

slash-i.commands

I Technology CORE Commands							
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Index: x = Enabled, v = Variable depending on whether lens is equipped with /i							
Command	Function	S4/i	miniS4/i	Cxx	5/i	Anamorphic/i	
N	Retrieve Fixed Data – Required first Command	x	x	x	x	x	
D	Retrieve one set of ASCII Calculated Data	x	x	x	x	x	
Kd	Retrieve one set of Packed Binary Calculated Data	x	x	x	x	x	
K3	Retrieve name of Lens Manufacturer	v	v		v	v	
K4	Retrieve name of Lens Type	v	v		v	v	
P	Retrieve board Temperature	x	x	x	x	x	
B	Retrieve board Firmware Version	x	x	x	x	x	
Kbn	Set Baud Rate to n (where n = 1-7 See Chart) default = 115k2 or 9.6k	x	x	x	x	x	
C	Set "Continuous Send" mode & begin transmission of ASCII Calculated Data	x	x	x	x	x	
Kc	Set "Continuous Send" mode & begin transmission of Packed Binary Calculated Data	x	x	x	x	x	
G	Set "Checksum" mode	x	x	x	x	x	
Ka	Set "Inhibit Error Response" mode	x	x	x	x	x	
X	Set Display Units to Imperial	x	x	x	x	x	
Y	Set Display Units to Metric	x	x	x	x	x	
V	Set "Film Size" to 35mm (default value)	x	x	x	x	x	
W	Set "Film Size" to 16mm	x	x	x	x	x	
Wnn	Set "Film Size" to nn (where nn = 00 - 09 refers to specified film size/circle of confusion. See chart.)	x	x	x	x	x	
H	Stop "Continuous Send"; clear "Checksum"; clear "Inhibit Error Response" mode	x	x	x	x	x	
<b>[5I ILLUMINATION COMMANDS]</b>							
Kjn	Set "Scale Illumination" for both LED sets					x	
Kkn	Set "Scale Illumination" for one LED set					x	
<b>[START-UP UNITS COMMANDS]</b>							
OX	Set Start-Up Units to Imperial					x	x
OY	Set Start-Up Units to Metric					x	x
<b>[EXTERNAL INTERFACE COMMANDS [EDSU]]</b>							
OS	Retrieve Channel Settings for This Channel	v	v		x	x	
OT	Retrieve Baud Rate, Data Type, Display Unit for Opposite Channel	v	v		x	x	
OC	Commence Append of Data String	v	v		x	x	
OD	Append Data String (up to 60 8-bit data values)	v	v		x	x	
OH	Halt Append of Data String	v	v		x	x	
<b>[INERTIAL DATA COMMANDS]</b>							
Kdi	Retrieve one Set of Packed Binary Lens Data + Inertial Data	v	v		v	v	
K61	Retrieve Inertial Calibration Coefficients	v	v		v	v	
Issue	N[C/R]	Tag = N	Retrieve Fixed Data in ASCII Format: Typical Response (see exceptions by L				
Response – Prime Lens	NSs..sssOu..uuuLPNxxxMdddUbTffyyBv.vv [L/F][C/R]						
Response-Zoom Lens	NSs..sssOu..uuuLZNxxxMdddUbTffyyBv.vv [L/F][C/R]						
Tag	Value	Definition					
S	s .. sss	Serial Number – 9 characters					
O	u.. uuu	Owner Data – 31 characters					
L	t	Lens Type: t=P for Prime, Z for Zoom					
N	xxx	Focal length (Primes) or minimum focal length (Zooms) [Tag=f for S4/i Primes					
M	ddd	Unspecified (Primes) or maximum focal length (Zooms)					
U	b	Start-up units: l=imperial, M=metric, (b=metric or B=imperial when both available).					
T	ff	Transmission factor (not yet available in S4i Primes-see Appendix)					
	yy	2 SPACE characters					
B	v.vv	Firmware version number					
Issue	D[C/R]	Tag = D	Retrieve Pre-Defined Set of Calculated Data in ASCII Format				
Response	D s s s s s T a a a a t b b b b Z f f f f H a a a a a N b b b b b b F c c c c c c V v v . v E s e e e z m m m S x x x x x x x x [L/F][C/R]						
Tag	Value	Definition					
D	s s s s s s	Actual focus distance – units*					
T	a a a a	Actual Aperture setting					
t	b b b b b	Actual Aperture setting – conventional notation**					
Z	f f f f	Zoom – EFL (mm) [0000 for Prime lenses]					
H	a a a a a a	HYPERFOCAL Setting –units*					
N	b b b b b b	NEAR FOCUS distance – units*					
F	c c c c c c	FAR FOCUS distance – units*					
V	v v v . v	Horizontal Field of view - degrees					
E	s e e e	Entrance Pupil Position – units* [Tag: s is a + or - sign]					
z	m m m m	Normalized Zoom Setting					
S	xxxxxxx	Lens Serial Number					
Issue	Kd[C/R]	Tag = d	Retrieve Pre-Defined Set of Calculated Binary Data Packets				
Response	d s s s s T t t z h h h h n n n n f f f v v e e Z S x x x x x x x x [L/F][C/R]						
Response Values	Definition						
d	Tag						
ssss	Focus Distance						
TT	Aperture Value – Actual Aperture Setting						
tt	Aperture Ring T Stop Integer x 10 & the 1/10th fraction						
zz	Zoom - EFL (mm) [0000 for Prime lenses]						
hhhh	Hyperfocal Setting						
nnnn	Near Focus Distance						
ffff	Far Focus Distance						
vv	Horizontal Field of View						
ee	Entrance Pupil Position						
ZZ	Normalized Zoom Value [0000 – 10000] [This field not included in S4i Prime lenses prior to 0.29 (4.01) or 0.39 (4.21)]						
Sxxxxxxx	S followed by Lens Serial Number [ASCII format]						
[Focus Distance]							
ssss	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1
						Bit0	

1st	0	1	b23	b22	b21	b20	b19	b18											
2nd	0	1	b17	b16	b15	b14	b13	b12											
3rd	0	1	b11	b10	b09	b08	b07	b06											
4th	0	1	b05	b04	b03	b02	b01	b00											
[Aperture Value]																			
TT	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0											
1st	0	1	b11	b10	b09	b08	b07	b06											
2nd	0	1	b05	b04	b03	b02	b01	b00											
[Aperture Ring T Stop Position]																			
tt	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0											
1st	1	b06	b05	b04	b03	b02	b01	b00											
2nd	1	b07	0	0	b03	b02	b01	b00											
[Zoom - EFL]																			
zz	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0											
1st	0	1	0	0	b09	b08	b07	b06											
2nd	0	1	b05	b04	b03	b02	b01	b00											
[Hyperfocal Distance]																			
hhhh	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0											
1st	0	1	b23	b22	b21	b20	b19	b18											
2nd	0	1	b17	b16	b15	b14	b13	b12											
3rd	0	1	b11	b10	b09	b08	b07	b06											
4th	0	1	b05	b04	b03	b02	b01	b00											
[Near Focus Distance]																			
nnnn	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0											
1st	0	1	b23	b22	b21	b20	b19	b18											
2nd	0	1	b17	b16	b15	b14	b13	b12											
3rd	0	1	b11	b10	b09	b08	b07	b06											
4th	0	1	b05	b04	b03	b02	b01	b00											
[Far Focus Distance]																			
ffff	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0											
1st	0	1	b23	b22	b21	b20	b19	b18											
2nd	0	1	b17	b16	b15	b14	b13	b12											
3rd	0	1	b11	b10	b09	b08	b07	b06											
4th	0	1	b05	b04	b03	b02	b01	b00											
[Horizontal Field of View]																			
vv	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0											
1st	0	1	0	b10	b09	b08	b07	b06											
2nd	0	1	b05	b04	b03	b02	b01	b00											
[Entrance Pupil Position]																			
ee	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0											
1st	0	1	s	0	b09	b08	b07	b06											
2nd	0	1	b05	b04	b03	b02	b01	b00											
[Normalized Zoom Value (Note: Response depends on Lens Version # ) ]																			
ZZ	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0											
1st	0	1	0	0	b09	b08	b07	b06											
2nd	0	1	b05	b04	b03	b02	b01	b00											
Issue	K3[C/R]	Tag = K3	Retrieve Name of Lens Manufacturer in ASCII Format																
Tag	Value	Definition																	
K3	xxxxxxxxxxxxxxxx	Name of Manufacturer																	
Issue	K4[C/R]	Tag = K4	Retrieve Name of Lens Type in ASCII Format																
Tag	Value	Definition																	
K4	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	Name of Lens Type																	
Issue	P[C/R]	Tag = P	Retrieve Lens Temperature in ASCII Format																
Tag	Value	Definition																	
P	a b	Current Temperature in degrees Celsius																	
Issue	B[C/R]	Tag = B	Retrieve Version Number in ASCII Format																
Tag	Value	Definition																	
B	a b c d	Firmware Version Number – format X.XX																	
Issue	Kbn[C/R]	Tag = B	Set New Baud Rate																
n	Baud Rate	Maximum Cable Length																	
0	9600	50 meters																	
1	19200	30 meters																	
2	38400	10 meters																	
3	48000	8 meters																	
4	57600	5 meters																	
5	96000	2 meters																	
6	115200	2 meters																	
7	230400	.5 meters Note: This rate for Camera interface only – not supported by all I lenses																	
Issue	C[C/R]		Set Continuous Send Mode of Data Packet in ASCII Format																
Issue	Kc[C/R]	Tag = d	Set Continuous Send Mode of Data Packet in Packed Binary Format																
Issue	G [C/R]	No Tag	Set Checksum Mode																
Response	!MN [L/F][C/R]																		
Issue	Ka[C/R]	No Tag	Set Inhibit Error Response Mode																
Issue	X[C/R]	Tag = X	Set Display Units to Imperial																
Issue	Y[C/R]	Tag = Y	Set Display Units to Metric																

<b>Issue</b>	V[C/R]	Tag = V	Set 35mm Mode														
<b>Response</b>	V 0.0 b b b [L/F][C/R]																
<b>Tag</b>	Value	Definition															
<b>V</b>	b b b	Circle of Confusion value in mm for a 35mm															
<b>Issue</b>	W[C/R]	Tag = W	Set 16mm Mode														
<b>Response</b>	W 0.0 b b b [L/F][C/R]																
<b>Tag</b>	Value	Definition															
<b>W</b>	b b b	Circle of Confusion value in mm for a 16mm															
<b>Issue</b>	Wnn[C/R]	Tag = W	Set Film Size Extended Mode														
<b>Response</b>	W 0.0 b b b [L/F][C/R]																
<b>Response( Unknown )</b>	?[L/F][C/R]																
<b>Tag</b>	Value	Definition															
<b>W</b>	b b b	Circle of Confusion value in mm															
<b>nn</b>	Film Size	Circle of Confusion Value															
<b>0</b>	35 mm	0.0250															
<b>1</b>	16 mm	0.0125															
<b>2</b>	4096 x 2304	0.0211															
<b>3</b>	3072 x 1728	0.0159															
<b>4</b>	2048 x 1152	0.0106															
<b>5</b>	AATON 3 perf	0.0238															
<b>6</b>	ATON 2 perf	0.0222															
<b>7</b>	4480 x 1866, 4.5K	0.0218															
<b>8</b>	2764 x 2304, 4K Anamorphic	0.0191															
<b>9</b>	Sony APS-C01	0.0105															
<b>Issue</b>	H[C/R]	No Tag	Unset Continuous Mode														
<b>Response</b>	! [L/F][C/R]																