

DU6871/DW6851/DX681 RS-232 Operation Command

Interface and Requirements

The RS-232 Commands use only ASCII characters which can be entered using a typical terminal emulator like Windows HyperTerminal with the following setting:

Bits per second: 115200 (default) / 57600 / 38400 / 19200 / 14400 / 9600 / 4800 / 2400 / 1200 (selectable by OSD)

Data bits: 8

Parity: None

Stop bits: 1

Flow control: None

System Operation commands.

The Operation commands tell the projector what to do. All commands start with 2 letters: "op" for operations commands, and a space [SP] then following a control command then finally the value wants to read, set, increase or decrease. All commands must end with a carriage return (ASCII hex 0D), shown as [CR] below. The syntax for operations commands is as follows:

op[SP]<operation command>[SP]<Setting Value> [CR]

For all but Execute functions the response from the projector will be the command and "= <value>" where <value> is the current value or "NA" if the value is not available. For Execute functions the response will be the same command. All responses will be in CAPS. Please refer to the following table for command list and examples:

System Operation command:

Operation	Commands	Values
Set	= <value>	Makes the unit take that value.
Get	?	Asks what the current value is.
Increment	+	Adds 1 to the current value.
Decrement	-	Subtracts 1 from the current value.
Execute	(none)	Performs an action such as a reset.

Motor operation command:

For motor control like lens shift, focus and zoom, the parameters " + " and " - " are defined as follows.

Command item	command	System Action
focus	+ -	+ => Focus Near, - => Focus Far
zoomio	+ -	+ => Zoom out - => Zoom in
Vert.offset	+ -	+ => Up - => Down
horiz.offset	+ -	+ => Right - => Left
lens.center	(execute)	Midposition shift
shutter	+ -	+ => Close - => Open

Get operations command example:

Input: op bright ? [CR]

System Response: OP BRIGHT = 100

Increase & Decrease operations command examples:

Input: op bright + [CR]

System Response: OP BRIGHT = 101

Input: op bright - [CR]

Response: OP BRIGHT = 126

Set operations command example:

Input: op bright = 127 [CR]

System Response: OP BRIGHT = 127

Execute command example:

Input: op auto.img [CR]

Response: OP AUTO.IMG

The list of valid operations commands for this model are shown in below Table.

DU6871 Operation Commands

1. Input

Item	Operation	Commands	Values	Notes
1-1	input.sel	= ?	0 = HDMI 1 = DVI 2 = VGA 3 = Component / BNC 4 = DisplayPort 5 = HDBaseT	Note1; Note3
1-2	pattern	= ?	0 = Color Bar 1 = Cross Hatch 2 = Burst 3 = Red (TI) 4 = Green (TI) 5 = Blue (TI) 6 = WHITE (TI) 7 = BLACK (TI) 8 = HRamp (TI) 9 = Red (uncorrected) 10 = Green (uncorrected) 11 = Blue (uncorrected) 12 = White (uncorrected) 13 = Black (uncorrected) 14 = Off	Note1
1-3	color.space	= ?	0 = Auto 1 = YCbCr (Rec. 601) 2 = YPbPr (Rec. 709) 3 = RGB-PC (0-255) 4 = RGB-Video (16-235)	Note2
1-4	input.lock	= ?	0 = Auto 1 = 48 Hz 2 = 50 Hz 3 = 60 Hz	Note2
1-5	no.signal	= ?	0 = Logo 1 = Blue 2 = Black 3 = White	Note1

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2. Picture

Item	Operation	Commands	Values	Notes
2-1	pic.mode	= ?	0 = High Bright 1 = Presentation 2 = Video	
2-2	contrast	= ? + -	0 - 200	Note2
2-4	bright	= ? + -	0 - 200	Note2
2-5	saturat	= ? + -	0 - 200	Note2; Note4
2-6	tint	= ? + -	0 - 200	Note2; Note4
2-7	gamma	= ?	0 = Film 1 = Graphics 2 = Video 3 = Linear	Note2
2-8-1	color.temp	= ?	0 = Native 1 = 5400K 2 = 6500K 3 = 9300K	Note2;
2-8-2-1	red.offset	= ? + -	0-200	Note2
2-8-2-2	green.offset	= ? + -	0-200	Note2
2-8-2-3	blue.offset	= ? + -	0-200	Note2
2-8-2-4	red.gain	= ? + -	0-200	Note2
2-8-2-5	green.gain	= ? + -	0-200	Note2
2-8-2-6	blue.gain	= ? + -	0-200	Note2
2-9	sharp	= ? + -	0 - 31	Note2
2-10	nr	= ? + -	0 -15 (Noise Reduction)	Note2
2-11	aspect	= ?	0 = 5:4 1 = 4:3 2 = 16:10 3 = 16:9 4 = 1.88 5 = 2.35 6 = Letterbox 7 = Native 8 =Unscaled	Note1 Note5

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2. Picture

Item	Operation	Commands	Values	Notes
2-12	zoom (Overscan)	= ?	0 = Off 1 = Crop 2 = Zoom	Note2; Note6
2-13-1	h.total	= ? + -	0-200	Note2 ; Note7
2-13-2	h.pos	= ? + -	0-200	Note2; Note7
2-13-3	h.phase	= ? + -	0-200	Note2; Note7
2-13-4	v.pos	= ? + -	0-200	Note2; Note7
2-14	auto.img (Auto Sync)	(execute)		Note2
2-15-1	hsg.r.gain	= ? + -	0-200	Note2
2-15-2	hsg.g.gain	= ? + -	0-200	Note2
2-15-3	Hsg.b.gain	= ? + -	0-200	Note2
2-15-4	hsg.c.gain	= ? + -	0-200	Note2
2-15-5	hsg.m.gain	= ? + -	0-200	Note2
2-15-6	Hsg.y.gain	= ? + -	0-200	Note2
2-15-7	hsg.r.sat	= ? + -	0-200	Note2
2-15-8	hsg.g.sat	= ? + -	0-200	Note2
2-15-9	Hsg.b.sat	= ? + -	0-200	Note2
2-15-10	hsg.c.sat	= ? + -	0-200	Note2
2-15-11	hsg.m.sat	= ? + -	0-200	Note2
2-15-12	Hsg.y.sat	= ? + -	0-200	Note2
2-15-13	hsg.r.hue	= ? + -	0-200	Note2
2-15-14	hsg.g.hue	= ? + -	0-200	Note2
2-15-15	Hsg.b. hue	= ? + -	0-200	Note2
2-15-16	hsg.c. hue	= ? + -	0-200	Note2
2-15-17	hsg.m. hue	= ? + -	0-200	Note2
2-15-18	Hsg.y. hue	= ? + -	0-200	Note2
2-15-19	hsg.wr.gain	= ? + -	0-200	Note2
2-15-20	hsg.wg.gain	= ? + -	0-200	Note2
2-15-21	Hsg.wb.gain	= ? + -	0-200	Note2

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3. LAMPS				
Item	Operation	Commands	Values	Notes
3-1	lamps	= ?	0 = Dual 1 = Lamp1 2 = Lamp2 3 = Single	Note1; Note8
3-2	lamp.mode (Drive)	= ?	0 = Standard 1 = Economy 2 = Custom Power Level	Note1
3-3	lamp.pwr	= ?	0-31 (75 % ~100.0 %)	Note1
3-4	altitude (High Altitude)	= ?	0 = Off 1 = On	Note1
3-5	lamp1.stat	?	0 = Off 1 = On	Note1
3-6	lamp2.stat	?	0 = Off 1 = On	Note1

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4. ALIGNMENT				
Item	Operation	Commands	Values	Notes
4-1	proj.mode	= ?	0 = Front 1 = Rear 2 = Ceiling + Front 3 = Ceiling + Rear 4 = Up + Front 5 = Down + Front	Note1
4-3-1	zoomio	+ -	+ => Zoom out - => Zoom in	Motor command; Note1
4-3-2	focus	+ -	+ => Focus Near, - => Focus Far	Motor command; Note1
4-3-3	vert.offset	+ -	+ => Up - => Down	Motor command; Note1

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4. ALIGNMENT				
Item	Operation	Commands	Values	Notes
4-3-4	horiz.offset	+ -	+ => Right - => Left	Motor command; Note1
4-4-1	lens.load	=	1..10 set of lens memory (Load)	Note1
4-4-2	lens.save	=	1..10 set of lens memory (Save)	Note1
4-5	lens.center	(execute)	Midposition shift	Note1
4-6	v.keystone	= ? + -	-80 ~ 80	Note1;

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5. CONTROL				
Item	Operation	Commands	Values	Notes
5-1	eco.net.pow	= ?	0 = Off (Standard Standby Mode) 1 = On (ECO Standby Mode)	
5-2	auto.powoff	= ?	0 = Off 1 = On	Note1
5-3	auto.powon	= ?	0 = Off 1 = On	
5-4-1	net.ipaddr	= ?	<string>	
5-4-2	net.subnet	= ?	<string>	
5-4-3	net.gateway	= ?	<string>	
5-4-4	net.dhcp	= ?	0 = Off 1 = On	
5-6-1	rs232.speed	= ?	0 = 115200 bps 1 = 57600 bps 2 = 38400 bps 3 = 19200 bps 4 = 14400 bps 5 = 9600 bps 6 = 4800 bps 7 = 2400 bps 8 = 1200 bps	Note10
5-6-2	rs232.channel	= ?	0 = Local 1 = HDBaseT	Note11
5-7	startup.logo	= ?	0 = Off 1 = On	

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5. CONTROL

Item	Operation	Commands	Values	Notes
5-8	trig.1	= ?	0 = 5:4 1 = 4:3 2 = 16:10 3 = 16:9 4 = 1.88 5 = 2.35 6 = Letterbox 7 = Native 8 = Unscaled 9 = Auto	Note1
5-9	auto.src (Auto Search)	= ?	0 = Off 1 = On	Note1
5-10	dblack	= ?	0 = Off 1 = On	Note1
5-11-1	3d.format	= ?	0 = Off 1 = Auto 2 = Side by Side 3 = Top / Bottom 4 = Frame Sequential	Note2
5-11-2	3d.dplink	= ?	0 = Off 1 = On	Note2
5-11-2	3d.swap	= ?	0 = Normal 1 = Reverse	Note2
5-11-3	3d.24	= ?	0 = 96 Hz 1 = 144 Hz	Note2, Note12
5-12	lang	= ?	0 = English 1 = French 2 = Spanish 3 = German 4 = Portuguese 5 = Chinese Simplified 6 = Chinese Traditional 7 = Japanese 8 = Korean	

DU6871 Operation Commands				
6. SERVICE				
Item	Operation	Commands	Values	Notes
6-1	model	?	<string>	
6-2	ser.no	?	<string>	
6-3	sw.ver	?	<string>	
6-5	pixel.clock	?	<string>	In MHz ; Note2
6-6	signal	?	<string>	Note2
6-7-1	h.refresh	?	<string>	Note2
6-7-2	v.refresh	?	<string>	Note2
6-8	lamp1.hours	?	<string>	
6-9	lamp2.hours	?	<string>	
6-10	proj.runtime	?	<string>	
6-11	blue.only	= ?	0 = Off 1 = On	Note1
6-12	fact.reset	(execute)		

DU6871 Operation Commands				
A. Others				
A-1	power.on	(execute)		
A-2	power.off	(execute)		
A-3	status	?	0 = standby 1 = warm up 2 = imaging 3 = cooling 4 = reset	
A-4	errcode	?	Ref to Appendix A.	
A-5	psoc.ver	?	Ger firmware version of PSOC	
A-6	adc.rd	?	Get ADC calibration data	
A-7	f336.ver	?	Ger firmware version of F336	
A-8	blst.ver	?	Ger HW & FW version of Ballast	
A-9	dlpsoc	(execute)	Download PSOC latest SW	
A-10	remote.set	=?	Set/Get ID SET number of IR remote	

REMARK: An input command will get back with “NA” when the input command is “Not Applicable” in some specific conditions.

Note1: Not applicable in standby mode.

Note2: Not applicable in standby mode or without input signal locked.

Note3: Not applicable when Blank is on.

Note4: Only valid when source is YUV.

Note5: Unscaled aspect ratio is not applicable when zoom is set to “Zoom”.

Note6: “Zoom” command is not applicable when aspect ratio is set to Unscaled.

Note7: Only applicable when source is one of VGA and Component / BNC.

Note8: Not applicable when lamp is cooling.

Note9: Not applicable when eco.net.pow is on.

Note10: Not applicable when rs232.channel is HDBaseT.

Note11: "rs232.speed" will change to 9600 when rs232.channel changes to HDBaseT.

Note12: Only applicable when input signal is 3D 24 Hz.