

CellEvatorAria Remote Control API



© 2009 Beckman Coulter Biomedical GmbH. All Rights Reserved.

CellEvatorAria Remote Control API.

This User Guide as well as the system described in it may be used or copied only in accordance with the terms of copyright. The content of this User Guide is intended for instructional use only and is subject to change without notice.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical or otherwise, without the prior written permission of Beckman Coulter Biomedical GmbH. Please remember that existing artwork or images from this guide that you may want to include in your project may be protected under copyright law. The unauthorised incorporation of such material into your new work could be a violation of the rights of the copyright owner. Please be sure to obtain any permission required from the copyright owner. Any references to any company names or peoples names in sample templates and screens are for demonstration purposes only and are not intended to refer to any actual organisation or names of persons.

Germany, Austria, Switzerland and Support contact:

Beckman Coulter Biomedical GmbH
Sauerbruchstraße 50
D-81377 Munich
Phone: +49-(0)89-579589-3540
Fax: +49-(0)89-579589-3503
Email: info@advalytix.com

USA:

58 Elsinore St. Concord
MA 01742
USA
Phone: +1-978-405-2533
Fax: +1-978-405-2534
Email: info@advalytix.com

For all other regions go to www.advalytix.com for your nearest distributor.

For research use only. Not for use in diagnostic procedures.

MoFlo™ is a trademark of Beckman Coulter, Inc.

BD, the BD logo, FACS™, FACS Aria™ and FACSFlow™ are trademarks of Becton, Dickinson and Company.

1 INTRODUCTION

This document specifies the electrical interface and the API for the remote control port of the CellEvatorAria instrument.

For research use only. Not for use in diagnostic procedures.

2 HARDWARE INTERFACE

Communication with the CellEvatorAria is established via a serial line (RS 232). The connector on the rear panel of the CellEvatorAria is a female Sub-D 9 connector with standard RS-232 pin layout, i.e. Pin 2 is RX, Pin 3 is TX, all other lines are ignored.

Transmission protocol settings:

9600 Baud, 8 data bits, 1 stop bit, no parity, no hardware flow control.

3 SOFTWARE INTERFACE

Commands are sent to the CellEvatorAria as character strings. Each command string must be terminated with <CR> (hex code 0x0d). The characters "=", "<Space>" and "<LF>" are ignored. Numbers may be entered with or without leading zeros. Numbers exceeding 4 digits are not understood. The total length of a command must not exceed 20 characters (excluding ignored characters and <CR>, see above).

The device will respond with "E1: INVALID COMMAND<CR>" upon erroneous commands. For software control of the error message, only the leading "E1" may be evaluated.

A command string of more than 20 characters will be terminated after the 20th character and sent back with a leading "?" and a terminating "<CR>". This case may occur, if, for example, a number of command strings is sent without the required terminating character for a single command string.

3.1 COMMAND SET

Command	Description	Default
#Lx	Adjust RF level to x [dBm] (available range: 4 - 35 dBm).	4
#Ox	Operation with existing parameter set. "x": 0 = OFF, 1 = ON	0
#Px	PWM-Percentage 0 - 100	54
#?L	Read the set level. Response: "LxxdBm<CR>"	n.a.
#?O	Read current operating mode. Response "Ox<CR>"	n.a.
#?I	Information request for the hardware setup. Upon this request, the PlateBooster responds with a sequence of semicolon-separated fields: GIDx: Gestalt ID of the generator GSNix: Generator serial number GFx.y: Generator firmware version RFx.y: RF-module firmware version MIBx: Gestalt ID of the mixer module MSNx: Serial number of mixing module DEV: number of devices	n.a.
#?E	Request the current error state.	n.a.
#?P	PWM „Px%CR“ - Read current PWM setting	n.a.

The device does not respond to commands except:

- on explicit request
- if the command string length restriction is violated
- if the command is invalid.

3.3 ERROR CODES

E0	No error.
E1	Invalid command. This is an automatic response to an erroneous command.
E2	No mixing unit found.
E3	No RF module found.
E4	No front panel input devices found.
E5	Communication failure with MTP module.
E6	Communication failure with RF module.
E7	Communication failure with front panel input devices.
E8	RF module hardware failure (PLL fail, PA abnormal operation data) (not yet implemented).
E9	SWR alarm (RF connectivity problem) (not yet implemented).
E10	Invalid parameter. This is an automatic response when the requested level is out of the permitted range.

Please note, that only the errors E1 and E10 are returned without explicit request. Error E1 is returned immediately after receipt of an invalid command and is not reported by an “#?E” error request.

If several errors are present simultaneously, an “#?E” request returns a list of these errors in the form “ExEyEz<CR>”.

DOCUMENT HISTORY

Revision	Date	Comment
1.0	23.09.2009	Creation
1.1	27.10.2009	Revision

Rev. 1.1, 2009-10-26, Copyright Beckman Coulter Biomedical GmbH, Munich, Germany