Protocol version is 2.4
03	Input Name Changed	1 to 8,Name	#3,03,3,DAB \r – Input 3 is named 'DAB '

5.4. 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	Tape Monitor Changed	0 – Off; 1 - On	#4,08,1\r – Tape Monitor 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 96 – Volume Level	#4,13,15\r – Volume Level is set to 15
14	Volume Increasing	<No data>	#4,14,\r – Volume increasing
15	Volume Decreasing	<No data>	#4,15,\r – Volume decreasing
16	Volume Stopped	00 to 96 – Volume Level	#4,16,20\r – Volume changing stopped at 20
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
21	Speaker Selection Changed	0 – A; 1 – AB; 2 – B	#4,21,1\r – Speaker B selected
22	Headphones In/Out	0 – Out; 1 – In	#4,22,1\r – Headphones inserted
23	A-BUS Input Source Changed	1 – Input 1; 2 – Input 2; 3 – Input 3; 4 – Input 4; 5 – Input 5; 6 – Input 6; 7 – Input 7; 8 – Tape Monitor	#4,23,7\r – A-BUS Input 7 selected
24	Bass Level Changed	00 to 30 – Bass Level 00 – Min Level; 15 – Neutral; 30 – Max Level	#4,24,15\r – Bass is neutral
25	Treble Level Changed	00 to 30 – Treble Level 00 – Min Level; 15 – Neutral; 30 – Max Level	#4,25,15\r – Treble is neutral
26	Direct State Changed	0 – Off; 1 – On	#4,26,1\r – Direct is On

5.5. Group 5: Error Messages

Command number	Command description	Command data	Example
01	Overload Error	<No data>	#5,01,\r – Overload error
02	DC Offset Error	<No data>	#5,02,\r – DC Offset error
03	Over Temperature Error	<No data>	#5,03,\r – Over temperature error
04	Clipping Error	<No data>	#5,04,\r – Clipping error
05	Mains Fail	<No data>	#5,05,\r – Mains failed
06	Speaker Fail	<No data>	#5,06,\r – Speaker failed
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

Information in this document has been carefully checked for accuracy; however, Cambridge Audio's policy is one of continuous improvement, therefore design and specifications are subject to change without prior notice. If you notice any errors please feel free to e-mail us at: support@cambridgeaudio.com.

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