

# Scopes & Optical Sights

by Robert Thomas with help from Ryan Pendergast

## ADCO (Ad)

#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Mirage Ranger	179	+10	1x	--	+2	0.14	I,R?
2	T-10 Sniper		+12	10x	-28	-3	0.61	H

## AIMPOINT (A)

#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	5000XD	255	+10	1x	--	+2	0.17	I,R7
2	5000XD2	330	+11	1x		+1	0.26	I,R3
3	Comp XD	279	+10	1x	--	+2	0.14	I,R7
4	Comp MXD	360	+10	1x	--	+2	0.15	I,R7

## BAUSCH & LOMB (B)

#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Elite 3200	250	+12	2-7x	-- / -27	-- / -3	0.34	-- / H
2	Elite 3200	270	+12	5-15x	-19 / -37	-2 / -4	0.68	H
3	Elite 3200	300	+12	3-9x	-6 / -28	-1 / -3	0.36	-- / H
4	Elite 3200	240	+12	4-12x	-13 / -31	-1 / -3	0.42	-- / H
5	Elite 4200	315	+12	2.5-10x	-8 / -29	-1 / -3	0.45	-- / H
6	Elite 4200	290	+12	1.5-6x	-- / -24	-- / -2	0.43	-- / H
7	Elite 4200	420	+12	4-16x	-14 / -33	-1 / -3	0.62	-- / H
8	Elite 3000	593	+12	3-9x	-8/-29	-1/-3	0.63	--/H
9	Elite 4000	1858	+13	10x	-29	-3	0.63	H

## BUSHNELL (Bu)

#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Banner	239	+12	3-9x	-4 / -27	-- / -3	0.3	-- / H
2	Banner	269	+12	4-12x	-11 / -29	-1 / -3	0.42	-- / H
3	Banner	299	+12	6-18x	-23 / 34	-2 / -3	0.51	H
4	Banner Compact	129	+12	4x	-13	-1	0.28	
5	Buckhorn	179	+12	4x	-4	--	0.26	
6	Buckhorn	199	+12	1.5-4.5x	-- / -17	-- / -2	0.3	
7	Buckhorn	249	+12	3.5-10x	-- / -25	-- / -3	0.39	-- / H
8	Holosight	563	+11	1x	--	+1	?	I,R1

## COLT Optics (C)

#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	C-More Tactical	444	+10	1x	--	+2	0.34	I,R?
2	Tactical Elite	469	+12	6x	--	--	0.64	

## DAVIDSON (D)

#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	AN/PVS-2	649	+11	4x	-30	-3	1.8	G1

## DELFT (De)

#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	MUNOS		+12	4x	-5	--	0.85	G3

## ELBIT (E)

#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Falcon Mk2		+10	1x	--	+2	0.29	I,R?

EurOptiks (Eu)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	4x25K	795	+12	4x	-1	--	0.4	
2	8x55K	925	+12	8x	-22	-2	0.57	H
3	Super	1495	+13	3-12x	-5/-29	-1/-3	0.68	--/H
4	EDP	1995	+13	4-16x	-18/-32	-2/-3	0.82	H

Fixed Optical Sights of Various Weapons (F)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	H&K G36 and variants	--	+10	1x	--	+2		I,R?
			+12	3.5x	-13	-1		
2	H&K G36E	--	+12	1.5x	-8	-1		
3	Steyr AUG	--	+12	1.5x	-4	--		
4	Rh-Alan APS95	--	+12	1.5x	-7	-1		
5	STK SAR21	--	+12	1.5+	-6	-1		
6	Reflex (various)	--	+10	--	--	+2		I,R?
7	WSG2000	--	+12	4-12x	?	?		I

HALL & WATTS (H)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	RV20		+10	1x	--	+2	0.25	I,R?
2	Wildcat		+12	3.4x	--	--	0.64	
3	Blackcat	4928	+12	3.4x	-20	-2	0.9	G2

HENSOLDT (He)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	PSG	1325	+12	6x	-19	-2	0.58	H
2	ZF4	725	+12	4x	-14	-1	0.35	
3	ZF10	910	+12	10x	-18	-2	0.43	H
4	FERO-Z24		+12	4x	-9	-1	0.3	

Hesco Sights, USA (Hs)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Mepor-21	335	+11	1x	--	+1	0.2	I,R4.2

ITT (I)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	AN/PVS-14	3399	+12	x	-5	-1	0.39	G3
2	F7000A		+12	4x	--	--	1.2	G3
3	F7000A1		+12	6x	-11	-1	2	G3
4	F7201A	6229	+12	2.5-10 x	-14	-2	1.32	F,G3,H

Kahles (K)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	KZF84-6	1165	+12	6x	-17	-2	0.5	H
2	KZF84-10	1199	+12	10x	-27	-3	0.51	H

LEATHERWOOD (La)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Sporter	349	+12	3-9x	-6/-29	-1/-3	0.6	I

LIECA (Lc)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Ultravid	819	+12	3.5-10x	-10/-29	-1/-3	0.45	--/H

LEITZ (L)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Elcan	699	+12	3.1x	-3	--	0.43	F

LEUPOLD (Le)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Bench Rest-D	530	+12	24x	-35	-3	0.43	F,H
2	Bench Rest-D	550	+12	36x	-36	-4	0.44	F,H
3	Compact	245	+12	2-7x	-- / -23	-- / -2	0.23	-- /H
4	Compact	270	+12	3-9x	-6 / -26	-1 / -3	0.25	-- /H
5	Fixed	210	+12	4x	-17	-2	0.3	H
6	Fixed	275	+12	6x	-17	-2	0.3	H
7	Handgun	160	+12	2x	-19	-3	0.17	H
8	Handgun	215	+12	4x	-31	-4	0.2	H
9	Handgun	310	+12	2.5-8x	-27 / -36	-4 / -5	0.31	F,H
10	LPS	800	+12	1.5-6x	-- / -24	-- / -2	0.45	-- /H
11	LPS	850	+12	3.5-14x	-12 / -33	-1 / -3	0.62	-- /H
12	Mk4 M1	1050	+12	10x	-29	-3	0.6	H
13	Mk4 M1	1050	+12	16x	-33	-3	0.62	H
14	Mk4 M3a	975	+12	10x	-29	-3	0.6	H
15	Scout	210	+12	2.5x	-18	-2	0.21	H
16	Tactical	350	+12	6x	-23	-2	0.32	H
17	Tactical	600	+12	4.5-14x	? / -31	? / -3	0.38	-- /H
18	Tactical M3	630	+12	3.5-10x	-19 / -32	-2 / -3	0.41	H
19	Vari-XII	215	+12	1-4x	-- / -12	-- / -1	0.3	F
20	Vari-XII	230	+12	2-7x	-- / -22	-- / -2	0.3	F,-- /H
21	Vari-XII	240	+12	3-9x	-8 / -26	-1 / -3	0.3	F,-- /H
22	Vari-XII	330	+12	4-12x	-17 / -29	-2 / -3	0.4	F,H
23	Vari-XII	350	+12	6-18x	-26 / -33	-3	0.4	F,H
24	Vari-XIII	325	+12	1.5-5x	-- / -17	-- / -2	0.3	F,-- /H
25	Vari-XIII	350	+12	1.75-6x	-- / -22	-- / -2	0.3	F,-- /H
26	Vari-XIII	360	+12	2.5-8x	-3 / -26	-- / -3	0.3	F,-- /H
27	Vari-XIII	370	+12	3.5-10x	-11 / -29	-1 / -3	0.4	F,-- /H
28	Vari-XIII	420	+12	4.5-14x	-20 / -32	-2 / -3	0.4	F,H
29	Vari-XIII	435	+12	6.5-20x	-26 / -35	-3	0.5	F,H
30	Vari-XIII	450	+12	8.5-25x	-29 / -36	-3 / -4	0.47	F,H
31	LG-35	235	+11	1x	--	+1	0.14	I,R4

LITTON (Li)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	AN/PVS-10		+12	8.5x	-33	-3	2.2	G3,H
2	AN/PVS-10HP		+12	12.5x	-35	-3	2.5	G3,H
3	AN/PVS-12		+12	4x	-11	-1	1.2	G3
4	AN/PVS-13		+12	6x	-20	-2	1.9	G3,H
5	AN/PVS-17		+12	2.5x	--	--	0.9	G3,R2
6	M845 Mk2	4599	+12	1.5x	-10	-1	1.3	G2+
7	Ranger M993	5199	+12	4x	--	--	1.2	G3
8	Ranger M995	6995	+12	6x	-7	-1	1.7	G3

McMillan (Mc)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Vision Master	1250	+12	2.5-10x	-26/-36	-3/-4	0.48	H

Millet (Me)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	SP-1	150	+11	1x	+1	--	--	I,R3

Millet (continued)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
2	SP-2	150	+10	1x	+2	--	--	I,R5

NIKON (Ni)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	AO	578	+12	4-12x	-14/-31	-1/-3	0.52	--/H

NIGHTFORCE (N)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	NXS	1200	+13	3.5-15x			0.85	H
2	NXS	1400	+13	5.5-22x	-19 / -34	-2 /-3	0.9	H

NORINCO (No)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	N420	53	+11	4x	-11	-1	?	
2	N3956	232	+12	3-9x	-5/-34	-1/-3	?	--/H

OPTIC-ELECTRONIC CORPORATION (O)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	NVS-700	4295	+12	3.7x	-20	-2	1.8	G2

PHOTONIC (P)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	ZFM 4x25Z		+12	4x	-5	--	0.33	

PILKINGTON (Pi)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Kite		+12	4x	-20	-2	1.2	G2,H
2	Maxi-Kite		+12	6x	-31	-3	1.5	G2,H

Russia - various manufacturers (R)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	1L29	469	+12	4x	--	--	0.8	I
2	LO-1		+12	4x	-12	-1	0.6	
3	1LH84		+11	3.7x	-10	-1	1.3	G2+
4	PSO-1		+12	4x	-9	-1	0.58	I
5	PSO-2		+12	7x				H

RAYTHEON (Ra)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	AN/PAS-13	18695	+12	1x	-17	-2	2.04	H,T
2	AN/PAS-19	24395	+12	1x	-9	-1	1.8	T

SFIM ODS (S)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Dante		+12	4x	--	--	1.45	G3

SCHMIT & BENDER (Sb)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	ZF	940	+12	1.5-6x	-- / -19	-- / -2	0.45	-- /H
2	ZF	630	+12	4x	-8	-1	0.4	
3	ZF	700	+12	6x	-17	-2	0.49	H
4	ZF	800	+12	8x	-22	-2	0.51	H
5	ZF	850	+12	10x	-27	-3	0.59	H
6	ZF	1080	+12	2.5-10x	-- / -26	-- / -3	0.61	-- / H

SCHMIT & BENDER (continued)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
7	ZF	1200	+12	3-12x	-1 / -25	-- / -3	0.58	-- / H
8	Police/Military	950	+12	6x	-19	-2	0.48	H
9	Police/Military	950	+12	10x	-29	-3	0.51	H

Sightron (Si)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	S33-5	219	+10	1x	--	+1	0.15	I,R5

SPRINGFIELD ARMORY (Sp)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Government	380	+12	6x			0.42	H
2	Government	670	+12	10x			0.8	H,I
3	Government	750	+12	4-14x			0.9	-- / H,I

SWAROVSKI (Sw)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	AV	799	+12	4-12x	-11/-30	-1/-3	0.38	--/H

TASCO (T)								
#	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Accu-Dot	99	+10	1x	--	+2	0.13	F,I,R5
2	Optima 2000	349	+10	1x	--	+2	0.01	I,R7
3	Optima 2000	349	+11	1x	--	+1	0.01	I,R3.5
4	Pro Point 3	189	+10	1x	--	+2	0.16	I,R5
5	Pro Point 5	239	+11	1x	--	--	0.23	I,R4
6	Pro Point 6		+10	1x	--	+2	0.16	I,R10
7	Pro Pistol		+12	2x	-15	-2	0.21	F
8	Super Sniper	400	+12	10x	-27	-3	0.74	F,H

TRIJICON (Tr)								
	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Armson OEG	136	+11	1x	--	+2	?	I,R?
2	Accu-Point	450	+12	3-9x	-6 / -29	-- / -3	0.36	-- /H
3	ACOG	893	+12	4x	--	--	0.28	
4	ACOG	1022	+12	3x	-11	-1	0.41	
5	Reflex	352	+10	1x	--	+2	0.11	I,R12.5

Unertl (Un)								
	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	Government	1200	+12	10x	-29	-3	0.68	H
2	Programmer	895	+12	10x	-29	-3	1.28	H

UNITED SCIENTIFIC INSTRUMENTS (U)								
	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	SUSAT	~750	+12	4x	-	--	0.417	I

US OPTICS (Us)								
	Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1	SN-1		+12	17x	-31	-3	0.74	H
2	SN-3		+12	2.6-12x	-- / -28	-- / -3	0.6	-- /H
3	SN-4		+12	1-4x	-- / -9	-- / -1	0.4	
4	SN-6		+12	10x	-28	-3	0.5	H

VARO (now Litton) (V)							
Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1 AN/PVS-4	3627	+11	3.7x	-20	-2	1.5	G2,H
2 AN/TVS-5		+11	6.2x	-20	-2	3	G2,H
3 Aquila 3000	6995	+12	4x	--	--	1.1	G3
4 Aquila 3500	7495	+12	6x	-15	-2	1.80	G3

ZIESS (Z)							
Name	Cost	IA	Magnification	Perception	Initiative	Weight	Notes
1 Diatal	650	+12	6x	-20	-2	0.38	H
2 Diatal	700	+12	8x	-25	-2	0.52	H
3 Diavari	1800	+12	1.5-6x	-- / -20	-- / -2	0.56	-- /H
4 Diavari	1250	+12	2.5-10x	-7 / -23	-1 / -2	0.75	-- /H,I
5 Diavari	1100	+12	3-9x	-1 / -26	-- / -3	0.43	-- /H
6 Diavari	1300	+12	3-12x	-14 / -30	-1 / -3	0.8	-- /H,I

### Magnification

As per standard ME rules, the actual range to the target is divided by the magnification power of the optical sight to determine what “to hit” overlay is used.

### Perception

The narrow field of view, and in the case of starlight scopes the generation, make it difficult to locate objects while looking through the sight.

NOTE: Some range induced Perception penalties may be reduced or eliminated by the use of high powered scopes.

### Initiative

Getting on target with a scoped weapon is usually more difficult then with a normally sighted weapon so there are often associated Initiative penalties. Red dot sights are often just the opposite, being faster then normal sights and thus getting a Initiative bonus.

*Variable Power scopes are listed with all statistics for the lowest and highest power settings only. For intermediate settings, players and GMs will have to extrapolate.*

### F = Fragile

Some optical sights cannot stand up to the punishment of combat. Any time these sights or the weapons they are mounted to get knocked around there is a 30% chance (the GM should determine secretly) that the reticle is knocked out of alignment resulting in a -20 “to hit” penalty until repaired.

### G = Generation of Image Intensification

Light amplifying night vision amplify ambient light to allow seeing and shooting in bad light situations. In the dark they reduce the Darkness “to hit” modifier based on the generation of the light amplifying unit. 1<sup>st</sup> Generation scopes reduce the Darkness modifier to -30, 2<sup>nd</sup> generation to -20, 2<sup>nd</sup> Plus Generation to -10 and 3<sup>rd</sup> Generation complete negates the Darkness penalty. 1<sup>st</sup> and 2<sup>nd</sup> Generation scopes cannot be used in normal or Bad Light situations. 2<sup>nd</sup> Plus and 3<sup>rd</sup> Generation scopes can be fitted with a filter to allow then to be used in normal or Bad Light Situations, but they suffer the full Bad Light penalty (-20) in both cases.

### H = High Power Penalty

Because of the high magnification and narrow field of view of some optical sights, they suffer the Hip-Firing penalty (-30) to any shot after the first in the same turn.

### I = Illuminated Reticle

Some scopes and all red dots have battery powered reticles which improve the chance to hit in low light. Reduce the Bad Light modifier by 10 (to -10). On the downside the illuminated reticle can be seen from the target side of the sight (possibly deserving perception modifiers for the opposition).

NOTE: The Trijicon Reflex illuminates the reticle with fiber optics and not batteries so does not have any of the side effects.

### R = Red dot size (in MOA)

Do to the large size of the aiming point at range there is a -2 “to hit” penalty per 5 meters beyond 25 meters. Reduce penalty by 1/3 for red dots with dot under 5 MOA.

### T = Thermal

No Bad Light or Darkness “to hit” penalties. GM’s call on effects on concealed targets.

#### Notes on particular scopes

Litton AN/PVS-10: The AN/PVS-10 is a day/night scope that operates in both a conventional optical mode for day use and a 3<sup>rd</sup> Generation image enhancement for night use. A simple button switches modes.

Litton AN/PVS-13: The AN/PVS-13 (Laser Marker Night Vision Sight —LMNVS) is a companion night vision sight for the AN/PEQ-1 Laser Target Designator—or any other 1.06 micron laser designator.

SFIM ODS Dante: The Dante is a day/night scope that operates in both a conventional optical mode for day use and a 3<sup>rd</sup> Generation image enhancement for night use. A simple switch switches modes.

G36: The sight unit on the G36 (and G36K, MG36) mounts a red dot sight over a conventional 3.5-power optical sight. This allows the operator to use which ever is appropriate for the situation.