

## Appendix C: Features Table

	160E	200E	200M	300TL	300EZ	420EZ	430EZ	480EG	540EZ	ML-3	90EX	220EX	270EX	270EX II
Max guide number, meters	16	20	20	30	30	42	43	48	54	11	9	22	27	27
Max guide number, feet	52	65	65	98	98	137	140	156	176	36	30	72	88	88
• GN at 14mm														
• GN at 17mm or 18mm									16					
• GN at 24mm				25		25	25		28		9			
GN at 28mm					22	27	27		30			22	22	22
GN at 35mm	16	20	20	30	25	30	30	48	36					
GN at 50mm				35	28	35	35		42				27	27
GN at 70mm					30	40	40		46					
GN at 80mm				40		42	43		50					
GN at 105mm									54					
GN at 200mm														
Year introduced	1988	1990	1991	1986	1987	1987	1989	1993	1994	1989	2012	1996	2009	2011
Year discontinued	1990	1996	?	?	1995	1989	1994	?	1998	2001	Current	2009	2011	Current
Physical														
• Width/height/depth in mm	59×83×52	64×104×41	64×104×41	81×119×94	66×89×100	75×122×106	75×122×106	98×257×114	80×138×112	74×61×107 106×123×25	44×52×65	65×92×61	64×65×73	64×65×73
• Ring/heads width/height/depth														
• Weight without batteries	85g	130g	130g	395g	215g	365g	365g	715g	415g	365g	50g	160g	145g	145g
• Foot material	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Metal	Metal
• Foot lock type	No lock	Slide lock	Slide lock	Wheel	Wheel	Wheel	Wheel, pin	None	Wheel, pin		Slide lock, pin	Slide lock, pin	Slide lock, pin	Slide lock, pin
• Self-cleaning foot														
• Weatherproofing														
• Socket for SB-E bracket														
• Ring lite supports filters														
Controls														
• Back panel LCD, illuminated						•	•		•					
• Dot matrix LCD														
• Menu navigation														
• Coupling distance scale on LCD									•					
• Custom functions, CF settings											1, 2			4, 8
• Personal functions														
• Control dial														
• Control lock setting														
Power														
• Battery type	2CR5 lithium	4×AA	4×AA	4×AA	4×AA	4×AA	4×AA	External pack	4×AA	4×AA	2×AAA	4×AA	2×AA	2×AA
• High voltage port							•	•	•					
• Auto Power Off/Save Energy mode	15 sec	None	None	5 min	5 min	5 min	90 sec	None	90 sec	5 min	5 min	90 sec	90 sec	90 sec
• Power switch SE override				•					•					
• Custom function SE override									•					
Automatic metering														
• TTL (film only)	•	•		•	•	•	•	•	•	•		•		
• A-TTL (film only)				with T90 only	•	•	•		•					
• E-TTL and E-TTL II											•	•	•	•
• Autoflash Ext.A (auto)			•					•						
• Autoflash Ext.M (manual)														
	160E	200E	200M	300TL	300EZ	420EZ	430EZ	480EG	540EZ	ML-3	90EX	220EX	270EX	270EX II

For an enlarged PDF view of these tables, please visit the publisher's website at [rocknook.com](http://rocknook.com). Choose "Mastering Canon EOS Flash Photography" and then select "Look Inside/Add Ons."



	160E	200E	200M	300TL	300EZ	420EZ	430EZ	480EG	540EZ	ML-3	90EX	220EX	270EX	270EX II
<b>Manual flash output control</b>														
• Manual output controls on unit				•	•	•	•	•	•					
• Output controls on compatible camera										•			•	•
• Illuminated test button ("pilot")				•	•	•	•	•	•			•		
• Number of output levels				2		6	6	3	8				19	19
• Lowest output level				1/16		1/32	1/32	1/16	1/128				1/64	1/64
• Increments													1/3 stop	1/3 stop
• Feet/meters user-configurable							No		Switch					
• Optical slave capabilities								Optional						
PC socket								•						
<b>Tilt and swivel</b>														
• Tilt, up/down	Fixed head	Fixed head	Fixed head	90°U	Fixed head	90°U	90°U	90°U	90°U, 7°D		Fixed head	Fixed head	90°U	90°U
• Swivel, left/right				180°L, 90°R		180°L, 90°R	180°L, 90°R	180°L, 105°R	180°L, 90°R				No swivel	No swivel
• Single-button tilt/swivel release														
<b>Flash head coverage (for 35mm frame)</b>														
• Fixed flash head coverage	35mm	35mm	35mm					35mm			24mm	28mm	28mm, 50mm	28mm, 50mm
• Optional clip-on panels		28mm	28mm					20, 135mm						
• Hand-operated zoom head positions				4									2	2
• Motorized zoom head positions					4	6	6		7					
• Zoom head focal range				24–85mm	28–70mm	24–80mm	24–80mm		24–105mm					
• Zoom setting LEDs				•	•									
• Zoom setting on LCD						•	•		•					
• Manual control of motorized zoom						•	•		•					
• Sensor size compensation														
• Coverage adjustment														
• Pull-out wide panel; coverage									18mm					
• Pull-out catchlight card														
• Bounce/diffuser attachment														
• Color filter sensor														
<b>Autofocus assist</b>														
• Red LED; points covered	1	1			1	1	1		5			1		
• Red LED range, center	1–5m	1–5m			0.9–6m	0.9–8m	0.9–10m		0.5–15m			0.7–5m		
• Red LED range, periphery														
• White incandescent								•		•				
• White LED														
• Pulses flash (with compatible bodies)											•		•	•
Flash exposure lock (FEL)				with T90 only							•	•	•	•
High speed sync/FP mode											•	•	•	•
High speed sync control											Camera menu	Button	Camera menu	Camera menu
Flash exposure bracketing (FEB)														
Flash exposure compensation							Buttons		Buttons					
FEC in 1/3 increments														
Second curtain sync														
• SCS enabled by switch				with T90 only	•									
• SCS enabled by +/- buttons						•	•		•					
• SCS via camera CFn/menu										•	•	•	•	
<b>Recycling</b>														
• Approx recycle time, alkaline AAs	0.3–1.7 sec	0.3–1.7 sec		0.2–13 sec	0.3–8 sec	0.2–13 sec	0.2–13 sec	0.2–17 sec	0.2–13 sec	0.2–13 sec	0.1–5.5 sec	0.1–4.5 sec	0.1–3.9 sec	0.1–3.9 sec
• Flashes per charge, alkaline AAs	400–4000	400–4000		100–700	200–2000	100–700	100–700	100–700 (TP3)	100–700	100–1000	100	250–1700	100–680	100–680
• Rapid fire/Quick Flash capability	•			•	•	•	•		•				•	•
• Rapid fire with high voltage port									•					
• Silent recycling														
Stroboscopic flash rate						1–5 Hz	1–10 Hz		1–100 Hz					
Number of repeated flashes									1–100					
Flash exposure confirmation LED								•	•	•		•		
	160E	200E	200M	300TL	300EZ	420EZ	430EZ	480EG	540EZ	ML-3	90EX	220EX	270EX	270EX II

	320EX	380EX	420EX	430EX	430EX II	430EX III	430EX III-RT	550EX	580EX	580EX II	600EX	600EX-RT	MR-14EX	MR-14EX II	MT-24EX	ST-E2	ST-E3-RT
	•			•	•	•	•	•	•	•	•	•	•	•	•		
		•	•	•	•	•	•	•	•	•	•	•	•	•	•		
	19	22	22	7	19	22	22	22	22	22	22	22	7	22	7		
	1/64	1/128	1/128	1/64	1/64	1/128	1/128	1/128	1/128	1/128	1/128	1/128	1/64	1/128	1/64		
	1/3 stop	1/3 stop	1/3 stop	1 stop	1/3 stop	1/3 stop	1/3 stop	1/3 stop	1/3 stop	1/3 stop	1/3 stop	1/3 stop		1/3 stop			
						C.Fn	C.Fn	Switch	Button	C.Fn	C.Fn	C.Fn		C.Fn			C.Fn
										•	•	•					
	90°U	90°U	90°U	90°U	90°U	90°U	90°U	90°U, 7°D	90°U, 7°D	90°U, 7°D	90°U, 7°D	90°U, 7°D					
	180°L, 90°R	No swivel	180°L, 90°R	180°L, 90°R	180°L, 90°R	150°L, 180°R	150°L, 180°R	180°L, 90°R	180°L, 180°R	180°L, 180°R	180°L, 180°R	180°L, 180°R					
				•	•	•	•		•	•	•	•					
	24mm, 50mm																
	2																
		6	6	7	7	7	7	7	7	7	10	10					
		24–105mm	24–105mm	24–105mm	24–105mm	24–105mm	24–105mm	24–105mm	24–105mm	24–105mm	20–200mm	20–200mm					
		•	•														
				•	•	•	•	•	•	•	•	•					
				•	•	•	•	•	•	•	•	•					
						•	•				•	•					
				14mm	14mm	14mm	14mm	17mm	14mm	14mm	14mm	14mm					
						•	•		•	•	•	•					
						•	•				•	•					
						•	•				•	•					
		1	7	9	9	1	1	45	9, 45	9, 45	1–65	1–65				45	
		0.7–10m	0.7–7m	0.7–7m	0.8–7m	0.7–8m	0.7–8m	0.6–10m	0.6–10m	0.6–10m	0.6–10m	0.6–10m				0.6–10m	
			0.7–5m	0.7–5m					0.6–5m	0.6–5m	0.6–5m	0.6–5m					
	•												•		•		
	•						•	•						•			
	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Camera menu	Switch	Switch	Button	Button	Menu	Menu	+/- buttons	Button	Button	Menu	Menu	+/- buttons	Menu	+/- buttons	Button	Menu
								•	•	•	•	•	•	•	•	•	•
				Buttons	Buttons	Dial	Dial	Buttons	Dial	Dial	Dial	Dial	Buttons	Dial	Buttons		
				•	•	•	•	•	•	•	•	•	•	•	•		
				•	•	•	•	•	•	•	•	•	•	•	•		
				•	•	•	•	•	•	•	•	•	•	•	•		
	0.1–2.3 sec	0.1–7.5 sec	0.1–7.5 sec	0.1–3.7 sec	0.1–3.7 sec	0.1–3.5 sec	0.1–3.5 sec	0.1–8 sec	0.1–6 sec	0.1–5 sec	0.1–5.5 sec	0.1–5.5 sec	0.1–7 sec	0.1–5.5 sec	0.1–7 sec		
	180–1000	260–1800	200–1400	200–1400	200–1400	180–1200	180–1200	100–700	100–700	100–700	100–700	100–700	120–800	100–700	120–800	1500	
	•					•	•	•	•	•	•	•		•			
					•	•	•							•			
								1–199 Hz	1–199 Hz	1–199 Hz	1–199 Hz	1–199 Hz					
								1–100	1–100	1–100	1–100	1–100					
		•	•	•	•			•	•	•	•		•	•	•	•	•
	320EX	380EX	420EX	430EX	430EX II	430EX III	430EX III-RT	550EX	580EX	580EX II	600EX	600EX-RT	MR-14EX	MR-14EX II	MT-24EX	ST-E2	ST-E3-RT

	160E	200E	200M	300TL	300EZ	420EZ	430EZ	480EG	540EZ	ML-3	90EX	220EX	270EX	270EX II
<b>Optical wireless E-TTL</b>														
• Master capable, groups											•			
• Wireless feature enabled by:											Camera menu			Switch
• Slave capable, groups														A only
• Flash A/B ratio displayed on LCD														
• Flash A/B ratio LEDs														
• Visible light or infrared signals											Visible			
• Control signal range, center											8–10m			
• Control signal range, periphery											5–7m			
• Control signal angle											30–40°			
• Modeling flash													•	•
• Modeling flash in slave mode only														
<b>Radio wireless E-TTL</b>														
• Master capable, groups														
• Wireless feature enabled by:														
• Slave capable, groups														
• Auto channel scan														
• LINK LED														
• Linked shooting														
• Linked shooting socket for N3														
• Test flash														
• Remote camera release from slave														
• Memory function														
<b>On-screen charge indicator</b>														
<b>Automatic WB compensation</b>											•		•	•
<b>Camera menu control (ESC)</b>											•		•	•
<b>RC-1-type camera remote control</b>														•
<b>White LED (for video etc)</b>														
	160E	200E	200M	300TL	300EZ	420EZ	430EZ	480EG	540EZ	ML-3	90EX	220EX	270EX	270EX II



	Medium	Year introduced	Maximum X-sync	TTL metering	TTL zones	A-TTL metering	E-TTL metering	E-TTL II metering	Evaluative Zones	Red AF assist	White AF assist	Pulse AF assist	Speedlite AF assist	Disable Internal	Disable Speedlite	Disable assist	Speedlite red/pulse	Built-in flash	Built-in flash GN	Flash coverage	Flash zooms	Flash auto raises	Flash auto lowers	Tall flash
EOS 620	35mm	1987	1/250	•	1	•			6															
EOS 650	35mm	1987	1/125	•	1	•			6															
EOS 750/750QD	35mm	1988	1/125	•	1	•			6	•			•					•	12	35mm		•	•	
EOS 850	35mm	1988	1/125	•	1	•			6				•											
EOS 1	35mm	1989	1/250	•	1	•			6				•											
EOS 600/630	35mm	1989	1/125	•	1	•			6				•											
EOS RT	35mm	1989	1/125	•	1	•			6				•											
EOS 10/10S/10QD	35mm	1990	1/125	•	3	•			8	•				•				•	12	28mm		•	•	
EOS 700	35mm	1990	1/125	•	1	•			6	•								•	12	35mm		•	•	
EOS 1000/Rebel	35mm	1990	1/90	•	1	•			3				•											
EOS 1000F/Rebel S	35mm	1990	1/90	•	1	•			3	•			•			•		•	13	17mm				
EOS 100/Elan/100QD	35mm	1991	1/125	•	1	•			6	•			•	•				•	12–17	28, 50, 80mm		•	•	
EF-M	35mm	1991	1/90						3															
EOS 1000N/Rebel II	35mm	1992	1/90	•	1	•			3				•	•		•			14	17mm				
EOS 1000FN/Rebel S II/1000S QD	35mm	1992	1/90	•	1	•			3	•			•			•		•	14	17mm				
EOS 5/A2/A2E/SQD	35mm	1992	1/60–1/200	•	3	•			16	•						•		•	13–17	28, 50, 80mm		•	•	
EOS 500/Rebel X/Rebel XS/Kiss	35mm	1993	1/90	•	3	•			6		•		•					•	12			•		
EOS 1N/1N HS/1N RS/1N DP	35mm	1994	1/250	•	3	•			16				•											
EOS 5000/888	35mm	1995	1/90	•	3	•			6		•		•					•	12					
EOS 50/Elan II/50E/Elan IIE/55	35mm	1995	1/125	•	3	•	•		6	•			•	•				•	13	28mm			•	
EOS 500N/Rebel G/New Kiss	35mm	1996	1/90	•	3	•			6		•		•					•	12				•	
EOS IX/IX E	APS	1996	1/200	•	3	•			5		•		•					•	11	22mm			•	
EOS IX 7/IX Lite/IX 50	APS	1998	1/125	•	3	•			6		•		•					•	10	22mm			•	
EOS 3	35mm	1998	1/200	•	3	•	•		21				•											
EOS 3000/88	35mm	1999	1/90	•	3	•			6		•		•			•		•	12					
EOS 300/Rebel 2000/Kiss III	35mm	1999	1/90	•	3	•	•		35			•	•			•		•	12	28mm			•	
EOS 1V	35mm	2000	1/250	•	3	•	•		21				•											
EOS 30/Elan 7E/33/Elan 7	35mm	2000	1/125	•	3	•	•		35			•	•	•	•			•	13	28mm			•	
EOS 3000N/Rebel XS N/66	35mm	2002	1/90	•	3	•	•		6		•		•			•		•	12	28mm				
EOS 300V/Rebel Ti/Kiss 5	35mm	2002	1/90	•	3	•	•		35			•	•			•		•	12	28mm			•	•
EOS 3000V/Rebel K2/Kiss Lite	35mm	2003	1/90	•	3	•			35			•	•			•		•	12	28mm			•	•
EOS 30V/Elan 7NE/33V/Elan 7N/7S	35mm	2004	1/125	•	3	•		•	35			•	•	•	•			•	13	28mm			•	
EOS 300X/Rebel T2/Kiss 7	35mm	2004	1/125					•	35			•	•	•	•			•	13	28mm			•	•
EOS DCS 1	DSLR	1995	1/250	•	3	•			16															
EOS DCS 3	DSLR	1995	1/250	•	3	•			16															
EOS D2000/Kodak DCS520	DSLR	1998	1/250				•		12				•											
EOS D6000/Kodak DCS560	DSLR	1998	1/250				•		12				•											
EOS D30	DSLR	2000	1/200	Doesn't fire			•		35		•		•	•	•			•	12				•	
EOS 1D	DSLR	2001	1/500	Full power			•		21				•			•								
EOS D60	DSLR	2002	1/200	Doesn't fire			•		35		•		•	•	•			•	12				•	
EOS 1Ds	DSLR	2002	1/250	Full power			•		21				•			•								
EOS 10D	DSLR	2003	1/200	Doesn't fire			•		35			•	•	•	•	•		•	13	18mm			•	
EOS 300D/Digital Rebel/Kiss Digital	DSLR	2003	1/200	Doesn't fire			•		35			•	•	•	•	•		•	13	28mm			•	•
Kodak DCS Pro SLR/c	DSLR	2004	1/180				•		8															
EOS 1D Mark II	DSLR	2004	1/250	Full power			•		21				•		•									
EOS 20D/20Da	DSLR	2004	1/250	Doesn't fire			•		35			•	•	•	•			•	13	17mm			•	•
EOS 1Ds Mark II	DSLR	2004	1/250	Full power			•		21				•		•									
EOS 350D/Digital Rebel XT/Kiss Digital N	DSLR	2005	1/200	Doesn't fire			•		35			•	•	•	•	•		•	13	17mm			•	•
EOS 1D Mark II N	DSLR	2005	1/250	Full power			•		21				•		•									
EOS 5D	DSLR	2005	1/200	Full power			•		35				•		•									







	Medium	Year introduced	Maximum X-sync	TTL metering	TTL zones	A-TTL metering	E-TTL metering	E-TTL II metering	Evaluative Zones	Red AF assist	White AF assist	Pulse AF assist	Speedlite AF assist	Disable Internal	Disable Speedlite	Disable assist	Speedlite red/pulse	Built-in flash	Built-in flash GN	Flash coverage	Flash zooms	Flash auto raises	Flash auto lowers	Tall flash
EOS 30D	DSLR	2006	1/250	Doesn't fire			•	35				•	•	•	•	•	•	•	13	17mm		•	•	
EOS 400D/Digital Rebel XTi/Kiss Digital X	DSLR	2006	1/200	Doesn't fire			•	35				•	•	•	•	•	•	•	13	17mm		•	•	
EOS 1D Mark III	DSLR	2007	1/300	Full power			•	63				•	•	•	•	•	•	•						
EOS 40D	DSLR	2007	1/250	Full power			•	35				•	•	•	•	•	•	•	13	17mm		•	•	
EOS 1Ds Mark III	DSLR	2007	1/250	Full power			•	63				•	•	•	•	•	•	•						
EOS 450D/Digital Rebel XSi/Kiss X2	DSLR	2008	1/200	Full power			•	35				•	•	•	•	•	•	•	13	17mm		•	•	
EOS 1000D/Digital Rebel XSi/Kiss F	DSLR	2008	1/200	Full power			•	35				•	•	•	•	•	•	•	13	17mm		•	•	
EOS 50D	DSLR	2008	1/250	Full power			•	35				•	•	•	•	•	•	•	13	17mm		•	•	
EOS 5D Mark II	DSLR	2008	1/200	Full power			•	35				•	•	•	•	•	•	•						
EOS 500D/Digital Rebel T1i/Kiss X3	DSLR	2009	1/200	Full power			•	35				•	•	•	•	•	•	•	13	17mm		•	•	
EOS 7D	DSLR	2009	1/250	Full power			•	63				•	•	•	•	•	•	•	12	15mm		•	•	
EOS 1D Mark IV	DSLR	2009	1/300	Full power			•	63				•	•	•	•	•	•	•						
EOS 550D/Rebel T2i/Kiss X4	DSLR	2010	1/200	Full power			•	63				•	•	•	•	•	•	•	13	17mm		•	•	
EOS 60D	DSLR	2010	1/250	Full power			•	63				•	•	•	•	•	•	•	13	17mm		•	•	
EOS 600D/Rebel T3i/Kiss X5	DSLR	2011	1/200	Full power			•	63				•	•	•	•	•	•	•	13	17mm		•	•	
EOS 1100D/Rebel T3/Kiss X50	DSLR	2011	1/200	Full power			•	63				•	•	•	•	•	•	•	9.2	17mm		•	•	
EOS 5D Mark III	DSLR	2012	1/200	Full power			•	63				•	•	•	•	•	•	•						
EOS 1D X	DSLR	2012	1/250	Full power			•	252				•	•	•	•	•	•	•						
EOS 60Da	DSLR	2012	1/250	Full power			•	63				•	•	•	•	•	•	•	13	17mm		•	•	
EOS 650D/Rebel T4i/Kiss X6i	DSLR	2012	1/200	Full power			•	63				•	•	•	•	•	•	•	13	17mm		•	•	
EOS M	mirrorless	2012	1/200	Full power			•	315	•			•	•	•	•	•	•	•						
EOS 6D / 6D N	DSLR	2012	1/180	Full power			•	315				•	•	•	•	•	•	•				•	•	
EOS 1D C	DSLR	2012	1/250	Full power			•	252				•	•	•	•	•	•	•						
EOS 700D/Rebel T5i/Kiss X7i	DSLR	2013	1/200	Full power			•	63				•	•	•	•	•	•	•	13	17mm		•	•	
EOS 100D/Rebel SL1/Kiss x7	DSLR	2013	1/200	Full power			•	63				•	•	•	•	•	•	•	9.4	18mm		•	•	
EOS 70D W / 70D N	DSLR	2013	1/250	Full power			•	63				•	•	•	•	•	•	•	12	17mm		•	•	
EOS M2 / M2 W	mirrorless	2013	1/200	Full power			•	315	•			•	•	•	•	•	•	•						
EOS 1200D/Rebel T5/Hi/Kiss X70	DSLR	2014	1/200	Full power			•	63				•	•	•	•	•	•	•	9	17mm		•	•	
EOS 7D Mark II	DSLR	2014	1/250	Full power			•	315				•	•	•	•	•	•	•	11	15mm		•	•	
EOS M3	mirrorless	2015	1/200	Full power			•	384	•			•	•	•	•	•	•	•	5	18mm				
EOS 750D/Rebel T6i/Kiss X8i	DSLR	2015	1/200	Full power			•	315				•	•	•	•	•	•	•	12	17mm		•	•	
EOS 760D/Rebel T6s/8000D	DSLR	2015	1/200	Full power			•	315				•	•	•	•	•	•	•	12	17mm		•	•	
EOS 5DS / 5DS R	DSLR	2015	1/200	Full power			•	252				•	•	•	•	•	•	•						
EOS M10	mirrorless	2015	1/200	No shoe			•	–	•			•	•	•	•	•	•	•	5	15mm				

