



FALCON **BMS**

THE VAULT THREAT GUIDE



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The Vault is a collection of information on weapons used in the battlefields of the Falcon BMS world. The threat data in the simulation has changed over the years and I found myself adding a lot of notes to other resources. So I decided to make this threat reference guide based on the current state of BMS. Most of the performance data used in this guide was collected from observations while flying in the simulation and analysis of ACMI tapes.

The performance of these weapons can vary. For example, a heavily loaded aircraft will not turn and climb as well as clean aircraft. Just having one extra missile on the rail or a few thousand pounds more fuel in the tank can change performance characteristics. Missile ranges can vary too. If a jet that is carrying a missile is flying with significant altitude and speed advantage over a target, then the ranges have the potential to be greater. There are many things to consider. A missile may travel longer with a higher and faster moving launching aircraft but that will not make much difference if the missile seeker head can't track the target. To get the most out of this reference, the reader will need to use a reasonable amount of good judgement. Due to these potential variations, all of the observations were made under similar conditions so that fair comparisons can be made.

The data in this reference was collected in the Korean Theater of Operations. Some weapon information may vary in different theaters. There are weapon load out variations in some other theaters for aircraft which will change the nature of the threat.

Some people may find the data in this reference to be a spoiler for the simulation. If you want to experience a theater for the first time as though your side has limited knowledge of the enemy weapons then you should not read on, but rather collect the data as you gain your own experience.

The information in this guide is here to help you to know your enemy. There are other resources in the Falcon BMS docs folder that cover tactics, maneuvers, and avionics. My hope is that with those references, and this one, you may be better able to plan and execute missions. As Sun Tzu said in the Art of War, "If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle."



Credits: The images used in this guide are snap shots taken from the models used in the BMS simulation. Credit for the creation of these models and skins goes to the countless number of people who volunteered their time making them. The motivation for this guide came from the original Threat Guide that was in the Docs folder of BMS 4.32. References: airvectors.net, jet-engine.net, The Encyclopedia of Modern Military Aircraft by Paul Eden, F-16.net, ausairpower.net, fas.org, Int. Electronic Countermeasures Handbook by Horizon House 2004.

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ausairpower.net

General Notes

- Break turns should generally be into the missile. Sometimes this means turning down, in lieu of right and left. If you can't see the missile, move your nose across the launcher.
- Jink in the vertical if shot at by AAA. If down low, fly fast to get out of range and stay below 2,000 ft.
- Avoid guns down low by flying at 300+ knots and moving the aircraft nose in a figure 8 pattern.
- Ranges in nm are slant ranges.
- Typical Engagement Range: Very high probability of being shot at between the minimum range and the typical engagement range.
- Maximum Engagement Range: Lower chance of being shot at between the typical engagement range and the maximum range. Missiles fired within the typical engagement range can still chase you as far as the maximum range.
- The sounds from the RWR are subtle. Listen carefully for a tone change from SA to FC. You will be shot at shortly after the tone change by most SAMs.
- No smoke: the missiles will show a contrail for the first few miles then nothing. Don't get confused by this, the missile is still coming for you.
- Mobile SAM's can move approx. 25nm during typical mission.
- SA radar finds targets for FC to point at. If SA is destroyed then FC spins to look for targets before pointing at them, slows target acquisition and stays on longer.
- Radar Lobes: Numbers in () indicate main lobe detection angle. Target tracking is limited to main lobe area. Radar can be detected in side or main lobe area.

Abbreviations

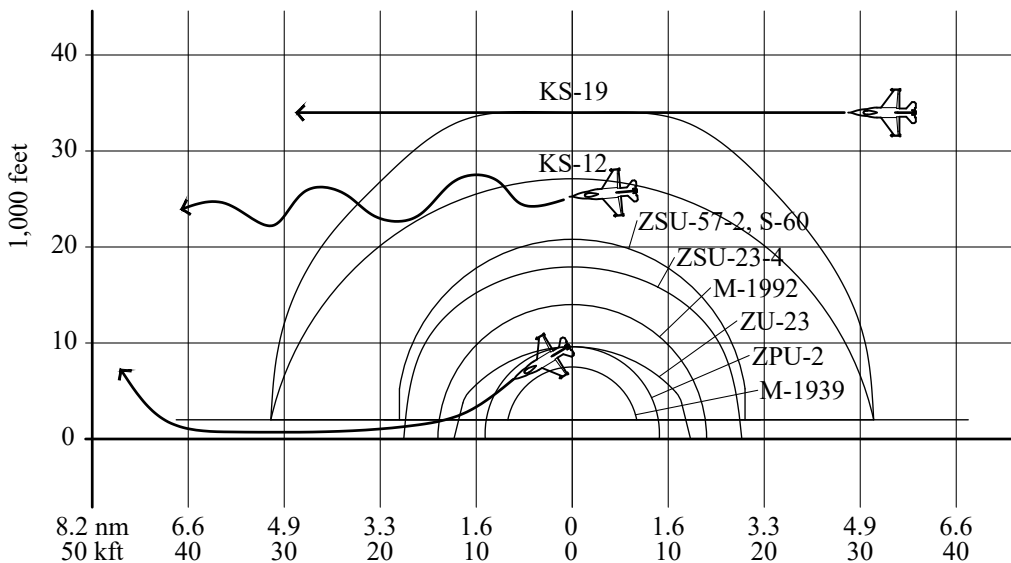
| | |
|--------|--|
| AA | Anti Air |
| ABM | Anti Ballistic Missile |
| AZ | Azimuth |
| BT | Burn Through |
| CM | Countermeasures (Chaff or Flare) |
| CW | Continuous Wave Radar |
| ECM | Electronic Counter Measures |
| ECCM | Electronic Counter Counter Measures |
| EL | Elevation |
| EOTS | Electro-Optical Tracking System |
| FC | Fire Control Radar |
| FTS | FLIR TV Sight System |
| HIMAD | High to Medium Range Air Defense |
| HOJ | Home on Jam |
| IRCCM | Infrared Counter Countermeasures |
| MANPAD | Man Portable Air Defense |
| MP | Monopulse Radar |
| OB | On Board |
| OC | Off Carriage |
| PESA | Passive Electronically Scanned Array Radar |
| SA | Search and Acquisition Radar |
| S-A- | Flashing S and A on RWR |
| SHORAD | Short Range Air Defense |
| TEL | Transporter Erector Launcher |
| TELAR | Transporter Erector Launcher and Radar |
| TLAR | Transporter Launcher and Radar |
| THAAD | Terminal High Altitude Air Defense |
| TVM | Track Via Missile |
| (g) | Missile max g |
| << >> | Radar Band |

CM Effect # Decoys

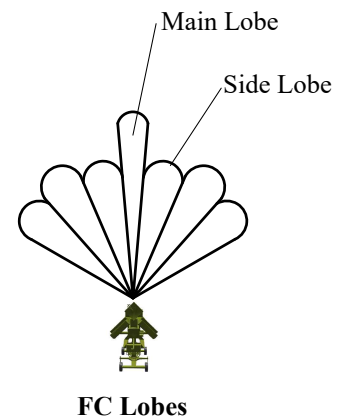
| | |
|-----------|-------|
| No Effect | - |
| Very Low | 20-50 |
| Low | 6-17 |
| Medium | 4-6 |
| High | 2-4 |
| Very High | 1-2 |





RWR Symbols Diagram

| | |
|----------|--------------------------|
| SA FC | |
| D 11 | AN/ALR-69(V), AN/ALR-56M |
| ∠D 711 | AN/ALR-93(V)1 |





AAA Chart





| | | | |
|--|----------------|---|--|
|  | A-S- A K | Tracking: Fire Can Radar/ Son-9 Rdr Lock Range: FC: 25nm Min. Altitude: 2,000 ft Max Rng Guns: N/A Notes: 1950. Guns still fire high without Fire Can. Radar is needed to see through clouds. | Type: Towed Radar ECM BT Range: 13 nm Chaff Vuln.: Medium Bands (System): E (PD) Initial/ Terminal: N/A |
|  | | Tracking: OC Fire Can Radar/ Optical Min Rng Guns: 0 nm / 2,000 ft Typical Engagement: 5 nm / 28,000 ft Max Rng Guns: 5 nm / 28,000 ft Notes: 1939. Jink vertically. | Type: Towed SHORAD ECM BT Range: No Effect Shoot and Move: No Gun Caliber: 85 mm Flak Max Vel.(mach): N/A (N/A kts) Rdr Lock Range: SA: 13nm / FC: 7nm |
|  | | Tracking: OC Fire Can Radar/ Optical Min Rng Guns: 0 nm / 2,000 ft Typical Engagement: 5 nm / 33,500 ft Max Rng Guns: 5 nm / 33,500 ft Notes: 1949. Jink vertically. | Type: Towed SHORAD ECM BT Range: No Effect Shoot and Move: No Gun Caliber: 100 mm Flak Max Vel.(mach): N/A (N/A kts) Rdr Lock Range: SA: 13nm / FC: 7nm |
|  | | Tracking: OC Fire Can Radar/ Optical Min Rng Guns: 0 nm / 2,000 ft Typical Engagement: 3 nm / 20,900 ft Max Rng Guns: 3 nm / 20,900 ft Notes: 1950. Maintain high speed jink vertically. | Type: Towed SHORAD ECM BT Range: No Effect Shoot and Move: No Gun Caliber: 57 mm Flak Max Vel.(mach): N/A (N/A kts) Rdr Lock Range: SA: 13nm FC: 7nm |
|  | | Tracking: Optical Min Rng Guns: 0 nm / 2,000 ft Typical Engagement: 1.3 nm / 8,600 ft Max Rng Guns: 1.3 nm / 8,600 ft Notes: 1939. Maintain high speed, jink. There is a (52k) variant with 85mm N/I. | Type: Towed SHORAD ECM BT Range: N/A Shoot and Move: No Gun Caliber: 37 mm Flak Max Vel.(mach): N/A (N/A kts) Rdr Lock Range: N/A |
|  | A 23 | Tracking: OB Gun Dish Radar «J» Min Rng Guns: 0 nm / 0 ft Typical Engagement: 2.5 nm / 10,000 ft Max Rng Guns: 2.5 nm / 14,000 ft Notes: 1992. Maintain high speed 450+ knots, jink. Usually fires many rounds in short bursts. | Type: Mobile SHORAD ECM BT/ Chaff: 5.5 nm/ Medium Shoot and Move: Yes Gun Caliber: 30 mm x2 Max Vel.(mach): N/A (N/A kts) Rdr Lock Range: SA: 12nm / FC: 10nm |
|  | | Tracking: Optical/ 2A13 Min Rng Guns: 0 nm / 0 ft Typical Engagement: 2.0 nm / 9,900 ft Max Rng Guns: 2.0 nm / 9,900 ft Notes: 1960. Maintain high speed, jink. | Type: Towed SHORAD ECM BT Range: N/A Shoot and Move: No Gun Caliber: 23 mm Max Vel.(mach): N/A (N/A kts) Rdr Lock Range: N/A |
|  | | Tracking: Optical Min Rng Guns: 0 nm / 0 ft Typical Engagement: 1.8 nm / 9,800 ft Max Rng Guns Opt: 1.8 nm / 9,800 ft Notes: 1949. Maintain high speed, jink. | Type: Towed SHORAD ECM BT Range: N/A Shoot and Move: No Gun Caliber: 14.5 mm KPV Max Vel.(mach): N/A (N/A kts) Rdr Lock Range: N/A |
|  | A 23 | Tracking: OB Gun Dish Radar «J»/ Zeus Min Rng Guns: 0 nm / 0 ft Typical Engagement: 2 nm / 10,000 ft Max Rng Guns: 3 nm / 16,000 ft Notes: 1962. Maintain high speed 450+ knots, jink. Very dangerous. SA Dog Ear. | Type: Mobile SHORAD ECM BT/ Chaff: 5.5 nm/ Medium Shoot and Move: Yes Gun Caliber: 23mm 2A7 x4 Max Vel.(mach): N/A (N/A kts) Rdr Lock Range: SA: 12nm / FC: 10nm |
|  | | Tracking: Optical/ Type-80 Min Rng Guns: 0 nm / 2,000 ft Typical Engagement: 3 nm / 20,800 ft Max Rng Guns Opt: 3 nm / 20,800 ft Notes: 1955. Maintain high speed, jink. Gun has low accuracy. | Type: Mobile SHORAD ECM BT Range: N/A Shoot and Move: No Gun Caliber: 57mm Flak Max Vel.(mach): N/A (N/A kts) Rdr Lock Range: N/A |


| | | | |
|--|-------------------|--|---|
|  | <p>B 45</p> | <p>Tracking/ Name: Search Radar/ P-35 Saturn Rdr Lock Range: SA: 250 nm Min. Altitude: 1,100 ft Notes: 1958. SA radar for SA-5. Used for EW, GCI, and SAM target acquisition.</p> | <p>Type: Towed SA Radar ECM BT Range: 45 nm Chaff Vulnerability:Medium Bands (System): E/ F (PD) Initial/ Terminal: N/A</p> |
|  | <p>10 710</p> | <p>Tracking/ Name: Search Radar/ 64N6 Rdr Lock Range: SA: 170 nm Min Altitude: . Notes: 1992. SA radar for SA-10. Gives battery better range and ABM role. This 10 has lower sound and stays in outer ring.</p> | <p>Type: Towed SA Radar ECM BT Range: 30 nm Chaff Vulnerability:Low Band (System): E Initial/ Terminal: N/A</p> |
|  | <p>O 413</p> | <p>Tracking/ Name: Search Radar/ 9S80 Ovod Rdr Lock Range: SA: 43 nm Min Altitude: . Notes: 1976. SA radar for SA-9, SA-13, ZSU23-4.</p> | <p>Type: Mobile SA Radar ECM BT Range: 30 nm Chaff Vulnerability:High Band (System): G Initial/ Terminal: N/A</p> |
|  | <p>2 72</p> | <p>Tracking/ Name: SA-2 SAM Radar/ SNR-75 Rdr Lock Range: FC: 82 nm Min Altitude: Launch: 330 ft / Track: 80 ft Notes: 1960. Destroy to neutralize SA-2 site. 1 target, 2 missiles. SA radar Spoon Rest.</p> | <p>Type: Towed SAM Radar ECM BT Range: 12 nm Chaff Vulnerability:Medium Band (System): G (PD/ CW) Initial/ Terminal: Command/ Command Targets: 1 AZ: 120 (10) EL: 90 (10)</p> |
|  | <p>2 72</p> | <p>Tracking/ Name: SA-2 SAM Radar/ SNR-75 Rdr Lock Range: FC: 62 nm Min Altitude: Launch: 330 ft / Track: 80 ft Notes: 1960. Destroy to neutralize SA-2 site. 1 target, 2 missiles. SA radar Spoon Rest.</p> | <p>Type: Towed SAM Radar ECM BT Range: 9 nm Chaff Vulnerability:Medium Band (System): G (PD/ CW) Initial/ Terminal: Command/ Command Targets: 1 AZ: 120 (10) EL: 90 (10)</p> |
|  | <p>10 710</p> | <p>Tracking/ Name: SA-10B SAM Radar/ 30N6E1/ 2 Rdr Lock Range: FC: 60 nm Min Altitude: Launch: 60 ft / Track: 60 ft Notes: 1978. Destroy to neutralize SA-10 site. Can track w/o 10 on RWR. No launch warning. SA radars Big Bird, Tin Shield, Clam Shell N/I. Higher chirp inner ring.</p> | <p>Type: Mobile SAM Radar ECM BT Range: 36 nm HOJ Chaff Vulnerability:No effect Band (System): I/ J (PESA) Initial/ Terminal: Command/ TVM Targets: 6 AZ: 120 (60) EL: 90 (60)</p> |
|  | <p>F 4F</p> | <p>Tracking/ Name: Search Radar/ P-15 Tropa Rdr Lock Range: SA: 108 Min. Altitude: . Notes: 1955. SA radar for SA-3, SA-6, SA-13. Part of group of radars and CC systems. Spoon Rest, Side Net, rdr cntrl truck and Mercury Grass CC system N/I.</p> | <p>Type: Mobile SA Radar ECM BT Range: 49 Chaff Vulnerability:No effect Band (System): C (UHF Pulse) Initial/ Terminal: N/A</p> |
|  | <p>L 4L</p> | <p>Tracking/ Name: Search Radar/ P-40, 1S12 Bronya Rdr Lock Range: SA: 85 nm Min Altitude: . Notes: 1963. SA radar. Primary SA-4. Also SA-6, SA-8 and SA-11. Occasionally SA-13. Sometimes overlaps with F to look like E on RWR.</p> | <p>Type: Mobile SA Radar ECM BT Range: 38 nm Chaff Vulnerability:High Band (System): E Initial/ Terminal: N/A</p> |
|  | <p>3 73</p> | <p>Tracking/ Name: SA-3 SAM Radar/ SNR-125 Neva/ Rdr Lock Range: FC: 30 nm Pechora Minimum Altitude: Launch: 150 ft / Track: 60 ft Notes: 1961. Destroy to neutralize SA-3. Beam + 6 chaff tends to break lock. Guide to one target at a time. SA radars Flat Face, Side Net, Squat Eye N/I.</p> | <p>Type: Towed SAM Radar ECM BT Range: 6 nm Chaff Vulnerability:Medium Band (System): I/ D (PD) Initial/ Terminal: Command/ Command Targets: 1 AZ: 120 (10) EL: 90 (10)</p> |
|  | <p>B 45</p> | <p>Tracking/ Name: Search Radar/ PRV-17 Azimut Rdr Lock Range: SA: 167 nm Minimum Altitude: Notes: 1984. Height finding radar for SA-5.</p> | <p>Type: Towed Search Radar ECM BT Range: 30 nm Chaff Vulnerability:Medium Band (System): E Initial/ Terminal: N/A</p> |


Pat Hand  4 Tracking/ Name: **SA-4 SAM Radar/ 1S32** Type: Mobile SAM Radar
 Rdr Lock Range: FC: 50 nm ECM BT Range: 14 nm
 74 Min Altitude: Launch: 500 ft / Track: 500 ft Chaff Vulnerability: Medium
 Notes: 1965. Destroy to neutralize SA-4 site. SA radar Long Track, Thin Skin N/I. Band (System): H (PD/ CW)
 Initial/ Terminal: Command/ SARH
 Targets: 1 AZ: 120 (10) EL: 90 (10)


Snow Drift  D Tracking/ Name: **Search Radar/ 9S18M1 Tube Arm** Type: Mobile SA Radar
 Rdr Lock Range: SA: 86 nm ECM BT Range: 52 nm
 1D Min Altitude: 60 ft Chaff Vulnerability: Very Low
 Notes: 1979. SA radar for SA-11 and SA-17. Band (System): F
 Initial/ Terminal: N/A

Spoon Rest  Tracking/ Name: **Search Radar/ P-12 Yenisei** Type: Mobile SA Radar
 Rdr Lock Range: SA: 145 nm ECM BT Range: 65 nm
 Min. Altitude: Chaff Vulnerability: High
 Notes: 1956. SA radar for SA-2, SA-11, SA-6. Part of group of radars and CC systems. Flat Face, Side Net, rdr cntrl truck and Mercury Grass CC system N/I. Band (System): A (VHF PD)
 Initial/ Terminal: N/A

Square Pair  5 Tracking/ Name: **SA-5 SAM Radar/ 5N62** Type: Towed SAM Radar
 Rdr Lock Range: FC: 145 nm ECM BT Range: 26 nm
 75 Min. Altitude: Launch: 1,000 ft / Track: 1,000 ft Chaff Vulnerability: Medium
 Notes: 1966. Destroy to neutralize SA-5 site. SA radars: Bar Lock, Odd Group. Optional radars: Tall King or Big Back, Back Net or Back Trap, Side Net, Squat Eye N/I. Band (System): H (PD/ CW)
 Initial/ Terminal: Command/ SARH
 Targets: 1 AZ: 120 (10) EL: 90 (10)







Straight Flush  6 Tracking/ Name: **SA-6 SAM Radar/ 1S91 SURN** Type: Mobile SAM Radar
 Rdr Lock Range: FC: 30 nm ECM BT Range: 4 nm HOJ
 76 Min Altitude: Launch: 550 ft / Track: 80 ft Chaff Vulnerability: Medium
 Notes: 1970. Destroy to neutralize SA-6 sites. SA radar Spoon Rest, Long Track, Flat Face, Thin Skin, Side Net, Score Board N/I. Band (System): G/ H/ I (PD/ CW)
 Initial/ Terminal: Command/ SARH
 Targets: 1 AZ: 120 (10) EL: 90 (10)

HN-5A Red Tassel  Tracking/ Name: **Optical, IR Rear Aspect/ Hong Ying-5** Type: MANPAD
 Min. Rng Missiles: 0 nm / 60 ft ECM BT Range: N/A
 Typical Engagement: **1.6 nm / 8,000 ft** Flare Vulnerability: Very High
 Max Rng Missiles: 2 nm / 10,500 ft 9M32M Init/ Term/ Pursuit: IR Rear Aspect/ Lead
 Notes: 1970. Maintain high speed, break turn, flare. Max Vel.(mach) **1.6** (1,058 kts) .29 nm/s
 Rdr Lock Range: N/A

SA-2 Guideline  2 Tracking/ Name: **OC Fan Song Radar/ S-75 Dvina** Type: Towed SAM
 72 Min Rng Missiles: 4 nm / 300 ft launch / 80 ft track ECM BT Range: E:12 nm F:9 nm
 Typical Engagement: **16 nm / 73,000 ft** Chaff Vulnerability: Medium
 Max Rng Missiles: 38 nm / 198,000 ft V-750 Init / Term/ Pursuit: Cmd/ Cmd / Lead
 Notes: 1957. Break turn 4g. Beam/ split-s/ turn away. SA Max Vel.(mach): **3.6** (2,381 kts) .66 nm/s
 Spoon Rest. 13nm pump bad. Pump/ nose up/ ECM. Rdr Lock Range: SA: 108nm / FC: E82-F62nm









| | | | |
|-----------------------|--------------------------|---|---|
| SA-3 Goa | F 4F 73 | Tracking/ Name: OC Low Blow Radar/ S-125 Neva Min Rng Missiles: 2.7 nm / 150 ft launch / 60 ft track Typical Engagement: 9 nm / 45,000 ft Max Rng Missiles: 11 nm / 67,000 ft 5V27/ D (V601/P) Notes: 1961. Break turn 6-7g (13g). Beam+ chaff. Beam/ split-s/ turn away. SA Flat Face, Squat Eye. | Type: Towed SAM ECM BT Range: 6 nm Chaff Vulnerability:Medium Init/ Term/ Pursuit: Cmd/ Cmd/ Lead Max Vel.(mach): 2.4 (1,587 kts) .44 nm/s Rdr Lock Range: SA: 108 nm / FC: 30 nm |
| SA-4 Ganef | L 4L 74 | Tracking/ Name: OC Pat Hand, EOTS/ 2K11 Krug Min Rng Missiles: 4 nm / 500 ft launch / 50 ft track Typical Engagement: 18 nm / 60,000 ft Max Rng Missiles: 22 nm / 80,000 ft 9M8, 9M8M1/ M2 Notes: 1967. Break turn 4g. Beam/ split-s/ turn away. SA Long Track. Missile can only pull 6g, weak turn. | Type: Mobile SAM TEL ECM BT Range: 14 nm Chaff Vulnerability:Medium Init/ Term/ Pursuit: Cmd / SARH/ Lead Max Vel.(mach) 2.4 (1,587 kts) .44 nm/s Rdr Lock Range: SA: 86 nm / FC: 48 nm |
| SA-5 Gammon | B B 45 75 45 | Tracking/ Name: OC Square Pair/ S-200 Angara Min Rng Missiles: 7 nm / 1,000 ft launch/ 1,000 ft track Typical Engagement: 53 nm / 123,000 ft Max Rng Missiles: 190 nm / 327,000 ft 5V21, 5V28 Notes: 1967. Break turn 5-6g, chaff, beam. SA Bar Lock, Odd Group PRV-17, Odd Pair PRW-13. | Type: Towed SAM ECM BT Range: 26 nm Chaff Vulnerability:Medium Init/ Term/ Pursuit: Cmd / SARH/ Pure Max Vel.(mach) 8.0 (5,291 kts) 1.47 nm/s Rdr Lock Range: SA: 250 nm / FC: 145 nm |
| SA-6 Gainful | F 4F 76 | Tracking/ Name: OC Straight Flush Radar/ 2K12 Kub Min Rng Missiles: 2 nm / 550 ft launch / 80 ft track Typical Engagement: 10 nm / 36,000 ft Max Rng Missiles: 20 nm / 101,500 ft 3M9 Notes: 1970. Beam/ chaff. Beam/ split-s/ turn away. Break turn 7-8g/ chaff. SA Flat Face. | Type: Mobile SAM TEL ECM BT Range: 4 nm HOJ Chaff Vulnerability:Medium Init/ Term/ Pursuit: Cmd / SARH/ Lead Max Vel.(mach) 3.2 (2,116 kts) .59 nm/s Rdr Lock Range: SA: 108 nm / FC: 30 nm |
| SA-7 Grail | | Tracking/ Name: Optical, IR Rear Aspect/ 9K32 Strela-2 Min Rng Missiles: 0.2 nm / 50 ft Typical Engagement: 1.5 nm / 5,000 ft Max Rng Missiles: 2 nm / 12,000 ft 9M32 Notes: 1968. Maintain high speed 4g turn to put missile on 3/9 line, flare. Carried by BMP-1, ACRV, | Type: MANPAD ECM BT Range: N/A Flare Vulnerability: Very High Init/ Term/ Pursuit: IR Rear Aspect/ Lead Max Vel.(mach) 1.6 (1,058 kts) .29 nm/s Rdr Lock Range: N/A |
| SA-8-Gecko | 8 78 | Tracking/ Name: OB Land Roll«H/J», EOTS/ 9K33 Romb Min Rng Missiles: 0.8 nm / 80 ft launch / 80 ft track Typical Engagement: 4 nm / 16,000 ft Max Rng Missiles: 8.5 nm / 50,000 ft 9M33/ M2/ M3 Notes: 1971. Break turn 8-9g + chaff. Evade close shot with slice turn to get under 80'. 4nm shot break within 8 sec. Missile will get to you in 11s. | Type: Mobile SHORAD TELAR ECM BT Range: 14 nm Chaff Vulnerability:Medium Init/ Term/ Pursuit: Cmd/ Cmd/ Lead Max Vel.(mach) 2.0 (1,323 kts) .37 nm/s Rdr Lock Range: SA: 24 nm / FC: 24 nm Targets: 1 AZ: 120 (10) EL: 90 (10) |
| SA-9 Gaskin | O 413 | Tracking/ Name: OB Pasv Flat Box«G», IR/ 9K31 Strela-1 Min Rng Missiles: 0.3 nm / 50 ft Typical Engagement: 2.0 nm / 14,500 ft Max Rng Missiles: 3.2 nm / 14,500 ft 9M31 Notes: 1968. Break turn 7-8g + 2 flare/ change plane of turn. In M-84 and BMP-2 battalions. 1 msl/tgt. SA Dog Ear. | Type: Mobile SHORAD ECM BT Range: N/A Flare Vulnerability: Very High Init/ Term/ Pursuit: IR Rear Aspect / Lead Max Vel.(mach) 1.5 (992 kts) .28 nm/s Rdr Lock Range: SA: 2 nm / FC: 2 nm |
| SA-10B Grumble | 10 410 710 | Tracking/ Name: OC Flap Lid B Radar/ S-300PS Min Rng Missiles: 3 nm / 60 ft launch / 60 ft track Typical Engagement: 48 nm / 123,000 ft Max Rng Missiles: 54 nm / 276,000 ft 48N6 Notes: 1982. Very dangerous. No smoke or launch warning. Pump 45nm. 300'/25nm. ECM pump 32nm. SA Big Bird. Anti-missile capability. | Type: Mobile HIMAD TEL ECM BT Range: 36 nm HOJ Chaff Vulnerability:No Effect Init/ Term/ Pursuit: Cmd/ TVM/ Lead Max Vel.(mach) 5.5 (3,638 kts) 1 nm/s Rdr Lock Range: SA: 170 nm / FC: 60 nm |
| SA-11 Gadfly | D 4D 711 | Tracking/ Name: OB Fire Dome «H/I», EOTS/ Buk-M1 Min Rng Missiles: 1.5 nm / 180 ft launch / 100 ft track Typical Engagement: 12 nm / 54,000 ft Max Rng Missiles: 20 nm / 90,000 ft 9M38, 9M38M1, ... Notes: 1979. 2msl/tgt. No smoke. Pump/ weave x3/ pull up at 15nm. Some launch warning. SA rdr Snow Drift. | Type: Mobile SAM TELAR ECM BT Range: 19 nm HOJ Chaff Vulnerability:Very Low Init/ Term/ Pursuit: SARH / Lead Max Vel.(mach) 2.6 (1,720 kts) .48 nm/s Rdr Lock Range: SA: 85 nm / FC: 30 nm Targets: 6 AZ: 120 (60) EL: 90 (60) |

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|---|-------------------|---|--|
| SA-13 Gopher  | O 13 | Tracking/ Name: OB Snap Shot «K» , *IR/ 9K35 Strela-10 Min Rng Missiles: 0.1 nm / 30 ft Typical Engagement: 2 nm / 12,000 ft Max Rng Missiles: 5 nm / 26,800 ft 9M37, 9M31 Notes: 1976. Very dangerous. Optical IR skr. 13 on Thales & ALR-67 . SA rdr LT, FF, Dog Ear, Squat Eye N/I. | Type: Mobile SHORAD ECM BT Range: 4 nm Flare Vulnerability: Very Low IRCCM Init/ Term/ Pursuit: IR All Aspect/ Lead Max Vel.(mach) 1.6 (1,058 kts) .29 nm/s Rdr Lock Range: SA: 43 nm / FC: 5 nm |
| SA-14 Gremlin  | | Tracking/ Name: Optical, IR/ 9K34 Strela-3 Min Rng Missiles: 0 nm / 50 ft launch / 80 ft track Typical Engagement: 1.6 nm / 10,000 ft Max Rng Missiles: 3 nm / 12,100 ft 9M36 Notes: 1974. No smoke. Brk turn 5-7g/ flares. BMP-CMD, BMP-1. | Type: MANPAD ECM BT Range: N/A Flare Vulnerability: Very High Init/ Term/ Pursuit: IR All Aspect/ Pure Max Vel.(mach) 1.6 (1,058 kts) .29 nm/s Rdr Lock Range: SA: N/A / FC: N/A |
| SA-15 Gauntlet  | 15-M- 715 | Tracking/ Name: OB Scrum Half «G/H/J» /9K331 Tor-M1 Min Rng Missiles: 0.5 nm / 35 ft Typical Engagement: 6.5 nm / 20,000 ft Max Rng Missiles: 7 nm / 42,500 ft 9M331 Notes: 1991. Very dangerous. 1 msl l/tgt. 2 tgts. 8 msls rdy. No smoke. No shoot and move. 6nm pump+chaff. 7-8g break+chaff. Anti-missile capability. | Type: Mobile SHORAD TLAR ECM BT Range: 13 nm Chaff Vulnerability: Medium Init/ Term/ Pursuit: Cmd / Lead Max Vel.(mach) 3.0 (1,984 kts) .63 nm/s Rdr Lock Range: FC: 16 nm Targets: 1 (2) AZ: 120 (10) EL: 90 (10) |
| SA-16 Gimlet  | | Tracking/ Name: Optical, IR All Aspect/ 9K310 Igla-1 Min Rng Missiles: 0.2 nm / 60 ft Typical Engagement: 3 nm / 10,000 ft Max Rng Missiles: 3.5 nm / 19,400 ft 9M313 Notes: 1981. No smoke. 6-7g slice+flares. 9kft mach1 straight thru. Turn to keep missile on 3-9. | Type: MANPAD ECM BT Range: N/A Flare Vulnerability: Very Low IRCCM Init/ Term/ Pursuit: IR All Aspect/ Lead Max Vel.(mach) 1.6 (1,058 kts) .29 nm/s Rdr Lock Range: SA: N/A / FC: N/A |
| SA-17 Grizzly  | D 17 4D / 17 | Tracking/ Name: OB Chair Back «H/I» / Buk M1-2 or M2 Min Rng Missiles: 1.6 nm / 140 ft launch / 50 ft track Typical Engagement: 16.5 nm / 81,000 ft Max Rng Missiles: 18.5 nm / 115,000 ft 9M317, 9M38... Notes: 1998. 2msl/tgt. No smoke. 14nm pump/ 2-3 weaves/ pull up. 9g slice. SA-7&14. SA Snow Drift. Anti-missile capability. Link to SA-6 N/I. | Type: Mobile SAM TELAR ECM BT Range: 30 nm HOJ Chaff Vulnerability: No Effect Init/ Term/ Pursuit: SARH/ Lead Max Vel.(mach) 2.7 (1,786 kts) .50 nm/s Rdr Lock Range: SA: 85 nm / FC: 40 nm Targets: 6 AZ: 120 (60) EL: 90 (60) |
| SA-19 Grison on 2S6 Tunguska  | A 19 | Tracking/ Name: OB Hot Shot«E/J» , Optcl, IR/ 2K22, 9K22 Max Rng Guns: 2.2 nm / 10,700 ft Typical Engagement: 6.5 nm / 10,200 ft Max Rng Missiles: 5.7 nm / 33,000 ft 9M311 Notes: 1982. Very Dangerous. 1msl/tgt 6 tgts. No smoke. SAM's stationary. Missiles min. launch 0.5nm, 20 ft. | Type: Mobile SHORAD ECM BT Range: 7 nm HOJ Chaff/ Flare Vuln: Medium Gun Caliber: 30mm 2A38 Max Vel.(mach): 2.7 (1,786 kts) .50 nm/s Rdr Lock Range: SA: N/A / FC: 10 nm Targets: 1 (6) EL: 120(10) EL: 90 (60) |



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|--|-----------------------------|--|---|
|  | N P 7N | Tracking: Nike Radar Rdr Lock Range: SA: 76 nm / FC: 53 nm Min. Altitude: Launch: 8,400 ft / Track: 400 ft Max Rng Missiles: N/A Notes: 1961. Destroy to neutralize Nike. Passing through beam usually breaks lock. | Type: Fixed Radar HIMAD ECM BT Range: 15 nm Chaff Vulnerability: Medium Bands (System): D/ F/ I (HIPAR) Initial/ Terminal: Command Targets: 16 AZ: 180 (180) EL: 90 (90) |
|  | H 7MQ | Tracking: I-Hawk Radar / Optical Rdr Lock Range: FC: 19-33 nm Min. Altitude: Launch: 200 ft / Track: 0 ft Notes: 1971. Destroy to neutralize HAWK. FC tone at 19nm first time in. 33nm sec time. Part of group of radars. SA: AN/MPQ-50 and 55. | Type: Towed Radar HIMAD ECM BT Range: 8 - 10 nm HOJ Chaff Vulnerability: Medium Bands (System): D/ I/ J Initial/ Terminal: SARH Targets: 1 AZ: 120 (10) EL: 90 (10) |
|  | 50 1H | Tracking: Search Radar Rdr Lock Range: SA: 36 nm Min. Altitude: 0 ft Notes: 1971. HAWK search radar. Part of group of radars. SA: AN/MPQ-50 and 55. FC: AN/MPQ 46 and 51. | Type: Towed Search Radar ECM BT Range: 25 nm Chaff Vulnerability: High Bands (System): C (PD) Initial/ Terminal: |
|  | P 7P | Tracking: Patriot Radar Rdr Lock Range: SA: 77 nm and FC: 77 nm Min Altitude: Launch: 160 ft / Track: 50 ft Max Rng Missiles: N/A Notes: 1984. Destroy to neutralize Patriot site. No launch warning. Assume launch if you hear FC tone. | Type: Towed Radar HIMAD ECM BT Range: 63 nm HOJ Chaff Vulnerability: No Effect ECCM Bands (System): G (PESA) Initial/ Terminal: Command/ TVM Targets: 8 AZ: 180 (180) EL: 90 (90) |
|  | 55 1H | Tracking: Search Radar Rdr Lock Range: SA: 33 nm Min. Altitude: 0 ft Notes: 1979. HAWK search radar. Part of group of radars. SA: AN/MPQ-50 and 55. FC: AN/MPQ 46 HPI and 51. | Type: Towed Search Radar ECM BT Range: ~11nm Chaff Vulnerability: Low Bands (System): I/ J (CW) Initial/ Terminal: |
|  | P 7R | Tracking: UHF Antenna Mass Group PADIL Rdr Lock Range: SA and FC: See Patriot Radar Min Altitude: Launch / Track: See Patriot Radar Max Rng Missiles: N/A Notes: 1984. Creates PADIL network between Patriot batteries/ radars. UHF shots using networked radars. | Type: Mobil Network Antenna ECM BT Range: See Patriot Radar Chaff Vulnerability: See Patriot Radar Bands (System): See Patriot Radar Initial/ Terminal: See Patriot Radar |
|  | P 7R | Tracking: Sky Guard Radar Rdr Lock Range: SA: 13 nm FC: 13 nm Min Altitude: 0 ft Max Rng Missiles: N/A Notes: 1960. Destroy to neutralize Skyguard site. SAM and AAA fire control radar. | Type: Towed Radar ECM BT Range: 4 nm Chaff Vulnerability: Medium Bands (System): I (MP) Initial/ Terminal: SARH Targets: 1 AZ: 120 (10) EL: 90 (10) |
|  | P 7R | Tracking: Optical/ IR / UV All Aspect Min Rng Missiles: 0 nm / 50 ft Typical Engagement: 4 nm / 10,000 ft Max Rng Missiles: 4.1 nm / 20,000 ft FIM-92 Stinger Notes: 1989. Reduce throttle, flares, Break turn 7-9g. | Type: Mobile SHORAD ECM BT Range: N/A Flare Vulnerability: Very Low Init/ Term/ Pursuit: IR All Aspect/ Lead Max Vel.(mach) 2.3 (1,534 kts) .43 nm/s Rdr Lock Range: N/A |
|  | P 7R | Tracking: OB AN/MPQ-49 FAAR/ Optcl / IR Rear Min Rng Missiles: 0 nm / 0 ft Typical Engagement: 0.2 nm / 100 ft Max Rng Missiles: 1.4 nm / 3,100 ft AIM-9D, MIM-72A Notes: 1969. Maintain high speed, jink. Missile loses energy very fast. No radar showed on RWR. | Type: Mobile SHORAD ECM BT Range: N/A Flare Vulnerability: High Init/ Term/ Pursuit: IR Rear Aspect/ Pure Max Vel.(mach) 1.2 (794 kts) .22 nm/s Rdr Lock Range: SA: N/A / FC: N/A |
|  | 50 55 1H 7MQ 1H | Tracking: OC AN/MPQ-46 Hawk Radar SARH Min Rng Missiles: 0.5 nm / 200 ft launch / 0 ft track Typical Engagement: 9-12 nm / 44,000 ft Max Rng Missiles: 18-39 nm / 62,000 ft MIM-23 Hawk Notes: 1960. Pump 5g slice/ ECM/ Chaff 90%. Beam/ split-s/ chaff/ turn away 50%. 6g barrel roll 50%. | Type: Towed SAM HIMAD ECM BT Range: 8 - 10 nm HOJ Chaff Vulnerability: Medium Init/ Term/ Pursuit: SARH / Lead Max Vel.(mach) 2.5 (1,650 kts) .46 nm/s Rdr Lock Range: SA: 33 nm / FC: 19-33 nm |

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| <p>K263 Cheongoon A</p>  <p>63</p> | <p>Tracking/ Name: OB TPS-830K«I/J»/ K200-AD Rdr Lock Range: SA and FC: 6 nm Max Rng Guns: 2.0 nm / 9,900 ft Max Rng Missiles: N/A Notes: 1986. Maintain high speed, jink. ROK HQ-K263 Cheongoon, AAA-K263 Cheongoon.</p> | <p>Type: Mobile SHORAD ECM BT Range: N/A Flare Vulnerability: N/A Gun Caliber: 20 mm KM167A1 Max Vel.(mach) N/A</p> |
| <p>KSAM Chun-ma Pegasus C</p>  <p>7C</p> | <p>Tracking: OB Daewoo Radar«E/F/J»/ FLIR / EOTS Min Rng Missiles: 0 nm / 0 ft Typical Engagement: 5 nm / 10,000 ft Max Rng Missiles: 8 nm / 27,000 ft Crotale Notes: 1999. 1 msl/ tgt. No smoke. Slice down 7-9g /chaff x6/ turn away very low. Launch warning varies.</p> | <p>Type: Mobile SHORAD TELAR ECM BT Range: 7 nm Chaf Vulnerability: Medium Init/ Term/ Pursuit: Cmd/ Cmd/ Lead Max Vel.(mach) 3.1 (2,067 kts) .57 nm/s Rdr Lock Range: SA & FC: 10 nm</p> |
| <p>LAV-AD</p>  | <p>Tracking: IR/ Laser Guided Missiles Min Rng Missiles: 0 nm / 50 ft Typical Engagement: 4 nm / 10,000 ft Max Rng Missiles: 4.1 nm / 20,000 ft FIM-92 Stinger Notes: 1989. Reduce throttle, flares, break turn 7-9g. FTS.</p> | <p>Type: Mobile SHORAD Gun Range: 8,000 ft Flare Vulnerability: Very Low Init/ Term/ Pursuit: IR All Aspect/ Lead Max Vel.(mach) 2.3 (1,534 kts) .43 nm/s Rdr Lock Range: SA: N/A FC: N/A</p> |
| <p>M-163/M-167 Vulcan</p>  | <p>Tracking: OB AN/VPS2 Range Only/ M61 Optical Rdr Lock Range: SA & FC: 6nm Max Rng Guns: 2.0 nm / 9,900 ft Max Rng Missiles: N/A Notes: 1968. M-167 is towed variant. Supposed to have radar but doesn't appear on RWR.</p> | <p>Type: Mobile SHORAD ECM BT Range: N/A Chaf Vulnerability: N/A Gun Caliber: 20mm Max Vel.(mach) N/A</p> |
| <p>M2A2/ ADATS</p>  | <p>Tracking: IR / UV All Aspect Min Rng Missiles: 0 nm / 50 ft Typical Engagement: 4 nm / 10,000 ft Max Rng Missiles: 4.1 nm / 20,000 ft FIM-92 Stinger Notes: 1989. Reduce throttle, flares, break turn 7-9g.</p> | <p>Type: Mobile SHORAD ECM BT Range: N/A Flare Vulnerability: Very Low Init/ Term/ Pursuit: IR All Aspect/ Lead Max Vel.(mach) 2.3 (1,534 kts) .43 nm/s Rdr Lock Range: N/A</p> |
| <p>M2A2/ BSFV-ADV/ M6 BL</p>  | <p>Tracking: IR / UV All Aspect Min Rng Missiles: 0 nm / 50 ft Typical Engagement: 4 nm / 10,000 ft Max Rng Missiles: 4.1 nm / 20,000 ft FIM-92 Stinger Notes: 1988. Reduce throttle, flares, break turn 7-9g.</p> | <p>Type: Mobile SHORAD ECM BT Range: N/A Flare Vulnerability: Very Low Init/ Term/ Pursuit: IR All Aspect/ Lead Max Vel.(mach) 2.3 (1,534 kts) .43 nm/s Rdr Lock Range: N/A</p> |



Mistral



Tracking: **IR All Aspect**
 Min Rng Missiles: 0 nm / 0 ft
 Typical Engagement: **3 nm / 10,000 ft**
 Max Rng Missiles: 3 nm / 18,000 ft Mistral
 Notes: 1988. 6-7g slice down across launcher then dive away.
 No smoke.

Type: MANPAD
 ECM BT Range: N/A
 Flare Vulnerability: Very Low
 Init/ Term/ Pursuit: IR All Aspect/ Lead
 Max Vel.(mach) **1.7** (1,133 kts) .31 nm/s
 Rdr Lock Range: N/A

Nike Hercules



N
P
7N

Tracking: **OC Radar AN/MPQ-43**
 Min Rng Missiles: 3 nm / 3,400 ft launch / 50 ft track
 Typical Engagement: **46nm / 150,000 ft**
 Max Rng Missiles: 70 nm / 259,000 ft MIM-14
 Notes: 1961. Break turn 8-9g. Beam.

Type: Fixed HIMAD
 ECM BT Range: 15 nm
 Chaff Vulnerability: Med
 Init/ Term/ Pursuit: Cmd / Pure then Lead
 Max Vel.(mach) **3.7** (2,467 kts) .69 nm/s
 Rdr Lock Range: SA:76nm / FC:53nm

Patriot MIM-104 P



7P

Tracking: **OC AN/MPQ-53 Patriot Radar**
 Min Rng Missiles: 2 nm / 160 ft launch / 50 ft track
 Typical Engagement: **49 nm / 80,000 ft**
 Max Rng Missiles: 91 nm / 80,000 ft MIM-104
 Notes: 1984. No launch warning. Pump 40nm, up 50, turn back 60. Stingers in group. 2msls/ tgt. 23nm/300 ft.

Type: Towed SAM HIMAD
 ECM BT Range: 63 nm HOJ
 Chaff Vulnerability: No Effect ECCM
 Init/ Term/ Pursuit: Cmd/ TVM/ Lead
 Max Vel.(mach) **4.8** (3,200 kts) .89 nm/s
 Rdr Lock Range: SA: 77nm and FC: 62-77nm

Sky Guard SAM



P
7R

Tracking: **OC Sky Guard Radar**
 Min Rng Missiles: 0 nm / 0 ft
 Typical Engagement: **8 nm / 20,000 ft**
 Max Rng Missiles: 11 nm / 23,000 ft Aspide
 Notes: 1982. No smoke. Slice break turn 7g/ chaff. Bm/ split-s/ turn away. Drag to max rng.

Type: Towed SHORAD
 ECM BT Range: 4 nm / 20,000 ft
 Chaff Vulnerability: Med
 Init/ Term/ Pursuit: SARH/ Lead
 Max Vel.(mach) **1.6** (1,058 kts) .29 nm/s
 Rdr Lock Range: SA: 13nm / FC: 13nm

Stinger



Tracking: **Optical / IR / UV All Aspect**
 Min Rng Missiles: 0 nm / 50 ft
 Typical Engagement: **4 nm / 10,000 ft**
 Max Rng Missiles: 4.1 nm / 20,000 ft FIM-92 Stinger
 Notes: 1981. Reduce throttle, flares, break turn 7-9g.

Type: Mobile MANPAD
 ECM BT Range: N/A
 Flare Vulnerability: Very Low
 Init/ Term/ Pursuit: IR All Aspect/ Lead
 Max Vel.(mach) **2.3** (1,534 kts) .43 nm/s
 Rdr Lock Range: N/A



General Notes

- Performance numbers are optimum numbers on clean aircraft. This is to get an idea of the relative performance of each aircraft. Added drag, weight or pilots with varying skills will effect performance.
- RWR number is when shown AC detects F-16C52 on RWR. The detection range increases significantly if the F-16 locks the AC.
- Radar range is when shown AC typically detects F-16C52. RCS varies with target size. RCS varies with loadout and aspect N/I.
- ECM number is when shown AC has a stable lock on a jamming F-16C52 with AN/ALQ-131(V)1. AC with better radar can sometimes lock a jamming target much further away only to loose the lock right away, especially if the target maneuvered. SARH shots were usually broken at longer ranges.
- When shown AC is using ECM, its radar will be weaker so the ECM burn through # will get smaller.
- Max Mach is at 25kft with full burner and no externals. Most jets run out of fuel fast getting to top speed. Exceptions are the Su-27, 30, 33, 35 which have long range and a lot of fuel. Most AC can go faster at higher altitudes.
- Turn rate is best observed in the sim with no externals. The first numbers are sustained turn rates in level turn at 10,000 feet and 2,000 feet at 400, 300 and 200 knots. The lower number tends to be at 10,000 feet and 400 knots. The better number tends to be at 2,000 feet and 200 to 300 knots. The instant turn rate is the best turn rate experienced in a slice break turn without maintaining speed. Some AC performed better at higher or lower speeds so the speeds were adjusted during testing.
- Smoke exhaust appears at lower altitudes.
- Vertical rating is based on no externals 250 kts from 2kft, 3-4g pull to 90 deg straight up x<4k very bad, 4k bad, 6k med, 10k good, 14k<x very good. This rating can also be used to gauge an aircraft's ability to accelerate.
- Thrust numbers are in 1,000 lbs. Outside source research may not match BMS data.
- Avionics: many of the bluefor names have an AN/ prefix that were left off to save room. i.e. APG-65 would be AN/APG-65.
- MAR can be smaller using a jammer. A jammer can prevent a launch until the burn through number is reached.
- MAR is for longer range shots. At closer ranges where it is obvious that the bandit could not have shot from further away, the MAR can be smaller and when you should abort will depend on the distance to the bandit and speed of the missile.
- A fast and clean jet is needed to engage in air to air combat. Especially when the opposing aircraft have similar weapons and capabilities. The MAR should be much higher for planes carrying wing tanks because the plane will turn slower and cannot fly as fast.
- External stores increase RCS of stealth aircraft.
- If flying an F-15C, multiply radar detection ranges by 1.32.

Abbreviations

| | |
|-------|---|
| AESA | Active Electronically Scanned Array |
| AC | Aircraft |
| CFT | Conformal Fuel Tank |
| CMDS | Counter Measure Dispensing System |
| DASH | Display and Sight Helmet |
| DVI | Direct Voice Input |
| ECM | Electronic Counter Measures |
| FLIR | Forward Looking Infrared |
| HMCS | Helmet Mounted Cuing System |
| IDM | Improved Data Modem or similar system |
| IRST | Infrared Search and Track |
| MAR | Minimum Abort Range |
| RAM | Radar Absorbent Materials |
| RCS | Radar Cross Section |
| RWR | Radar Warning Receiver |
| SEAM | Sidewinder Extended Acquisition Mode |
| TDL | Tactical Data Link such as Link 16 or similar |
| T/W | Thrust to weight ratio |
| TV | Thrust Vector |
| VG | Variable Geometry (Swing Wings) |
| VTAS | Helmet Mounted Visual Target Acquisition System |
| << >> | Radar Band |



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| G4 Super Galeb  | Type: Attack (Super Galeb/ Seagull, N-62) Armament: AA-8 RWR: 30 nm Iskra SD-1 Radar Range: Up: <u>N/A</u> Down: <u>N/A</u> ECM: <u>N/A</u> Notes: 1984. Slow attack aircraft. | Max Vel. Mach <u>0.81</u> MAR:07 Hard Points: 4/ 2-AA CMDS/ ECM: Yes/ No Vertical: Bad Viper MK-632 (3.9k) Turn Rate %/sec: 10 / Instant: 21 Roll: Very good |
| J-5/Mig-17F Fresco  | Type: Attack (Shenyang J-5, PLAAF, Fresco-C) Armament: 37mm and 23mm guns only RWR: N/A Radar Range: Up: <u>N/A</u> Down: <u>N/A</u> ECM: <u>N/A</u> Notes: 1952. Smoke exhaust. Very good turn rate at slow speeds. | Max Vel. Mach <u>0.9</u> MAR:02 Hard Points: 4/ No AA CMDS/ ECM: No/ No Vertical: Bad VK-1F (14.9k) Turn Rate %/sec: 16 - 22/ Instant: 31 (0.2nm Ø) Roll: Good |
| J-7G Fishcan  | 21 1 Type: Fighter (Chengdu, PLAAF) Armament: PL-7, PL-8, AA-2B, AA-2C , 30mm RWR: 24 nm RKL-204 Radar: SL-3 «E/G» Radar Range: Up: <u>9 nm</u> Down: <u>2 nm</u> ECM: <u>5 nm</u> Notes: 2003. | Max Vel. Mach <u>1.77</u> MAR:08 Hard Points: 4/ 4AA CMDS/ ECM: Yes/ No ECM Vertical: Medium Liyang WP-7C (13.6K) Turn Rate %/sec: 10 - 13 / Instant: 18 (0.4nm Ø) Roll: Very Good |
| J-8I Finback  | 21 1 Type: Interceptor (Shenyang, PLAAF, Finback-A) Armament: PL-7, PL-8 , 23 mm A: 29 nm RKL-204 Radar: SL-7A «E/G» Radar Range: Up: <u>9 nm</u> Down: <u>2 nm</u> ECM: <u>5 nm</u> Notes: 1985. Smoke exhaust. | Max Vel. Mach <u>1.7</u> MAR:08 Hard Points: 5/ 4AA CMDS/ ECM: Yes/ No ECM Vertical: Good Liming WP-7A (26.4k) Turn Rate %/sec: 12-15/ Instant: 18 (0.3nm Ø) Roll: Very Good |
| J-11 Flanker  | 27 27 Type: Multi-role Fighter (PLAAF, Flanker-L) Armament: AA-8, AA-10A/ B/ C/ D, AA-11, AA-12 RWR: 29 nm SPO-15 Rdr: NIIP N001VE «I» Radar Range: Up: <u>50 nm</u> Down: <u>50 nm</u> ECM: <u>35 nm</u> Notes: 1995. No smoke. Long range. DASH N/I. Chinese copy of Su-27SK. | Max Vel. Mach <u>1.68</u> MAR:15 Hard Points: 10/ 10AA CMDS/ ECM: Yes/ Sorbtsiya Vertical: Good Lyulka AL-31F (59.4k) Turn Rate %/sec: 13 - 17/ Instant: 24 (0.2nm Ø) Roll: Very Good |
| J-15 Flanker  | 30 30 Type: Multi-role (Flying Shark, PLAAF, Flnkr-X2) Armament: PL-8, PL-10E, PL-12 RWR: 29 nm SPO-15 Radar: NIIP N011 «I» Radar Range: Up: <u>50 nm</u> Down: <u>50 nm</u> ECM: <u>30 nm</u> Notes: 2013. Naval. HMCS. No smoke exhaust. Long range. Copy of Su-33/ Su-27K. | Max Vel. Mach <u>1.6</u> MAR:17 Hard Points: 11/ 4AA +2 Heat CMDS/ ECM: Yes / Integrated ECM Vertical: Good Shenyang WS-10 (60k) Turn Rate %/sec: 13 - 18/ Instant: 24 (0.2nm Ø) Roll: Good |
| J-20 Black Eagle  | 22 20 Type: Fighter (Mighty Dragon, PLAAF) Armament: PL-10E, PL-12, PL-15 RWR: 48 nm Radar: KLJ-5 «I» Radar Range: Up: <u>75 nm</u> Down: <u>75 nm</u> ECM: <u>55 nm</u> Notes: 2017. HMCS. No smoke exhst. EASA, IRST, EOTS N/I. Stealth. Supercruise 1.04 | Max Vel. Mach <u>1.7</u> MAR:17 Hard Points: 4/ 4AA+2 Heat CMDS/ ECM: Yes / Integrated ECM Vertical: Good Shenyang WS-10C (64k) Turn Rate %/sec: 13 - 16/ Instant: 25 (0.3nm Ø) Roll: Very Good |
| Mig-17PF Fresco  | A 19 Type: Multi-role Fighter (Fresco-D) Armament: AA-1 , 23mm RWR: N/A Radar: RP-5 Izumrud-5 «I» Radar Range: Up: <u>7 nm</u> Down: <u>N/A</u> ECM: <u>4 nm</u> Notes: 1955. Smoke exhaust. | Max Vel. Mach <u>0.9</u> MAR:04 Hard Points: 4/ 4AA CMDS/ ECM: No/ No Vertical: Bad VK-1F (14.8k) Turn Rate %/sec: 12 - 22/ Instant: 32 (0.2nm Ø) Roll: Good |
| Mig-19PM/ J-6B  | A 19 Type: Fighter (Farmer-E) Armament: AA-2B, AA-2C RWR: N/A Radar: RP-ZU Izumrud-2 «I» Radar Range: Up: <u>7 nm</u> Down: <u>N/A</u> ECM: <u>4 nm</u> Notes: 1957/ 1962. Smoke exhaust. | Max Vel. Mach <u>0.84</u> MAR:07 Hard Points: 6/ 4AA CMDS/ ECM: No/ No Vertical: Bad Tumansky RD-9B (14.4k) Turn Rate %/sec: 9 - 18/ Instant: 30 (0.2nm Ø) Roll: Medium |
| Mig-19SF Farmer  | Type: Attack (Farmer-C) Armament: Cannon 30mm x3 RWR: N/A Radar Range: Up: <u>N/A</u> Down: <u>N/A</u> ECM: <u>N/A</u> Notes: 1956. Smoke exhaust. F-6 and J-6 are Chinese copies. | Max Vel. Mach <u>0.83</u> MAR:02 Hard Points: 4/ No AA CMDS/ ECM: No/ No Vertical: Very Bad T. RD-9BF-1 (14.6k) Turn Rate %/sec: 9 - 19/ Instant: 31 (0.2nm Ø) Roll: Medium |

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|  <p>Mig-21F-13 Fishbed ⚔️ ⚔️</p> | <p>Type: Multi-role Fighter (Fishbed-E) Armament: AA-1, AA-2C Cannon 30mm RWR: N/A SPO-2 N/I Radar:SRD-5M «I» Radar Range: Up:11 nm Down:2 nm ECM:4 nm Notes: 1955. Smoke exhaust. Easy to break radar lock.</p> | <p>Max Vel. Mach 1.40 MAR:07 Hard Points: 3/2AA CMDS/ ECM: ASO-21/ SPS-141 pod Vertical: Bad T. R-11F-300 (12.7k) Turn Rate %/sec: 8 - 11/ Instant: 18 (0.3nm Ø) Roll: Good</p> |
|  <p>Mig-21bis Fishbed ⚔️ ⚔️</p> | <p>Type: Multi-role Fighter (Fishbed-N) Armament: AA-2B, AA-2C, AA-8 RWR: 29 nm SPO-10 Radar: SOD-57M «I» Radar Range: Up:31 nm Down:24 nm ECM:12 nm Notes: 1958. Smoke exhaust.</p> | <p>Max Vel. Mach 1.38 MAR:08 Hard Points: 5/4AA or +2 AA-8 CMDS/ ECM: Yes / SPS-141 Pod Vertical: Bad Tumansky R-25-300(15.7k) Turn Rate %/sec: 8 - 13/ Instant: 18 (0.3nm Ø) Roll: Good</p> |
|  <p>Mig-21MF Fishbed ⚔️ ⚔️</p> | <p>Type: Multi-role Fighter (Fishbed-J) Armament: AA-2B, AA-2C, AA-8 RWR: 24 nm SPO-2 Radar: RP-21M «I» Radar Range: Up:23 nm Down:3 nm ECM:4 nm Notes: 1958. Smoke exhaust. Easy to break lock. Samotsvet IR sight N/I.</p> | <p>Max Vel. Mach 1.46 MAR:08 Hard Points: 5/4AA CMDS/ ECM: No / SPS-141 Pod Vertical: Bad T. R-11F2S-300 (13.6k) Turn Rate %/sec: 9 - 11/ Instant: 17 (0.3nm Ø) Roll: Good</p> |
|  <p>Mig-23ML Flogger ⚔️ ⚔️</p> | <p>Type: Multi-role Fighter (Flogger-G) Armament: AA-2B, AA-2C, AA-7A, AA-7B, AA-8 RWR: 29 nm SPO-15 Radar: Sapfir 23ML «I» Radar Range: Up:30 nm Down:14 nm ECM:10-20 nm Notes: 1978. Smoke. Accelerate in turn. IRST TP 23ML N/I. VG wings. IDM.</p> | <p>Max Vel. Mach 1.6 MAR:12 Hard Points: 5/4AA or +2 AA-8's CMDS/ ECM: Yes / SPS-141 Pod Vertical: Good R-35F-300 (28.7k) Turn Rate %/sec: 13 - 25/ Instant: 27 (0.1nm Ø) Roll: Medium</p> |
|  <p>Mig-25 Foxbat ⚔️ ⚔️</p> | <p>Type: Interceptor Armament: AA-6A, AA-6B, AA-7A, AA-7B, AA-8 RWR: 29 nm Sirena-3 Radar:RP-25 Smerch «J» Radar Range: Up:46 nm Down:21 nm ECM:8-12 nm Notes: 1967. Bad pitch. Smoke. Hard to lock low or bm AC. ECM uses AA slot. No gun.</p> | <p>Max Vel. Mach 2.6 MAR:12 Hard Points: 5/4AA or +2 AA-8's CMDS/ ECM: Yes / SPS-141 MWGE Pod Vertical: Bad R31-300 (54k) Turn Rate %/sec: 9 - 14/ Instant: 17 (0.3nm Ø) Roll: Medium</p> |
|  <p>Mig-27 Flogger</p> | <p>Type: Attack Armament: AA-2C, AA-7B, AA-8 RWR: 20 nm SG-1 Radar: N/A Radar Range: Up:N/A Down:N/A ECM:N/A Notes: 1975. Smoke exhaust. VG wings 380. IDM.</p> | <p>Max Vel. Mach 1.74 MAR:08 Hard Points: 7/4AA or +2 AA-8 CMDS/ ECM: Yes / SPS-141 Pod Vertical: Medium R-29B-300 (17.7k) Turn Rate %/sec: 13 - 25/ Instant: 28 (0.2nm Ø) Roll: Very Good</p> |
|  <p>Mig-29A Fulcrum ⚔️ ⚔️</p> | <p>Type: Multi-role Fighter (Fulcrum-A) Armament: AA-8, AA-10A, AA-11 RWR: 30 nm SPO-15 Radar:N019 Sapfir 29 «I» Radar Range: Up:34 nm Down:34 nm ECM:12-14 nm Notes: 1983. HMCS. Smoke exhaust. Break lock with beam or hard 180. IDM. IRST N/I.</p> | <p>Max Vel. Mach 2.0 MAR:12 Hard Points: 7/6AA CMDS/ ECM: Yes BVP-30-26M/ No Vertical: Very Gd Kilmov RD33 (36.6k) Turn Rate %/sec: 13 - 24 / Instant: 28 (0.2nm Ø) Roll: Good</p> |
|  <p>Mig-29G Fulcrum ⚔️ ⚔️</p> | <p>Type: Multi-role Fighter (Fulcrum-B, GAF) Armament: AA-8, AA-10A, AA-11 RWR: 30 nm SPO-15 Radar:N019 Sapfir 29 «I» Radar Range: Up:34 nm Down:34 nm ECM:12-14 nm Notes: 1995. HMCS. Smoke exhaust. Break lock with beam or hard 180. IDM. IRST N/I.</p> | <p>Max Vel. Mach 1.8 MAR:12 Hard Points: 7/6AA CMDS/ ECM: Yes/ No Vertical: Very Gd Kilmov RD33 (36.6k) Turn Rate %/sec: 13 - 24 / Instant: 28 (0.2nm Ø) Roll: Good</p> |
|  <p>Mig-29M Fulcrum ⚔️ ⚔️</p> | <p>Type: Multi-role Ftr (Fulcrum-F, Super Fulcrum) Armament: AA-8, AA-10A/ B/ C/ D, AA-11, AA-12 RWR: 30 nm SPO-15 Radar:N010 Zhuk-M «I» Radar Range: Up:34 nm Down:34 nm ECM:12-14 nm Notes: 1989. HMCS. Not tested. IRST N/I. Target pod. IDM.</p> | <p>Max Vel. Mach 1.8 MAR:15 Hard Points: 9/8AA Can carry 8 Adders CMDS/ ECM: Yes/ Int. ECM Vertical: Very Gd K. RD33K (38.6k) Turn Rate %/sec: 13 - 24 / Instant: 28 (0.2nm Ø) Roll: Good</p> |
|  <p>Mig-29S Fulcrum ⚔️ ⚔️</p> | <p>Type: Multi-role Fighter (Fulcrum-C) Armament: AA-8, AA-10A, AA-11, AA-12 RWR: 30 nm SPO-15 Radar:N019M Topaz «I» Radar Range: Up:34 nm Down:34 nm ECM:12-14 nm Notes: 1992. HMCS. Smoke exhaust. Break lock with beam or hard 180. IDM. IRST N/I.</p> | <p>Max Vel. Mach 2.0 MAR:15 Hard Points: 7/6AA Can carry 6 Adders CMDS/ ECM: Yes/ Int. ECM L-203 Gardenya Vertical: Very Gd Kilmov RD33 (36.6k) Turn Rate %/sec: 13 - 24 / Instant: 28 (0.2nm Ø) Roll: Good</p> |

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| <p>Mig-31 Foxhound</p>  | <p>31 31</p> | <p>Type: Interceptor Armament: AA-6B, AA-8, AA-9, AA-10B /C, AA-11 RWR: 29 nm SPO-15 Radar: Zaslon RP-31 «J» Radar Range: Up: <u>65 nm</u> Down: <u>60 nm</u> ECM: <u>20 nm</u> Notes: 1979. IRST N/I. Smoke. Brk lock bm. Long range AA-9 msls. IDM.</p> | <p>Max Vel. Mach 1.7 Hard Points: 8AA +2 with AA-8's CMDS/ ECM: Yes APP-50/ No Vertical: Med. Soloviev D-30 F6 (68.2k) Turn Rate %/sec: 13 - 20/ Instant: 25 (0.2nm Ø) Roll: Good</p> | <p>MAR:20</p> |
| <p>Q-5N Fantan</p>  | | <p>Type: Attack (PLAAF) Armament: AA-2C, PL-7, 23 mm cannon RWR: 20 nm SPO-2, Sirena-2 Radar Range: Up: <u>N/A</u> Down: <u>N/A</u> ECM: <u>N/A</u> Notes: 1970. Smoke exhst. Chinese Mig-19 derivative.</p> | <p>Max Vel. Mach 0.78 Hard Points: 10/ 4AA CMDS/ ECM: No/ No Vertical: Med. LW-6A or RD-9(16.4k) Turn Rate %/sec: 11 - 18/ Instant: 24 (0.2 nm Ø) Roll: Medium</p> | <p>MAR:05</p> |
| <p>Su-7BMK Fitter</p>  | <p>A 41</p> | <p>Type: Fighter Bomber Armament: 30mm cannon RWR: 20 nm Kremniy-2 Radar:SRD-5M «I» Radar Range: Up: <u>7 nm</u> Down: <u>N/A</u> ECM: <u>1 nm</u> Notes: 1967. Ranging Radar. Easy to break lock. Smoke exhaust.</p> | <p>Max Vel. Mach 1.6 Hard Points: 6/ No AA CMDS/ ECM: No / No Vertical: Good Lyulka AL-7F-1 (22.1k) Turn Rate %/sec: 11 - 20/ Instant: 25 (0.2nm Ø) Roll: Good</p> | <p>MAR:02</p> |
| <p>Su-15 Flagon-F</p>  | <p>P 43</p> | <p>Type: Interceptor (Su-15TM) Armament: AA-1, AA-2C, AA-8N/I RWR: 29 nm Sirena-3 Radar:Taifun-M «I» Radar Range: Up: <u>16 nm</u> Down: <u>13 nm</u> ECM: <u>8 nm</u> Notes: 1969. Smoke exst. Low fuel short range. Easy to break lock over 10nm. Bm works.</p> | <p>Max Vel. Mach 1.58 Hard Points: 4/4AA CMDS/ ECM: Yes/ Int. ECM Vertical: Med Tumansky R13-300 (19k) Turn Rate %/sec: 14 - 23/ Instant: 27 (0.2nm Ø) Roll: Very good</p> | <p>MAR:07</p> |
| <p>Su-17 Fitter-C</p>  | | <p>Type: Attack Armament: AA-2C, AA-8 A: 29 nm SPO-3 Sir.-10 Rdr:K.(1)/SRD-5M«I» Radar Range: Up: <u>4 nm</u> Down: <u>4 nm</u> ECM: <u>2 nm</u> Notes: 1971. Short range. Smoke exhaust. ECM uses AA slot. VG wings.</p> | <p>Max Vel. Mach 2.0 Hard Points: 8/ 4AA CMDS/ ECM: No / SPS-141 MWGE Pod Vertical: Medium AL-7F-1 (22.1k) Turn Rate %/sec: 14 - 23/ Instant: 28 (0.2nm Ø) Roll: Good</p> | <p>MAR:07</p> |
| <p>Su-20 Fitter-C</p>  | | <p>Type: Attack (Su-17M) Armament: AA-2C, AA-8 RWR: 29 nm SPO-3 Sir.-10 Rdr:K.(1)/SRD-5M«I» Radar Range: Up: <u>4 nm</u> Down: <u>4 nm</u> ECM: <u>2 nm</u> Notes: 1973. Short range. ECM uses AA slot. Smoke. VG wings.</p> | <p>Max Vel. Mach 2.0 Hard Points: 8/ 4AA CMDS/ ECM: No/ SPS-141 MWGE Pod Vertical: Medium AL-21F-3 (24.8k) Turn Rate %/sec: 15 - 23/ Instant: 28 (0.2nm Ø) Roll: Good</p> | <p>MAR:07</p> |
| <p>Su-22 Fitter-F</p>  | | <p>Type: Attack (Su-17M2) Armament: AA-2C, AA-8 RWR: 29 nm SPO-3 Sirena-10 Radar: Komar «I» Radar Range: Up: <u>4 nm</u> Down: <u>4 nm</u> ECM: <u>2 nm</u> Notes: 1976. Short range. Smoke exhaust. VG wings. Export version.</p> | <p>Max Vel. Mach 2.0 Hard Points: 8/ 4AA CMDS/ ECM: Yes / SPS-141 MWGE Pod Vertical: Good T. R29-BS300 (25.3k) Turn Rate %/sec: 14 - 23/ Instant: 30 (0.2nm Ø) Roll: Good</p> | <p>MAR:07</p> |
| <p>Su-24 Fencer</p>  | <p>A 41</p> | <p>Type: Attack (Fencer-C) Armament: AA-8, 30mm gattling cannon RWR: 44 nm SPO-15 Radar: Orien «E/G» Radar Range: Up: <u>16 nm</u> Down: <u>16 nm</u> ECM: <u>7 nm</u> Notes: 1974. Can sustain turn with no AB. VG wings. Smoke exhaust.</p> | <p>Max Vel. Mach 2.19 Hard Points: 7/ 2AA CMDS/ ECM: SPS-5-2x/Int. ECM SPS161/162 Vertical: Med. Lyulka AL-21F-3 (49.6k) Turn Rate %/sec: 14 - 19/ Instant: 23 (0.3nm Ø) Roll: Good x>220 kts</p> | <p>MAR:07</p> |
| <p>Su-25 Frogfoot</p>  | | <p>Type: Attack (Grach) Armament: AA-8 RWR: 20 nm SPO-15 Radar:DISS-7 N/I Radar Range: Up: <u>N/A</u> Down: <u>N/A</u> ECM: <u>N/A</u> Notes: 1981. Faster at altitudes below 10kft. 25kft clng. Very tough. IDM.</p> | <p>Max Vel. Mach 0.86 Hard Points: 10/ 2AA CMDS/ ECM: Yes / SPS-141 MWGE Pod Vertical: Bad Tumansky R-95 (17.6k) Turn Rate %/sec: 9 - 15/ Instant: 21 (0.2nm Ø) Roll: Medium</p> | <p>MAR:07</p> |
| <p>Su-27 Flanker</p>  | <p>27 27</p> | <p>Type: Multi-role Ftr (Flanker-B, Crane, Azure Ltg) Armament: AA-8, AA-10A/ B/ C/ D, AA-11, AA-12 RWR: 29 nm SPO-15 Radar:NIIP N001 «I» Radar Range: Up: <u>50 nm</u> Down: <u>50 nm</u> ECM: <u>22 nm</u> Notes: 1986. HMCS. IDM. ECM, bm, chaff, mnvr to brk lock x>10nm. Long rng. IRST N/I.</p> | <p>Max Vel. Mach 1.8 Hard Points: 10/ 10AA Can carry 8 Adders CMDS/ ECM: Yes / Sorbtsiya Pod -2AA Vertical: Good S./Lyulka AL-31F (55.2k) Turn Rate %/sec: 15 - 17/ Instant: 23 (0.2nm Ø) Roll: Good</p> | <p>MAR:15</p> |

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| <p>Su-27UB Flanker</p>  | <p>27 27</p> | <p>Type: Multi-role Ftr (2 seat version, Flanker-C) Armament: AA-8, AA-10A/ B/ C/ D, AA-11, AA-12 RWR: 29 nm SPO-15 Radar:NIIP N001 «I» Radar Range: Up:50 nm Down:50 nm ECM:22 nm Notes: 1987. 2 seat trainer. HMCS. IDM. ECM, bm, chaff, mnvr to brk lock x>10nm. Long rng.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>1.8 10/ 10AA Yes / Sorbtsiya Pod -2AA Med. S./Lyulka AL-31F(55.2k) 13 - 16/ Instant: 23 (0.3nm Ø) Good</p> | <p>MAR:15</p> |
| <p>Su-30M Flanker</p>  | <p>30 30</p> | <p>Type: Multi-role Fighter (Flanker-F2) Armament: AA-10A/ B/ C/ D, AA-11, AA-12 RWR: 29 nm SPO-15 Radar:NIIP N011ME «I» Radar Range: Up:50 nm Down:50 nm ECM:22 nm Notes: 1992. HMCS. IDM. Use ECM, bm, chaff, mnvr to brk lock x>10nm. Long rng.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>1.3 11/ 10AA Can carry 8 Adders Yes / Sorbtsiya pod -2AA Med. S./Lyulka AL-31F(55.2k) 12 - 17/ Instant: 23 (0.2nm Ø) Good</p> | <p>MAR:15</p> |
| <p>Su-30MKK Flanker</p>  | <p>30 30</p> | <p>Type: Multi-role Fighter (Flanker-G, PLAAF) Armament: AA-10A/ B/ C/ D, AA-11, AA-12 RWR: 29 nm Pastel/ L150 Rdr:NIIP N001VE «I» Radar Range: Up:50 nm Down:50 nm ECM:22 nm Notes: 2000. HMCS. IDM. ECM, bm, chaff, mnvr to brk lock x>10nm. Long rng.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>1.1 11/ 10AA Yes / Sorbtsiya pod -2AA Good S./Lyulka AL-31F(55.2k) 12 - 17/ Instant: 22 (0.2nm Ø) Good</p> | <p>MAR:15</p> |
| <p>Su-33 Flanker</p>  | <p>27 27</p> | <p>Type: Multi-role Ftr (Naval Flanker-D, Su-27K) Armament: AA-10A/ B/ C/ D, AA-11, AA-12 RWR: 29 nm SPO-15 Radar:NIIP N011 «I» Radar Range: Up:50 nm Down:50 nm ECM:22 nm Notes: 1992. HMCS. IDM. No smoke exhaust. Long range.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>1.6 11/ 8AA Yes / Sorbtsiya pod -2AA Good S./Lyulka AL-31F(55.2k) 13 - 18/ Instant: 24 (0.2nm Ø) Good</p> | <p>MAR:15</p> |
| <p>Su-34 Fullback</p>  | <p>30 30</p> | <p>Type: Fighter/ Bomber (Su-27TB) Armament: AA-10A/ B/ C/ D, AA-11, AA-12 RWR: 29 nm Elint Radar:Leninets V004 «I» Radar Range: Up:50 nm Down:50 nm ECM:22 nm Notes: 2011. IDM. Leninets V005 rear facing radar N/I.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>1.5 11/ 10AA Yes / Sorbtsiya pod -2AA Med. S./Lyulka AL-35F(59.8k) 11 - 15/ Instant: 22 (0.3nm Ø) Very Good</p> | <p>MAR:15</p> |
| <p>Su-35 Flanker</p>  | <p>30 30</p> | <p>Type: Multi-role Ftr (Super Flanker-E1, Su-27M) Armament: AA-10A/ B/ C/ D, AA-11, AA-12 RWR: 29 nm Elint Radar:NIIP N011ME «I» Radar Range: Up:50 nm Down:50 nm ECM:22 nm Notes: 2007. HMCS. IDM. No smoke exhst. Long rng. 2,500 nm. (T10M-3). N012 rear rdr N/I.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Vert./ Roll:</p> | <p>2.1 11/ 8AA Yes / Sorbtsiya pod -2AA Med. S./Lyulka AL-35F(59.8k) 10 - 14/ Instant: 21 (0.2nm Ø) Very Good</p> | <p>MAR:15</p> |
| <p>Su-39 Frogfoot</p>  | <p>25 39</p> | <p>Type: Attack (Su-25TM) Armament: AA-2B, AA-2C, AA-8, AA-11, AA-12 RWR: 29 nm Pastel/ L150 Radar: Kopyo-25«I» Radar Range: Up:29 nm Down:29 nm ECM:15 nm Notes: 2008. IDM. Smoke exhaust. 32kft ceiling. Best performance low and slow. SPO-32.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>0.83 10/ 6AA Yes / Integrated ECM Med. Tumansky R195 (19.8k) 8 - 16 / Instant: 23 Medium</p> | <p>MAR:15</p> |



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| <p>A-1H Skyraider</p>  | <p>Type: Attack (AD-6, Sandy, Spade, Hobo, Firefly) Armament: No missiles. 4x 20mm guns. RWR: N/A Radar Range: Up:<u>N/A</u> Down:<u>N/A</u> ECM:<u>N/A</u> Notes: 1954. Tough armored attack and FAC aircraft.</p> | <p>Max Vel. Mach <u>0.51</u> MAR:02 Hard Points: 15/0AA CMDS/ ECM: No / No Vertical: Medium Wright R-3550 26WA Turn Rate %/sec: 7 - 24/ Instant: 25 (0.2nm Ø) Roll: Medium</p> |
| <p>A-4E Skyhawk</p>  | <p>Type: Attack (A4D-5) Armament: <u>AIM-9J/ M/ P</u>, 2x 20mm cannon RWR: 49 nm AN/ALR-45 Radar:AN/APG-53A«J» Radar Range: Up:<u>4.7 nm</u> Down:<u>4.7 nm</u>ECM:<u>2.5 nm</u> Notes: 1963. Smaller RCS than F-16, much harder to detect. Smoke.</p> | <p>Max Vel. Mach <u>0.95</u> MAR:07 Hard Points: 5/4AA CMDS/ ECM: No / ALQ-51 N/I Vertical: Medium J52-P6A (8.5k) Turn Rate %/sec: 11 - 14/ Instant: 21 (0.2nm Ø) Roll: Very Good</p> |
| <p>A-4E Agressor</p>  | <p>Type: Attack (A4D-5, Mongoose) Armament: <u>AIM-9J/ M/ P</u>, 2x 20mm cannon RWR: 49 nm AN/ALR-45 Radar:AN/APG-53A«J» Radar Range: Up:<u>4.7 nm</u> Down:<u>4.7 nm</u>ECM:<u>2.5 nm</u> Notes: 1969. Smaller RCS than F-16, much harder to detect. Smoke.</p> | <p>Max Vel. Mach <u>0.95</u> MAR:07 Hard Points: 5/4AA CMDS/ ECM: No / ALQ-51 N/I Vertical: Medium J52-P-408 (11.2k) Turn Rate %/sec: 11 - 14/ Instant: 21 (0.2nm Ø) Roll: Very Good</p> |
| <p>A-4PTM Skyhawk</p>  | <p>Type: Attack (Peculiar to Malaysia, RMAF) Armament: <u>AIM-9J/ M/ P</u>, 2x 20mm cannon RWR: 49 nm ALR-45/50 Radar:AN/APQ-145«J» Radar Range: Up:<u>4.7 nm</u> Down:<u>4.7 nm</u>ECM:<u>2.5 nm</u> Notes: 1984. Smaller RCS than F-16, much harder to detect. Smoke.</p> | <p>Max Vel. Mach <u>0.95</u> MAR:07 Hard Points: 5/4AA CMDS/ ECM: No / ALQ-162 N/I Vertical: Medium J52-P408 (11.2k) Turn Rate %/sec: 11 - 14/ Instant: 21 (0.2nm Ø) Roll: Very Good</p> |
| <p>A-4SU Super Skyhawk</p>  | <p>Type: Attack (RSAF) Armament: <u>AIM-9J/ M/ P</u>, 2x 20mm cannon RWR: 49 nm ALR-45/50 Radar:AN/APQ-145«J» Radar Range: Up:<u>4.7 nm</u> Down:<u>4.7 nm</u>ECM:<u>2.5 nm</u> Notes: 1974. Smaller RCS than F-16, much harder to detect. Smoke.</p> | <p>Max Vel. Mach <u>0.95</u> MAR:07 Hard Points: 5/4AA CMDS/ ECM: No / ALQ-162 N/I Vertical: Medium F-404-GE-100D(11k) Turn Rate %/sec: 11 - 14/ Instant: 21 (0.2nm Ø) Roll: Very Good</p> |
| <p>A-6E Intruder</p>  | <p>41 [^]A Type: Attack Armament: No missiles. No gun. RWR: 49 nm AN/ALR-67 Radar:APQ-148 «E/G» Radar Range: Up:<u>21 nm</u> Down:<u>21 nm</u>ECM:<u>12 nm</u> Notes: 1979. IDM. Smoke.</p> | <p>Max Vel. Mach <u>0.93</u> MAR:00 Hard Points: 5/0AA CMDS/ ECM: Yes / No Vertical: Bad J52-P8B (18.6k) Turn Rate %/sec: 9 - 13/ Instant: 25 (0.3nm Ø) Roll: Good</p> |
| <p>A-7E Corsair II</p>  | <p>41 [^]P Type: Attack (USN) Armament: <u>AIM-9M/ P</u>, 20mm cannon RWR: 49 nm AN/ALR-45 Radar: APQ-128«E/G» Radar Range: Up:<u>22 nm</u> Down:<u>22 nm</u>ECM:<u>12 nm</u> Notes: 1970. IDM. Terrain following radar. Smoke.</p> | <p>Max Vel. Mach <u>0.90</u> MAR:07 Hard Points: 8/2AA CMDS/ ECM: Yes / No Vertical: Very Bad TF41-A-2 (15k) Turn Rate %/sec: 12 - 18/ Instant: 26 (0.2nm Ø) Roll: Good</p> |
| <p>A-10A/ C Warthog</p>  | <p>Type: Attack (Thunderbolt II) Armament: <u>AIM-9M/ P</u>, 30 mm GAU-8/A Avenger RWR: 29 nm ALR-69 Radar Range: Up:<u>N/A</u> Down:<u>N/A</u> ECM:<u>N/A</u> Notes: 1977. Tough armored attack aircraft. C=IDM, TDL.</p> | <p>Max Vel. Mach <u>0.65</u> MAR:07 Hard Points: 11/2AA CMDS/ ECM: Yes/ ALQ-119 pod Vertical: Med T34 GE 100 (18k) Turn Rate %/sec: 11 - 16/ Instant:21 (0.3 nm Ø) Roll: Bad</p> |
| <p>AJ 37 Viggen</p>  | <p>¹⁶ ³⁷ Type: Multi-role Fighter (Attack Jakt) Armament: <u>AIM-9M</u>, <u>AIM-120B</u>, <u>Skyflash</u> RWR: 29 nm SATT Elektronik Radar:PS-37A«I» Radar Range: Up:<u>32 nm</u> Down:<u>32 nm</u>ECM:<u>20 nm</u> Notes: 1971. Swedish. Ground wpns N/I. Can't put in TE.</p> | <p>Max Vel. Mach <u>1.69</u> MAR:17 Hard Points: 6/6AA CMDS/ ECM: Yes/Ericson Erijammer Pod N/I Vertical: Bad Volvo RM8A (26k) Turn Rate %/sec: 9 - 12/ Instant: 22 (xx nm Ø) Vert/ Roll: Good</p> |
| <p>AMX Ghibli</p>  | <p>⁴³ [^]A Type: Attack (A-11 Ghibli, ITAF) Armament: <u>AIM-9M</u> RWR: 30 nm ELT-156X Radar:EL/M20001B«I» Radar Range: Up:<u>21 nm</u> Down:<u>21 nm</u>ECM:<u>15 nm</u> Notes: 1989. Supposed to be range only radar. Smoke.</p> | <p>Max Vel. Mach <u>0.94</u> MAR:07 Hard Points: 6/2AA CMDS/ ECM: Yes/ Integrated ECM ELT-558 Vertical: Very Bad RB168MK807 (11k) Turn Rate %/sec: 7 - 10/ Instant: 20 (0.3nm Ø) Roll: Good</p> |

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| <p>AV-8B Harrier II</p>  | <p>Type: Attack Armament: AIM-9M RWR: 49 nm AN/ALR-67 Radar: AN/APG-65 N/I Radar Range: Up: <u>N/A</u> Down: <u>N/A</u> ECM: <u>N/A</u> Notes: 1985. V/STOL. Smoke. HMCS.</p> | <p>Max Vel. Mach 0.83 MAR:07 Hard Points: 6/4AA CMDS/ ECM: Yes/ Int ECM Vertical: Very Bad F402RR408 (23.8k) Turn Rate %/sec: 6 - 11/ Instant: 16 Roll: Very Good</p> |
| <p>AV-8B Harrier II+</p>  | <p>Type: Attack Armament: AIM-9M, AIM-120B RWR: 49 nm AN/ALR-67 Radar: AN/APG-65«I» Radar Range: Up: <u>50 nm</u> Down: <u>50 nm</u> ECM: <u>25 nm</u> Notes: 1993. V/STOL. Smoke. HMCS.</p> | <p>Max Vel. Mach 0.83 MAR:17 Hard Points: 6/4AA CMDS/ ECM: Yes/ Int ECM Vertical: Very Bad F402RR408 (23.8k) Turn Rate %/sec: 6 - 11/ Instant: 16 Roll: Very Good</p> |
| <p>CF-188 Hornet</p>  | <p>Type: Multi-role Fighter Armament: AIM-7F/ M, AIM-9H/J/ M/ P, AIM-120B RWR: 49 nm AN/ALR-67 Radar: AN/APG-73 «I» Radar Range: Up: <u>50 nm</u> Down: <u>50 nm</u> ECM: <u>25 nm</u> Notes: 1982. RCAF. IDM. TDL.</p> | <p>Max Vel. Mach 1.59 MAR:17 Hard Points: 7/8AA/ 12AA CMDS/ ECM: Yes/ Int ECM Vertical: Very Good F-404-GE-400 (32k) Turn Rate %/sec: 14 - 18/ Instant: 21 Roll: Good</p> |
| <p>EA-6B Prowler</p>  | <p>Type: Attack (Electronic Intruder, USN, USMC) Armament: No AA missiles. No gun. RWR: 49 nm ALQ-99,32,162 Rdr: APQ-129«E/G» Radar Range: Up: <u>50 nm</u> Down: <u>50 nm</u> ECM: <u>39nm</u> Notes: 1971. Electronic warfare. IDM. TDL. AGM-88, jmr pods, tanks only. Jam 40nm r.</p> | <p>Max Vel. Mach 0.93 MAR:00 Hard Points: 5/0AA CMDS/ ECM: Yes/ Int ECM, AN/ALQ-99 pod Vertical: Bad J-52-P-408A (20.8k) Turn Rate %/sec: 7 - 14/ Instant: 26 (0.2 nm Ø) Roll: Medium</p> |
| <p>EA-18G Growler</p>  | <p>Type: Attack Armament: AIM-120C. No gun. RWR: 49 nm ALQ-128 Radar: AN/APG-79 «I» Radar Range: Up: <u>50 nm</u> Down: <u>50 nm</u> ECM: <u>25 nm</u> Notes: 2009. Electronic warfare. HMCS. IDM. TDL. AGM-88, tanks & pods only. Jam 40nm.</p> | <p>Max Vel. Mach 1.48 MAR:20 Hard Points: 9/2AA CMDS/ ECM: Yes/ Int ECM, AN/ALQ-99 pod Vertical: Medium F-414-GE-400 (44k) Turn Rate %/sec: 11 - 15/ Instant: 20 (0.3 nm Ø) Roll: Very Good</p> |
| <p>Eurofighter GAF</p>  | <p>Type: Multi-role Fighter (Eurofighter) Armament: AIM-120C, IRIS-T, Meteor RWR: 44 nm PIRATE Radar: CAPTOR-M «I» Radar Range: Up: <u>89 nm</u> Down: <u>89 nm</u> ECM: <u>57 nm</u> Notes: 2002. HMCS. IDM. TDL. Supercruise m. 1.29. PIRATE IRST. 8.8g turn in mil.</p> | <p>Max Vel. Mach 1.97 MAR:56 Hard Points: 13/6AA +2 IRIS-T CMDS/ ECM: Yes/ Int ECM Vertical: Very Gd Eurojet EJ200 (40.5k) Turn Rate %/sec: 17 - 25 / Instant: 28 (0.2 nm Ø) Roll: Very Good</p> |
| <p>F-4D ROKAF</p>  | <p>Type: Fighter Bomber (Phantom II) Armament: AIM-7M, AIM-9M, AIM-9P RWR: 29 nm AN/APR-36/37, AN/ALR-46 Radar Range: Up: <u>20 nm</u> Down: <u>20 nm</u> ECM: <u>8 nm</u> Notes: 1965. Gun. Smoke AN/APQ-109 radar «I».</p> | <p>Max Vel. Mach 1.6 MAR:13 Hard Points: 9/4AA + 4 AIM-9 CMDS/ ECM: Yes/ AN/ALQ-119 pod Vertical: Medium J79-GE-15B (34k) Turn Rate %/sec: 9 - 12/ Instant: 17 (0.4 nm Ø) Roll: Very Good/ very bad with α</p> |
| <p>F-4E ROKAF</p>  | <p>Type: Fighter Bomber (Phantom II Rhino) Armament: AIM-7M, AIM-9M/ P RWR: 29 nm AN/APR-36/37, AN/ALR-46 Radar Range: Up: <u>30 nm</u> Down: <u>30 nm</u> ECM: <u>13 nm</u> Notes: 1965. Gun. Smoke. AN/APQ-120 rdr «I». Likes to be fast.</p> | <p>Max Vel. Mach 1.6 MAR:13 Hard Points: 9/4AA + 4 AIM-9 CMDS/ ECM: Yes/ AN/ALQ-119 pod Vertical: Med J79-GE-17C/ 17E (35.8k) Turn Rate %/sec: 10 - 13/ Instant: 17 (0.4 nm Ø) Roll: Very Good/ very bad with α</p> |
| <p>F-4EJ Phantom</p>  | <p>Type: Fighter (Phantom, Japan) Armament: AAM-3, AIM-7E-2/ M, AIM-9M RWR: 29 nm J/APR-2 (tail RWR) Radar Range: Up: <u>30 nm</u> Down: <u>30 nm</u> ECM: <u>13 nm</u> Notes: 1965. Gun. Smoke. IDM. AN/APQ-120 rdr«I». No ground wpns N/I. Likes speed.</p> | <p>Max Vel. Mach 1.6 MAR:13 Hard Points: 9/4AA + 4 AIM-9 or AAM-3 CMDS/ ECM: Yes/ AN/ALQ-119 pod Vertical: Med J79-GE-10 (35.8k) Turn Rate %/sec: 10 - 13/ Instant: 17 (0.4 nm Ø) Roll: Very Good/ very bad with α</p> |













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|   | 4 4 | Type: Fighter Bomber (Germany, SK, Japan) Armament: AIM-7M , AIM-9M/ P , AIM-120B (1994) RWR: 29 nm AN/APR-36/ 37, AN/ALR-46 Radar Range: Up: 30 nm Down: 30 nm ECM: 13 nm Notes: 1967. Gun. Smoke. AN/APQ-120 rdr «I». Export F-4E. Likes to be fast. No grnd N/I. | Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll: | 1.6 9/5AA + 4 AIM-9 Yes/ AN/ALQ-119 pod Med J79-MTU-17A (35.8k) 10 - 13/ Instant: 17 (0.4 nm Ø) Very Good/ very bad with α |
|   | 4 4 | Type: Fighter Bomber (Wild Weasel Phantom) Armament: AIM-7M , AIM-9M/ P RWR: 29 nm AN/APR-47, AN/ALR-46 Radar Range: Up: 30 nm Down: 30 nm ECM: 13 nm Notes: 1978. Gun pod N/I. Smoke. APQ-120 Rdr «I». Better RWR N/I. AGM-45/ 78/ 88. | Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll: | 1.6 9/4AA + 4 AIM-9 Yes/ AN/ALQ-119 pod Med J79-GE-17 (35.8k) 10 - 13/ Instant: 17 (0.4 nm Ø) Very Good/ very bad with α |
|   | | Type: Fighter (Freedom Fighter) Armament: AIM-9M/ P RWR: 29 nm Radar Range: Up: N/A Down: N/A ECM: N/A Notes: 1954. Smoke. | Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll: | 1.09 7/6AA Yes/ No Med J85-GE-15 (8.6k) 9 - 13 / Instant: 16 (0.3 nm Ø) Very Good |
|   | 5 5 | Type: Fighter (Tiger II) Armament: AIM-9M/ P RWR: 29 nm AN/ALR-46 Radar:AN/APQ-153«I» Radar Range: Up: 15 nm Down: N/A ECM: 9 nm Notes: 1964. IDM. | Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll: | 1.42 7/6AA Yes/ No Med J85-GE-21 (10k) 9 - 13 / Instant: 16 (0.3 nm Ø) Very Good |
|   | 14 14 | Type: Fighter Armament: AIM-7M , AIM-9M , AIM-54A RWR: 49 nm ALR-45 Radar:AN/AWG-9 «I» Radar Range: Up: 160 nm Down: 160 nm ECM: 80 nm Notes: 1973. Smoke exhaust. VG wings. IDM. | Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll: | 1.55 8/8AA Yes/ Int ECM Medium TF30-PW-412 (41.8k) 12 - 18/ Instant: 20 Medium |
|   | 14 14 | Type: Fighter Armament: AIM-7M , AIM-9M , AIM-54A/ C RWR: 49 nm ALR-67 Radar: AN/AWG-9 «I» Radar Range: Up: 160 nm Down: 160 nm ECM: 80 nm Notes: 1988. Smoke exhaust. VG wings. IDM. | Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll: | 1.41 8/8AA Yes/ Int ECM Medium F110-GE-400 (52.1k) 11 - 18/ Instant: 18 Medium |
|   | 14 14 | Type: Fighter Armament: AIM-7M , AIM-9M , AIM-54C RWR: 49 nm ALR-67 Radar: AN/APG-71 «I» Radar Range: Up: 160 nm Down: 160 nm ECM: 80 nm Notes: 1990. No smoke. VG wings. IDM. TDL. | Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll: | 1.32 8/8AA Yes/ Int ECM Medium F110-GE-400 (52.1k) 10 - 16/ Instant: 18 Medium |
|   | 15 15 | Type: Fighter Armament: AIM-7F/ M , AIM-9M/ P RWR: 44 nm AN/ALR-56C Rdr:AN/APG-63 «I» Radar Range: Up: 60 nm Down: 60 nm ECM: 40 nm Notes: 1976. Smoke exhaust. | Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll: | 1.88 11/8AA Yes/ Int ECM Very Gd F-100-PW-100 (47.7k) 13 - 17/ Instant: 21 Very Good |
|   | 15 15 | Type: Fighter Armament: AIM-7M , AIM-9M/ P/ X , AIM-120B/ C RWR: 56 nm AN/ALR-56C Rdr:APG-63PSP«J» Radar Range: Up: 62 nm Down: 62 nm ECM: 46 nm Notes: 1979. No smoke. 1985:MSIP II APG-70 rdr, AIM-120. IDM. TDL. 2008: HMCS. | Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll: | 1.88 11/8AA Yes/ Int ECM Very Gd F-100-PW-220 (47.7k) 13 - 17/ Instant: 21 Very Good |
|   | 27 27 | Type: Fighter (Aggressor Squadron) Armament: AIM-7M , AIM-9M/ P/ X , AIM-120B/ C RWR: 56 nm AN/ALR-56C Rdr:APG-63PSP«J» Radar Range: Up: 62 nm Down: 62 nm ECM: 46 nm Notes: 1980. No smoke. 1985:MSIP II APG-70 rdr, AIM-120. IDM. TDL. 2008: HMCS. | Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll: | 1.88 11/8AA Yes/ Int ECM Very Gd F-100-PW-220 (47.7k) 10 - 13/ Instant: 18 Very Good |

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| <p>F-15C Baz IDF AF 15</p>  | <p>Type: Fighter (Israel) Armament: AIM-7M, AIM-9M/ P, AIM-120B/ C, Python 3/ 4/ 5 RWR: 56 nm AN/ALR-56C Rdr:APG-63PSP«J» Radar Range: Up:62 nm Down:62 nm ECM:46 nm Notes: 1980: Akef, CFT. IDM. 1998: Baz DASH.</p> | <p>Max Vel. Mach 1.88 MAR:20 Hard Points: 11/ 8AA CMDS/ ECM: Yes/ Int ECM Vertical: Very Gd F-100-PW-220 (47.7k) Turn Rate %/sec: 10 - 13/ Instant: 18 Roll: Very Good</p> |
| <p>F-15CJ Peace Eagle 15</p>  | <p>Type: Fighter Armament: AIM-7M, AAM-3/ 4, AIM-9M/ P/ X, AIM-120B/ C RWR: 44 nm J/APR-4 Rdr:APG-63PSP«J» Radar Range: Up:62 nm Down:62 nm ECM:46 nm Notes: 1981. HMCS. IDM.</p> | <p>Max Vel. Mach 1.88 MAR:20 Hard Points: 11/ 8AA CMDS/ ECM: Yes/ Int ECM Vertical: Very Gd F-100-PW-220 (47.7k) Turn Rate %/sec: 11 - 17/ Instant: 18 Roll: Very Good</p> |
| <p>F-15D Eagle 15</p>  | <p>Type: Fighter Armament: AIM-7M, AIM-9M/ P/ X, AIM-120B/ C RWR: 56 nm AN/ALR-56C Rdr:APG-63PSP«J» Radar Range: Up:62 nm Down:62 nm ECM:46 nm Notes: 1979. 2 seats. No smoke. HMCS. IDM. TDL.</p> | <p>Max Vel. Mach 1.88 MAR:20 Hard Points: 11/ 8AA CMDS/ ECM: Yes/ Int ECM Vertical: Very Gd F-100-PW-220 (47.7k) Turn Rate %/sec: 10 - 13/ Instant: 18 Roll: Very Good</p> |
| <p>F-15DJ Peace Eagle 15</p>  | <p>Type: Fighter Armament: AIM-7M, AIM-9M/ P/ X, AIM-120B/ C RWR: 56 nm J/APR-4 Rdr:APG-63PSP«J» Radar Range: Up:62 nm Down:62 nm ECM:46 nm Notes: 1980. 2 seats. No smoke. IDM.</p> | <p>Max Vel. Mach 1.88 MAR:20 Hard Points: 11/ 8AA CMDS/ ECM: Yes/ Int ECM Vertical: Very Gd F-100-PW-220 (47.7k) Turn Rate %/sec: 11 - 17/ Instant: 18 Roll: Very Good</p> |
| <p>F-15E-220 15</p>  | <p>Type: Multi-role Fighter (Strike Eagle, Mud Hen) Armament: AIM-7M, AIM-9M/ P/ X, AIM-120B/ C RWR: 56 nm AN/ALR-56C Rdr:AN/APG-70«J» Radar Range: Up:62 nm Down:62 nm ECM:46 nm Notes: 1989. 2 seats. FLIR, nav pod, tgt pod. IDM. TDL.</p> | <p>Max Vel. Mach 1.88 MAR:20 Hard Points: 11/ 8AA CMDS/ ECM: Yes/ Int ECM Vertical: Med F-100-PW-220 (47.7k) Turn Rate %/sec: 8 - 11/ Instant: 15 (0.2 nm Ø) Vert/ Roll: Very Good</p> |
| <p>F-15E-229 15</p>  | <p>Type: Multi-role Fighter (Strike Eagle, Mud Hen) Armament: AIM-7M, AIM-9M/ P/ X, AIM-120B/ C RWR: 56 nm AN/ALR-56C Rdr:AN/APG-70«J» Radar Range: Up:62 nm Down:62 nm ECM:46 nm Notes: 1991. 2 seats. FLIR, nav pod, tgt pod. IDM. TDL.</p> | <p>Max Vel. Mach 1.88 MAR:20 Hard Points: 11/ 8AA CMDS/ ECM: Yes/ Int ECM Vertical: Med F-100-PW-229 (58.2k) Turn Rate %/sec: 8 - 11/ Instant: 15 (0.2 nm Ø) Roll: Very Good</p> |
| <p>F-15I Ra'am IDF 15</p>  | <p>Type: Fighter (Israel, Thunder) Armament: AIM-7M, AIM-9M/ P, AIM-120B/ C, Python 3/ 4/ 5 RWR: 56 nm Elisra SPS-2110 Rdr:AN/APG-70I«J» Radar Range: Up:62 nm Down:62 nm ECM:46 nm Notes: 1999. 2 seats. DASH. CFT.</p> | <p>Max Vel. Mach 2.00 MAR:20 Hard Points: 11/ 8AA CMDS/ ECM: Yes/ Int ECM Vertical: Med F-100-PW-229 (58.2k) Turn Rate %/sec: 8-11/ Instant: 15 Roll: Very Good</p> |
| <p>F-15K Slam Eagle 15</p>  | <p>Type: Fighter (Slam Eagle, ROKAF) Armament: AIM-9X, AIM-120C RWR: 56 nm ALR-56C(V)1 Rdr:APG-63(V)1«J» Radar Range: Up:62 nm Down:62 nm ECM:46 nm Notes: 2007. 2 seats. HMCS. CFT. IRST. IDM. TDL.</p> | <p>Max Vel. Mach 2.06 MAR:20 Hard Points: 11/ 8AA CMDS/ ECM: Yes/ Int ECM Vertical: Good F-110-GE-129 (58k) Turn Rate %/sec: 8 - 11/ Instant: 15 Roll: Very Good</p> |



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|  | F-16A Blk 15 | 16 6 | Type: Multi-role Fighter Armament: AIM-7M , AIM-9M/ P , AIM-120B RWR: 44 nm ALR-69(V) Radar:AN/APG-66«I» Radar Range: Up: 32 nm Down: 32 nm ECM: 10 nm Notes: 1981. Green MFDs. No HMCS. Slower radar. Tracks not as stable. CMDS 30/15. | Max Vel. Mach 1.64 Hard Points: 9/6AA CMDS/ ECM: Yes/ AN/ALQ-131(V) Vertical: Good F-100-PW-200 (23.8k) Turn Rate %/sec: 15 - 20/ Instant: 26 Roll: Very Good | MAR:17 |
|  | F-16AM BAC | 16 6 | Type: Multi-role Fighter (BAF) Armament: AIM-9M/ P/ X , AIM-120B RWR: 44 nm TASC Radar:APG-66(V)2«I» Radar Range: Up: 40 nm Down: 40 nm ECM: 22 nm Notes: 1995. HMCS. IDM. TDL. | Max Vel. Mach 1.77 Hard Points: 9/6AA CMDS/ ECM: Yes/ AN/ALQ-131(V) Vertical: Good F-100-PW-220 (23.8k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good | MAR:17 |
|  | F-16AM RDAF | 16 6 | Type: Multi-role Fighter (RDAF) Armament: AIM-9M/ P/ X , AIM-120B/ C RWR: 44 nm ALR-69(V) Radar:APG-66(V)2«I» Radar Range: Up: 40 nm Down: 40 nm ECM: 22 nm Notes: 1995. HMCS. IDM. TDL. | Max Vel. Mach 1.64 Hard Points: 9/6AA CMDS/ ECM: Yes/ AN/ALQ-131(V) Vertical: Good F-100-PW-200 (23.8k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good | MAR:17 |
|  | F-16AM RNLAf | 16 6 | Type: Multi-role Fighter (RNLAf) Armament: AIM-9M/ P/ X , AIM-120B RWR: 44 nm ALR-69(V) Radar:APG-66(V)2«I» Radar Range: Up: 40 nm Down: 40 nm ECM: 22 nm Notes: 1995. HMCS. IDM. TDL. | Max Vel. Mach 1.71 Hard Points: 9/6AA CMDS/ ECM: Yes/ AN/ALQ-131(V) Vertical: Good F-100-PW-220 (23.8k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good | MAR:17 |
|  | F-16AM RNoAF | 16 6 | Type: Multi-role Fighter (RNoAF) Armament: AIM-9M/ P , AIM-120B , IRIS-T RWR: 44 nm ALR-69(V) Radar:APG-66(V)2«I» Radar Range: Up: 40 nm Down: 40 nm ECM: 22 nm Notes: 1995. HMCS. IDM. TDL. | Max Vel. Mach 1.77 Hard Points: 9/6AA CMDS/ ECM: Yes/ AN/ALQ-131(V) Vertical: Good F-100-PW-220 (23.8k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good | MAR:17 |
|  | F-16B Blk 15 | 16 6 | Type: Multi-role Fighter (MSIP Stage I) Armament: AIM-7M , AIM-9M/ P , AIM-120B RWR: 44 nm ALR-69(V) Radar:APG-66 «I» Radar Range: Up: 32 nm Down: 32 nm ECM: 10 nm Notes: 1981. 2 Seats. Green MFDs. Less CMDS 30/15. | Max Vel. Mach 1.64 Hard Points: 9/6AA CMDS/ ECM: Yes/ AN/ALQ-131(V) Vertical: Good F-100-PW-200 (23.8k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good | MAR:17 |
|  | F-16C Blk 25 | 16 6 | Type: Multi-role Fighter (MSIP Stage II) Armament: AIM-7M , AIM-9M/ P , AIM-120B RWR: 44 nm ALR-69(V) Radar:APG-68(V) «I» Radar Range: Up: 40 nm Down: 40 nm ECM: 22 nm Notes: 1984. Green MFDs. 1986 TFR. FLIR. IDM. | Max Vel. Mach 1.64 Hard Points: 9/6AA CMDS/ ECM: Yes / ALQ-131(V), ALQ-184 Vertical: Good F-100-PW-200 (23.8k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good | MAR:17 |
|  | F-16C Blk 30 | 16 6 | Type: Multi-role Fighter (MSIP Stage III) Armament: AIM-7M , AIM-9M/ P , AIM-120B RWR: 44 nm ALR-69(V) Radar:APG-68 «I» Radar Range: Up: 40 nm Down: 40 nm ECM: 22 nm Notes: 1987. Green MFDs. TFR. FLIR. IDM. | Max Vel. Mach 1.8 Hard Points: 9/6AA CMDS/ ECM: Yes/ ALQ-131(V), ALQ-184 Vertical: Very Gd F-110-GE-100 (28k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good | MAR:17 |
|  | F-16C Blk 32 | 16 6 | Type: Multi-role Fighter (MSIP Stage III) Armament: AIM-7M , AIM-9M/ P , AIM-120B RWR: 44 nm ALR-69(V) Radar:APG-68 «I» Radar Range: Up: 40 nm Down: 40 nm ECM: 22 nm Notes: 1987. Green MFDs. TFR. FLIR. IDM. | Max Vel. Mach 1.76 Hard Points: 9/6AA CMDS/ ECM: Yes / ALQ-131(V), ALQ-184 Vertical: Good F-100-PW-220 (23.8k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good | MAR:17 |
|  | F-16C Blk 32 AGRS | 29 9 | Type: Multi-role Fighter (64th Aggressor) Armament: AIM-7M , AIM-9M/ P/ X , AIM-120B/ C RWR: 44 nm ALR-69(V) Radar:APG-63 «I» Radar Range: Up: 40 nm Down: 40 nm ECM: 27 nm Notes: 1987. HMCS. IDM. F-16C-32. | Max Vel. Mach 1.76 Hard Points: 9/6AA CMDS/ ECM: Yes/ ALQ-131(V), ALQ-184 Vertical: Good F-100-PW-220 (23.8k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good | MAR:17 |

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|  <p>F-16CM Blk 40</p> | <p>16 6</p> | <p>Type: Multi-role Fighter (MSIP Stage III) Armament: AIM-9M/ P/ X, AIM-120B/ C RWR: 44 nm ALR-56M Radar:APG-68(V)5 «I» Radar Range: Up:40 nm Down:40 nm ECM:20 nm Notes: 1989. HMCS. Big black HUD frame. TFR. FLIR. IDM. TDL.</p> | <p>Max Vel. Mach 1.80 Hard Points: 9/6AA CMDS/ ECM: Yes / ALQ-131, ALQ-184 Vertical: Very Gd F-110-GE-100 (28k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good</p> | <p>MAR:17</p> |
|  <p>F-16CM Blk 42</p> | <p>16 6</p> | <p>Type: Multi-role Fighter (MSIP Stage III) Armament: AIM-9M/ P/ X, AIM-120B/ C RWR: 44 nm ALR-56M Radar:APG-68(V)5 «I» Radar Range: Up:40 nm Down:40 nm ECM:22 nm Notes: 1989. HMCS. Big black HUD frame.TFR. FLIR. IDM. TDL.</p> | <p>Max Vel. Mach 1.80 Hard Points: 9/6AA CMDS/ ECM: Yes / ALQ-131, ALQ-184 Vertical: Good F-100-PW-220 (23.7k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good</p> | <p>MAR:17</p> |
|  <p>F-16CM Blk 50</p> | <p>16 6</p> | <p>Type: Multi-role Fighter (MSIP Stage III) Armament: AIM-9M/ P/ X, AIM-120B/ C RWR: 44 nm ALR-56M Radar:APG-68(V)5«I» Radar Range: Up:40 nm Down:40 nm ECM:20 nm Notes: 1991. HMCS. IDM. TDL.</p> | <p>Max Vel. Mach 1.86 Hard Points: 9/6AA CMDS/ ECM: Yes / ALQ-131, ALQ-184 Vertical: Very Gd F-110-GE-129 (29k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good</p> | <p>MAR:17</p> |
|  <p>F-16CM Blk 52</p> | <p>16 6</p> | <p>Type: Multi-role Fighter (MSIP Stage III) Armament: AIM-9M/ P/ X, AIM-120B/ C RWR: 44 nm ALR-56M Radar:APG-68(V)5 «I» Radar Range: Up:40 nm Down:40 nm ECM:20 nm Notes: 1991. HMCS. IDM. TDL.</p> | <p>Max Vel. Mach 1.86 Hard Points: 9/6AA CMDS/ ECM: Yes / ALQ-131, ALQ-184 Vertical: Very Gd F-100-PW-229 (28.5k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good</p> | <p>MAR:17</p> |
|  <p>F-16C Blk 52 CFT</p> | <p>16 6</p> | <p>Type: Multi-role Fighter (HAF CFT) Armament: AIM-9M, AIM-120B/ C, IRIS-T RWR: 44 nm ALR-93(V)1 Rdr:APG-68(V)XM«I» Radar Range: Up:55 nm Down:55 nm ECM:20 nm Notes: 2008. HMCS. RWR with Different #'s and symbology F-16=6. IDM. TDL.</p> | <p>Max Vel. Mach 1.85 Hard Points: 9/6AA CMDS/ ECM: Yes / Int ECM Vertical: Good F-100-PW-229 (28.5k) Turn Rate %/sec: 11 - 17/ Instant: 21 (0.3 nm Ø) Roll: Very Good</p> | <p>MAR:17</p> |
|  <p>F-16DM Blk 40</p> | <p>16 6</p> | <p>Type: Multi-role Fighter (MSIP Stage III) Armament: AIM-9M/ P/ X, AIM-120B/ C RWR: 44 nm ALR-56M Radar:APG-68(V)5 «I» Radar Range: Up:40 nm Down:40 nm ECM:20 nm Notes: 1989. 2 Seats. Big black HUD. HMCS. IDM. TDL.</p> | <p>Max Vel. Mach 1.86 Hard Points: 9/6AA CMDS/ ECM: Yes / ALQ-131, ALQ-184 Vertical: Very Gd F-110-GE-100 (28k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good</p> | <p>MAR:17</p> |
|  <p>F-16DM Blk 52</p> | <p>16 6</p> | <p>Type: Multi-role Fighter (MSIP Stage III) Armament: AIM-9M/ P/ X, AIM-120B/ C RWR: 44 nm ALR-56M Radar:APG-68(V)5 «I» Radar Range: Up:40 nm Down:40 nm ECM:20 nm Notes: 1991. 2 Seats. HMCS. IDM. TDL.</p> | <p>Max Vel. Mach 1.86 Hard Points: 9/6AA CMDS/ ECM: Yes / ALQ-131, ALQ-184 Vertical: Very Gd F-100-PW-229 (28.5k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good</p> | <p>MAR:17</p> |
|  <p>F/A-18A Hornet</p> | <p>18 18</p> | <p>Type: Multi-role Fighter Armament: AIM-7F/ M, AIM-9H/ J/ M/ P, AIM-120B RWR: 49 nm AN/ALR-67 Radar:AN/APG-65 «I» Radar Range: Up:51 nm Down:51 nm ECM:20 nm Notes: 1983. Green MFDs.</p> | <p>Max Vel. Mach 1.6 Hard Points: 9/8AA + 4 AIM-9 or 120 CMDS/ ECM: Yes/ Int ECM Vertical: Very Gd F404-GE-400 (31.6K) Turn Rate %/sec: 14 - 17/ Instant: 22 (0.2 nm Ø) Roll: Very Good</p> | <p>MAR:17</p> |
|  <p>F/A-18B Hornet</p> | <p>18 18</p> | <p>Type: Multi-role Fighter Armament: AIM-7F/ M, AIM-9H/ J/ M/ P, AIM-120B RWR: 49 nm AN/ALR-67 Radar:AN/APG-65 «I» Radar Range: Up:51 nm Down:51 nm ECM:20 nm Notes: 1983. 2 Seats. Green MFDs.</p> | <p>Max Vel. Mach 1.6 Hard Points: 9/8AA + 4 AIM-9 or 120 CMDS/ ECM: Yes/ Int ECM Vertical: Very Gd F404-GE-400 (31.6K) Turn Rate %/sec: 14 - 17/ Instant: 22 (0.2 nm Ø) Roll: Very Good</p> | <p>MAR:17</p> |
|  <p>F/A-18C Hornet</p> | <p>18 18</p> | <p>Type: Multi-role Fighter Armament: AIM-7F/ M, AIM-9M/ P/ X, AIM-120B/ C RWR: 49 nm AN/ALR-67 Radar:AN/APG-65 «I» Radar Range: Up:51 nm Down:51 nm ECM:20 nm Notes: 1987. 1992 upgraded to APG-73. HMCS. IDML. TDL.</p> | <p>Max Vel. Mach 1.6 Hard Points: 9/8AA + 4 AIM-9 or 120 CMDS/ ECM: Yes/ Int ECM Vertical: Very Gd F404-GE-402 (35k) Turn Rate %/sec: 14 - 17/ Instant: 22 (0.2 nm Ø) Roll: Very Good</p> | <p>MAR:17</p> |

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|  <p>F/A-18D Hornet</p> | <p>18 18</p> | <p>Type: Multi-role Fighter Armament: AIM-7F/ M, AIM-9M/ P/ X, AIM-120B/ C RWR: 49 nm AN/ALR-67 Radar:AN/APG-65 «I» Radar Range: Up:51 nm Down:51 nm ECM:20 nm Notes: 1987. 2 Seats. HMCS. IDM. TDL.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>1.6 MAR:17 9/ 8AA + 4 AIM-9 or 120 Yes/ Int ECM Very Gd F404-GE-402 (35k) 14 - 17/ Instant: 22 (0.2 nm Ø) Very Good</p> |
|  <p>F/A-18E</p> | <p>18 18</p> | <p>Type: Multi-role Fighter (Super Hornet) Armament: AIM-7F/ M, AIM-9M/ P/ X, AIM-120B/ C RWR: 49 nm ALR-67(V)3 Radar:AN/APG-73 «I» Radar Range: Up:51 nm Down:51 nm ECM:20 nm Notes: 1995. HMCS. IDM. TDL.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>1.54 MAR:17 11/ 10AA + 6 AIM-9 or 120 Yes/ Int ECM Medium F414-GE-400 (44k) 11 - 15/ Instant: 15 (0.3 nm Ø) Very Good</p> |
|  <p>F/A-18F</p> | <p>18 18</p> | <p>Type: Multi-role Fighter (Super Hornet) Armament: AIM-7F/ M, AIM-9M/ P/ X, AIM-120B/ C RWR: 49 nm ALR-67(V)3 Radar: AN/APG-79 «I» Radar Range: Up:51 nm Down:51 nm ECM:20 nm Notes: 1995. 2 Seats. AESA rdr N/I. HMCS. IDM. TDL.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>1.54 MAR:17 11/ 10AA + 6 AIM-9 or 120 Yes/ Int ECM Medium F414-GE-400 (44k) 11 - 15/ Instant: 15 (0.3 nm Ø) Very Good</p> |
|  <p>F-22A Raptor</p> | <p>22 22</p> | <p>Type: Fighter Armament: AIM-9M, AIM-120C RWR: 49 nm ALR-94 Radar: AN/APG-77 «I» Radar Range: Up:75 nm Down:75 nm ECM:60 nm Notes: 2005. AESA rdr N/I. AN/ALR-56 MLD. Super cruise 1.35. TV. IDM. TDL.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>1.83 MAR:20 6/ 6AA + 2 AIM-9 Yes/ Stealth 6.5 nm Very Good F119-PW-100 (70k) 14 - 26/ Instant: 32 (0.1 nm Ø) Very Good</p> |
|  <p>F-100D Super Sabre</p> | <p>43</p> | <p>Type: Fighter Bomber (The Hun) Armament: 4x 20mm Cannons RWR: 15 nm APR-126 Radar:APR-25V Radar Range: Up:8 nm Down:8 nm ECM:6 nm Notes: 1956. Gun tracking radar. Slow pitch.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>1.43 MAR:02 6/ 0AA No / No Medium J57-P-21/21A (16k) 8 - 15/ Instant:23 Very Good</p> |
|  <p>F-104DJ Starfighter</p> | <p>A T</p> | <p>Type: Fighter Armament: AIM-9B, 20mm cannon RWR: 29 nm APR-25/26 Radar:ASG-14T «I» Radar Range: Up:5 nm Down:N/A ECM:2 nm Notes: 1958.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>1.89 MAR:05 4AA No / No Medium J79-GE-11A (15.6k) 6 - 9/ Instant: 12 (0.5 nm Ø) Very Good</p> |
|  <p>F-105D Thud</p> | <p>A 4</p> | <p>Type: Fighter Bomber (Thunderchief) Armament: AIM-9B, 20mm cannon RWR: 15 nm APR-25/26 Radar: NASARR R-14A Radar Range: Up:14 nm Down:14 nm ECM:10 nm Notes: 1960. RWR Vector.</p> | <p>Max Vel. Mach Hard Points: CMDS/ ECM: Vertical: Turn Rate %/sec: Roll:</p> | <p>1.97 MAR:05 5/ 2AA +2 AIM-9 No / No, AN/ALQ-72 pod N/I. Bad J75-P-19W (26.5k) 11 - 16/ Instant: 24 (0.3 nm Ø) Very Good</p> |



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|  | F-111E Aardvark |    | Type: Attack (Mark I) Armament: No AA missiles. No gun. RWR: 49 nm AN/APQ-109 Rdr:AN/APQ-113 «I» Radar Range: Up: 15 nm Down: 15 nm ECM: 8 nm Notes: 1969. 2 Seats. Smoke. IDM. Direct successor to A. Can accelerate in turn. | Max Vel. Mach 1.45 MAR:00 Hard Points: 4/0AA CMDS/ ECM: Yes / Int ECM Vertical: Medium TF30-P-3 (37k) Turn Rate %/sec: 13 - 19/ Instant: 24 (0.2 nm Ø) Roll: Medium |
|  | F-111F Aardvark |    | Type: Attack (Mark IIB) Armament: No AA missiles. No gun. RWR: 49 nm AN/ALR-62 Rdr:AN/APQ-144 «I» Radar Range: Up: 15 nm Down: 15 nm ECM: 8 nm Notes: 1970. 2 Seats. IDM. Can accelerate in turn with low burner or mil power. Smoke. | Max Vel. Mach 1.56 MAR:00 Hard Points: 4/0AA CMDS/ ECM: Yes / Int ECM Vertical: Medium TF30-P-100 (50k) Turn Rate %/sec: 13 - 19/ Instant: 24 (0.2 nm Ø) Roll: Medium |
|  | F-117A Nighthawk |    | Type: Attack Armament: No AA missiles. No gun. RWR: 44 nm Classified Radar Locator System Radar Range: Up: N/A Down: N/A ECM: N/A Notes: 1983. IDM. TDL. Not detected by AWACS. Avoids F16 rdr. to about 1.7nm. | Max Vel. Mach 0.78 MAR:00 Hard Points: 2/0AA CMDS/ ECM: Yes/ No, Stealth 1.7 nm Vertical: Bad F404-GE-F1D2 (21k) Turn Rate %/sec: 10 - 14/ Instant: 20 Roll: Good |
|  | F-CK-1C Ching-Kuo |    | Type: Multi-role Fighter (ROCAF) Armament: Tien Chien I , Tien Chien II RWR: 44 nm AN/ALR-93(V) Radar: GD-53«I» Radar Range: Up: 40 nm Down: 40 nm ECM: 20 nm Notes: 1997. Indigenous Defense Fighter (IDF). | Max Vel. Mach 1.37 MAR:17 Hard Points: 7/6AA CMDS/ ECM: AN/ALE-47/ No Vertical: Very Good F125-70 (19k) Turn Rate %/sec: 15 - 20/ Instant: 24 (0.2 nm Ø) Roll: Good |
|  | JA 37 Viggen |    | Type: Interceptor (Jakt)(SAF) Armament: AIM-9M , AIM-120B , Skyflash , 30 mm RWR: 29 nm SATT Radar: PS46/A «I» Radar Range: Up: 30 nm Down: 30 nm ECM: 15 nm Notes: 1978. IDM. AA only. | Max Vel. Mach 1.66 MAR:17 Hard Points: 6AA CMDS/ ECM: Yes/ No Vertical: Medium Volvo RM8B (26k) Turn Rate %/sec: 8 - 11/ Instant: 16 Roll: Good |
|  | Jaguar GR3 RAF |    | Type: Fighter Bomber Armament: AIM-9M RWR: 44 nm CFTH Radar:Decca N/I Radar Range: Up: N/A Down: N/A ECM: N/A Notes: 1973. IDM. | Max Vel. Mach 1.17 MAR:07 Hard Points: 7/2AA CMDS/ ECM: Yes/ AN/ALQ-101 pod Vertical: Medium Adour 102 (14.6k) Turn Rate %/sec: 15 - 20/ Instant: 29 Roll: Very Good |
|  | KF-16C Blk 32 |    | Type: Multi-role Fighter (Korean Peace Bridge I) Armament: AIM-7M , AIM-9M/ P , AIM-120B RWR: 44 nm ALR-56M Radar:AN/APG-68 «I» Radar Range: Up: 40 nm Down: 40 nm ECM: 20 nm Notes: 1986. Green MFDs. IDM. | Max Vel. Mach 1.2 MAR:17 Hard Points: 9/6AA CMDS/ ECM: Yes/ Int ECM, ALQ-131(V) Vertical: Good F-100-PW-220 (23.8k) Turn Rate %/sec: 14 - 18/ Instant: 24 (0.3 nm Ø) Roll: Very Good |
|  | KF-16C Blk 52 |    | Type: Multi-role Fighter (Korean Peace Bridge II) Armament: AIM-7M , AIM-9M/ P , AIM-120B/ C RWR: 44 nm ALR-56M Radar:APG-68(V)7 «I» Radar Range: Up: 40 nm Down: 40 nm ECM: 20 nm Notes: 1994. HMCS. TFR. FLIR. IDM. TDL. | Max Vel. Mach 1.85 MAR:17 Hard Points: 9/6AA CMDS/ ECM: Yes/ Int ECM Vertical: Very Gd F-100-PW-229 (28.5k) Turn Rate %/sec: 15 - 20/ Instant: 26 (0.3 nm Ø) Roll: Very Good |
|  | MB-339 |    | Type: Attack (Aermachi, ITAF) Armament: AIM-9M , R.550 Magic , 30mm RWR: 29 nm ELT-156 Radar Range: Up: N/A Down: N/A ECM: N/A Notes: 1976. 2 Seats. Performs best low and slow. | Max Vel. Mach 0.84 MAR:08 Hard Points: 6/2AA CMDS/ ECM: Yes/ Int ECM, ELT-5 Pod N/I Vertical: Bad RR Viper MK.680-43(4.4k) Turn Rate %/sec: 12 - 23/ Instant: 32 Roll: Good |
|  | Mirage 2000C |    | Type: Fighter Armament: R.550 Magic II , R.530D RWR: 44 nm SERVAL Radar:CSF-RDI «I» Radar Range: Up: 47 nm Down: 42 nm ECM: 10 nm Notes: 1984. x<10nm to keep radar lock. Limits effective range of R530D. TDL. | Max Vel. Mach 1.74 MAR:17 Hard Points: 9/4AA CMDS/ ECM: Yes/ Int ECM Vertical: Good M53-P2 (21.4k) Turn Rate %/sec: 11 - 16/ Instant: 21 (0.2 nm Ø) Roll: Very Good |

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|  <p>Mirage 2000D</p> | <p>20 2</p> | <p>Type: Fighter Armament: R.550 Magic II, MICA IR RWR: 49 nm SERVAL Radar:Antelope 50 «I» Radar Range: Up:15 nm Down:15 nm ECM:8 nm Notes: 1995. 2 Seats. IDM. TDL.</p> | <p>Max Vel. Mach 1.44 MAR:14 Hard Points: 9/2AA CMDS/ ECM: Yes/ Int ECM Vertical: Good M53-P2 (21.4k) Turn Rate %/sec: 11 - 16/ Instant: 21 (0.2 nm Ø) Roll: Very Good</p> |
|  <p>Mirage 2000-5F</p> | <p>20 2</p> | <p>Type: Fighter Armament: R.550 Magic II, MICA EM, MICA IR RWR: 49 nm SERVAL Radar:Thales RDY«I» Radar Range: Up:60 nm Down:60 nm ECM:26 nm Notes: 2000. IDM. TDL. Updated Mirage 2000C.</p> | <p>Max Vel. Mach 1.87 MAR:14 Hard Points: 9/6AA CMDS/ ECM: Yes/ Int ECM Vertical: Good M53-P2 (21.4k) Turn Rate %/sec: 11 - 16/ Instant: 21 (0.2 nm Ø) Roll: Very Good</p> |
|  <p>Mirage 2000EGM</p> | <p>20 2</p> | <p>Type: Fighter (EGM HAF) Armament: R.550 Magic II, MICA EM, MICA IR RWR: 49 nm Samir DDM Radar:Thales RDY«I» Radar Range: Up:60 nm Down:60 nm ECM:26 nm Notes: 2000. IDM. TDL. Updated Mirage 2000-5.</p> | <p>Max Vel. Mach 1.87 MAR:14 Hard Points: 9/8AA CMDS/ ECM: Yes/ Int ECM Vertical: Good M53-P2 (21.4k) Turn Rate %/sec: 11 - 16/ Instant: 21 (0.2 nm Ø) Roll: Very Good</p> |
|  <p>Mirage 2000N</p> | <p>20 2</p> | <p>Type: Fighter Armament: R.550 Magic II RWR: 49 nm SERVAL Radar:Antelope 5 «I» Radar Range: Up:15 nm Down:15 nm ECM:8 nm Notes: 1988. 2 Seats. TDL. Nuclear strike version. No gun.</p> | <p>Max Vel. Mach 1.44 MAR:08 Hard Points: 9/2AA CMDS/ ECM: Yes/ Int ECM Vertical: Good M53-P2 (21.4k) Turn Rate %/sec: 11 - 16/ Instant: 21 (0.2 nm Ø) Roll: Very Good</p> |
|  <p>Mirage F-1CT</p> | <p>P 44</p> | <p>Type: Fighter Armament: R.550 Magic, R.550 Magic II, R.530D RWR: 29 nm CSF-BF Radar:CSF-Cyrano IV-1«I» Radar Range: Up:35 nm Down:35 nm ECM:19 nm Notes: 1974. x<10nm to keep radar lock. Limits effective range of R530D.</p> | <p>Max Vel. Mach 1.96 MAR:17 Hard Points: 5/4AA CMDS/ ECM: Matra Corail/ No Desault Barax Vertical: Medium ATAR 9K-50 (15.9k) Turn Rate %/sec: 9 - 12/ Instant: 12 Roll: Very Good</p> |
|  <p>Mirage IIIE</p> | <p>P 3</p> | <p>Type: Fighter Armament: AIM-9B, R.550 Magic, 2x 30mm RWR: 29 nm Radar:CSF-Cyrano II «I» Radar Range: Up:30 nm Down:30 nm ECM:15 nm Notes: 1964.</p> | <p>Max Vel. Mach 1.4 MAR:08 Hard Points: 5/2AA CMDS/ ECM: No/ No Vertical: Medium ATAR 9C (13.7k) Turn Rate %/sec: 8 - 11/ Instant: 16 Roll: Very Good</p> |
|  <p>MQ-9 Reaper</p> | <p>S 41</p> | <p>Type: Attack/ Unmanned Aerial Vehicle Armament: No AA Missiles. No Gun. RWR: N/A Radar:N/A Radar Range: Up:0 nm Down:0 nm ECM:0 nm Notes: 2007. AIM-9x capable. AN/APY-8 grnd radar. IDM. TDL. RWR/ CMDS 2017.</p> | <p>Max Vel. Mach 0.40 MAR:00 Hard Points: 7/0AA CMDS/ ECM: No/ No Vertical: Bad TPE331-10 (2.3k) Turn Rate %/sec: 5 - 8/ Instant: 10 Roll: Bad</p> |
|  <p>OV-10 Bronco</p> | | <p>Type: Foward Air Control/ Attack Armament: AIM-9M RWR: 44 nm AN/APR-39 Radar:N/A Radar Range: Up:N/A Down:N/A ECM:N/A Notes: 1969. IDM.</p> | <p>Max Vel. Mach 0.38 MAR:07 Hard Points: 7/2AA CMDS/ ECM: Yes/ No Vertical: Bad GarrettT76-G-420/421(2.1k) Turn Rate %/sec: 7 - 10/ Instant: 11 Roll: Good</p> |
|  <p>Rafale C</p> | <p>22 R</p> | <p>Type: Multi-role Fighter (FAF) Armament: Mica IR, Mica EM, Meteor RWR: 49 nm SPECTRA Radar:Thales RBE2 «I» Radar Range: Up:72 nm Down:72 nm ECM:50 nm Notes: 2006. 2012 AESA. OSF/ IRST. RAM. DVI. HMCS. FLIR. IDM. TDL. Suprcrs. m1.14.</p> | <p>Max Vel. Mach 1.62 MAR:56 Hard Points: 12/10AA CMDS/ ECM: Yes/ Thales SPECTRA Vertical: Very Good Snecma M88-2(34k) Turn Rate %/sec: 15 - 20/ Instant: 21 Roll: Very Good</p> |
|  <p>Tornado F3</p> | <p>T T</p> | <p>Type: Interceptor (Air Defense Variant) Armament: AIM-9M, Skyflash, AIM-120B/ C, AIM-132 RWR: 44 nm ELS Radar:AI24 Foxhunter «I» Radar Range: Up:54 nm Down:54 nm ECM:25 nm Notes: 1986. 2 Seats. IDM. TDL. Can accelerate in turn.</p> | <p>Max Vel. Mach 1.75 MAR:17 Hard Points: 10/8AA CMDS/ ECM: Yes/ Int ECM Vertical: Good RB.199-34 Mk 104 (33k) Turn Rate %/sec: 14 - 22/ Instant: 24 (0.2 nm Ø) Roll: Very Good</p> |

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|  <p>Tornado ECR AMI</p> | <p>⌘ ⌘</p> <p>Type: Attack (Wild Weasel, ITAF) Armament: AIM-9M RWR: 44 nm ELS Radar: Decca 72 «I» Radar Range: Up: 15 nm Down: 15 nm ECM: 10 nm Notes: 1990. IDM. Uses BOZ-107 pod to dispense chaff. Can accelerate in turn.</p> | <p>Max Vel. Mach 1.75 MAR:07 Hard Points: 9/2AA CMDS/ ECM: Yes/ Int ECM, BOZ-107 Vertical: Good RB.199-34R Mk101(30k) Turn Rate %/sec: 14 - 22/ Instant:24 (0.2 nm Ø) Roll: Very Good</p> |
|  <p>Tornado ECR GAF</p> | <p>⌘ ⌘</p> <p>Type: Attack (Wild Weasel, GAF) Armament: AIM-9M RWR: 44 nm ELS Radar: Decca 72 «I» Radar Range: Up: 15 nm Down: 15 nm ECM: 10 nm Notes: 1990. IDM. Uses BOZ-107 pod to dispense chaff. Can accelerate in turn.</p> | <p>Max Vel. Mach 1.75 MAR:07 Hard Points: 9/2AA CMDS/ ECM: Yes/ Int ECM, BOZ, Cerberus Vertical: Good RB.199-34R Mk101(30k) Turn Rate %/sec: 14 - 22/ Instant:24 (0.2 nm Ø) Roll: Very Good</p> |
|  <p>Tornado IDS AMI</p> | <p>⌘ ⌘</p> <p>Type: Attack (InterDiction Strike, ITAF) Armament: AIM-9M RWR: 44 nm ELS Radar: Decca 72 «I» Radar Range: Up: 15 nm Down: 15 nm ECM: 10 nm Notes: 1979. IDM. Uses BOZ-107 pod to dispense chaff. Can accelerate in turn.</p> | <p>Max Vel. Mach 1.75 MAR:07 Hard Points: 9/2AA CMDS/ ECM: Yes/ Int ECM, BOZ-107 Vertical: Good RB.199-34R Mk101(30k) Turn Rate %/sec: 14 - 22/ Instant:24 (0.2 nm Ø) Roll: Very Good</p> |
|  <p>Tornado IDS GAF</p> | <p>⌘ ⌘</p> <p>Type: Attack (InterDiction Strike, GAF) Armament: AIM-9M, IRIS-T RWR: 44 nm ELS Radar: Decca 72 «I» Radar Range: Up: 15 nm Down: 15 nm ECM: 10 nm Notes: 1979. IDM. Uses BOZ-107 pod to dispense chaff. Can accelerate in turn.</p> | <p>Max Vel. Mach 1.75 MAR:07 Hard Points: 9/2AA CMDS/ ECM: Yes/ Int ECM, BOZ, Cerberus Vertical: Good RB.199-34R Mk101(30k) Turn Rate %/sec: 14 - 22/ Instant:24 (0.2 nm Ø) Roll: Very Good</p> |
|  <p>Tornado GR. 4</p> | <p>⌘ ⌘</p> <p>Type: Attack (RSAF, RAF) Armament: AIM-9M, AIM-132 RWR: 44 nm ELS Radar: Decca 72 «I» Radar Range: Up: 15 nm Down: 15 nm ECM: 10 nm Notes: 1997. IDM. Uses BOZ-107 pod to disp. chaff. accelerate in turn. IDS upgrade.</p> | <p>Max Vel. Mach 1.75 MAR:14 Hard Points: 9/4AA CMDS/ ECM: Yes/ Skyshadow, BOZ-107 Vertical: Good RB.199-34R Mk101(30k) Turn Rate %/sec: 14 - 22/ Instant:24 (0.2 nm Ø) Roll: Very Good</p> |
|  <p>Typhoon FGR.4</p> | <p>⌘ ⌘</p> <p>Type: Multi-role Fighter (RAF UK) Armament: AIM-120C, AIM-132, Meteor RWR: 44 nm PIRATE Radar: CAPTOR-M «I» Radar Range: Up: 89 nm Down: 89 nm ECM: 57 nm Notes: 2002. HMCS. IDM. TDL. Supercruise mach 1.29 in mil. 8.8g turn in mil. PIRATE IRST.</p> | <p>Max Vel. Mach 1.97 MAR:56 Hard Points: 13/6AA +2 AIM-132 CMDS/ ECM: Yes/ Int ECM Vertical: Very Gd Eurojet EJ200 (40.5k) Turn Rate %/sec: 17-25 / Instant: 28 (0.2 nm Ø) Roll: Very Good</p> |

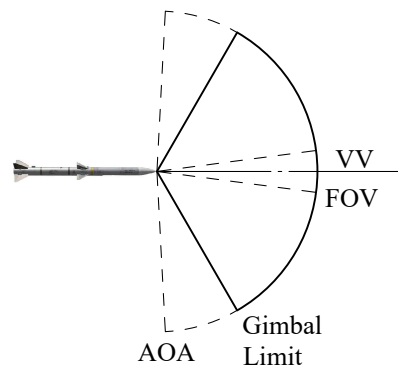
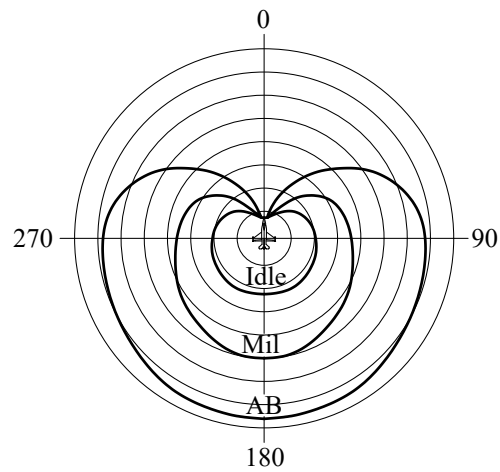


General Notes

- Break turns should generally be into the missile. Turn AB off when defending against IR missiles.
- Radar missile range: the smaller range number is RTR, larger number is RPI. Longer ranges are possible for most missiles with greater altitude, speed and lofting.
- Ranges don't always match the WEZ on the HUD.
- IR seeker heads need to be cooled to get the seeker ranges indicated.
- IR range is increased and lock is easier when target is using AB.
- IR seekers tend to lock on to nearest hottest target even when slaved to radar. So make sure the diamond is on your intended target before you shoot!
- IR seeker range is for F-16C52 target in mil power during a clear day with target at or slightly above the horizon. Numbers inside () indicate the detection range while the target is in AB.
- Long range missiles can get the long range and high speeds indicated by lofting the missile.
- IR rear aspect missiles have front aspect ranges but the missiles usually miss front aspect targets unless the target is in AB and not maneuvering.
- SARH chaff effect is based on launch AC radar.
- Image right, example of how aspect and throttle state effect IR seeker range.
- IR seeker effected by clouds, fog, ground clutter, sun, sun reflection and distance.
- ARH seeker scans in FOV and tracks to gimbal limit but does not scan like FCR to gimbal limits so if target goes faster than tracking rate to get outside of FOV then lock is broken. AOA further increases how far off VV missile can track target.
- Some all aspect IR missiles can get a longer range than shown when shot between 125° and 100° angle off the tail.

Abbreviations

- AB Afterburner
- ARH Active Radar Homing
- AOA Angle of Attack α
- ECCM Electronic Counter Counter Measures
- FOV Field of View
- HMCS Helmet Mounted Cueing System
- HOJ Home on Jam
- IR Infra Red
- IRCCM Infra Red Counter Counter Measures
- LOAL Lock on After Launch N/I in BMS
- MAR Minimum Abort Range
- Mil Military Power, dry thrust
- PB Pit Bull When missile can track target autonomously
- RPI Range Probability of Intercept
- RTR Range Turn and Run
- SARH Semi Active Radar Homing
- TVC Thrust Vector Control
- VV Velocity Vector



CM Effect # Decoys

| | |
|-----------|-------|
| No Effect | - |
| Very Low | 20-50 |
| Low | 6-17 |
| Medium | 4-6 |
| High | 2-4 |
| Very High | 1-2 |



AA-1 Alkali

Guidance: **SARH**
 Range Front: **3 - 4 nm**
 Range Rear: 1 - 2 nm
 Chaff Effect: Very High
 Max Target g: 3
 Max Vel.(mach): **1.8** (1,190 kts)

Names: K-5, (RS-1U/ RS-2), PL-1
 Aircraft: Mig-17PF, Mig-21F-13, Su-15
 Notes: 1957. USSR. Break turn 4g, chaff. (15g), Max AOA 14°, gimbal limit 25°, tracking rate 14°/sec, FOV 8°, 23 sec.

AA-2B Atoll

Guidance: **SARH**
 Range Front: **4 - 7 nm**
 Range Rear: 3 - 4 nm
 Chaff Effect: Very High
 Max Target g: 3
 Max Vel.(mach): **2.3** (1,533 kts)

Names: R-3R, K-13R, PL-2/ PL-3 / PL-5, AA-2R
 Aircraft: J-7G, Mig-19PM, Mig-21F-13/ bis/ MF, Mig-23ML, Su-15
 Notes: 1966. USSR. Brk turn 4g, chaff, bm. Get below horizon. (15g), Max AOA 16°, gmb limit 30°, trkg rate 12.5°/sec, FOV 2°, 35 sec.

AA-2C Adv. Atoll

Guidance: **IR Rear Aspect**
 Range Front: 1 nm
 Range Rear: **2 - (2.8) nm**
 Flare Effect: Very High
 Max Target g: 6
 Max Vel.(mach): **3.2** (2,133 kts)

Names: R-13M, K-13M, Obj 380, A-91, PL-2/ PL-3 / PL-5, AA-2
 Aircraft: Mig-19PM, Mig-21F-13/ bis/MF, Mig-23ML, Mig-27, Q-5, Su-15, Su-17, Su-20, Su-22
 Notes: 1967. USSR. Brk turn 4g/ flare. (20g, 33g), Max AOA 16°, gmb limit 25°, trkg rate 12.5°/sec, FOV 2°, 35 sec. Seeker Front 1-(1) nm, Rear **2-(2.8)**.

AA-6A Acrid

Guidance: **SARH**
 Range Front: **8 - 20 nm**
 Range Rear: 4 - 8 nm
 Chaff Effect: High
 Max Target g: 6
 Max Vel.(mach): **3.1** (2,050 kts)

Names: R-40RD
 Aircraft: Mig-25
 Notes: 1970. USSR. Brk turn 7g, chaff, beam. Low maneuverability. Weak radar past 10nm. (15g), Max AOA 27° 16°, gimbal limit 55°, tracking rate 18°/sec, FOV 8°, 75 sec.

AA-6B Acrid

Guidance: **IR Rear Aspect**
 Range Front: 5 - (5.5) nm
 Range Rear: **4 - 6 nm**
 Flare Effect: Medium
 Max Target g: 6
 Max Vel.(mach): **3.0** (1,984 kts)

Names: R-40TD
 Aircraft: Mig-25, Mig-31
 Notes: 1970. USSR. Break turn 7g, flare. Low maneuver. (15g), Max AOA 16°, gmb limit 25°, trkg rate 16°/sec, FOV 3°, 65 sec. Seeker Front 5-(5.5)nm, Rear **11.3-(13.3)nm**.

AA-7A Apex

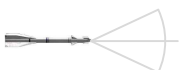
Guidance: **SARH**
 Range Front: **12 - 16 nm**
 Range Rear: 6 - 8 nm
 Chaff Effect: High
 Max Target g: 7
 Max Vel.(mach): **3.2** (2,117 kts)

Names: R-23R, Object 340, AA-7A
 Aircraft: Mig-23ML, Mig-25
 Notes: 1974. USSR. Break turn 8g, chaff, beam. Low sensitivity seeker. Low maneuver. Loses speed rapidly in turns. (21g), Max AOA 16°, gimbal limit 55°, tracking rate 18°/sec, FOV 8°, 45 sec. Similar to the AIM-7.

AA-7B Apex

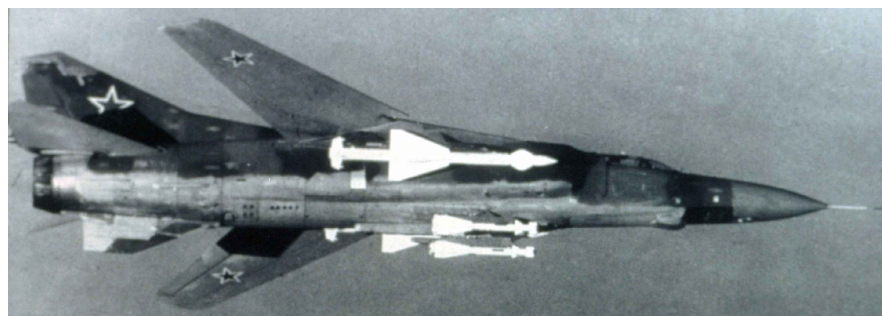
Guidance: **IR Rear Aspect**
 Range Front: 2.8 - (3) nm
 Range Rear: **4 - 5 nm**
 Flare Effect: Medium
 Max Target g: 7
 Max Vel.(mach): **2.9** (1,918 kts)

Names: R-23T, Object 360, AA-7B
 Aircraft: Mig-23ML, Mig-25, Mig-27
 Notes: 1974. USSR. Break turn 4g, flare. Low maneuverability. Loses speed rapidly in turns. (21g), Max AOA 16°, gimbal limit 25°, tracking rate 16°/sec, FOV 3°, 45 sec. Seeker Front 2.8-(3)nm, Rear **6.8-(8)nm**.

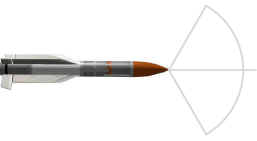
AA-8 Aphid

Guidance: **IR all aspect** (R-60)
 Range Front: 1 - (1.2) nm
 Range Rear: **2 nm**
 Flare Effect: Low
 Max Target g: 10
 Max Vel.(mach): **2.9** (1,918 kts)

Aircraft: G-4, J-11, Mig-21Mbis/MF/PFM/-93, Mig-23ML, -25, -27, -29A/ G/ M/ S, Mig-31, Su-17, -20, -22, -24M, -25, -27/UB, -39
 Notes: 1974. USSR. Head on break turn 9g, flare. Minor IRCCM. (30g), AOA 29° 17°, gmb limit 20°, tkg 35°/sec, FOV 3°, 23 sec. Seeker Front 1-(1.2)nm, Rear **2.8-(3.4)nm**.



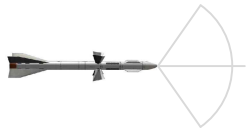
AA-9 Amos



Guidance: SARH
 Range Front: 20 - 40 nm
 Range Rear: 6 - 9 nm
 Chaff Effect: Medium
 Max Target g: 4
 Max Vel.(mach): 3.6 (2,400 kts)

Names: R-33
 Aircraft: Mig-31
 Notes: 1981. USSR. Break turn 5g, chaff, beam, weaving, dive and climb. Low maneuverability. (15g), Max AOA 13°, gimbal limit 60°, tracking rate 25°/sec, FOV 10°, 130 sec. Easy to break the Mig-31 radar lock over 14nm.

AA-10A Alamo



Guidance: SARH
 Range Front: 11 - 18 nm
 Range Rear: 4 - 7 nm
 Chaff Effect: Med
 Max Target g: 9
 Max Vel.(mach): 3.4 2/3.4 10/1.4 15/.83

Names: R-27R
 Aircraft: Jaguar, J-8, Mig-21-93, Mig-29A/ G/ M/ S, Su-27/ UB, Su-30M/ MKK, Su-32, Su-33, Su-35, Su-37
 Notes: 1983. USSR. Break turn 9g, chaff, beam x>15nm, weaving, dive & climb. Loses speed quickly in turns. (26g), Max AOA 20°, gmbl lmt 55°, trkg rate 25°/sec, FOV 8°, 55 sec.

AA-10B Alamo



Guidance: IR all aspect
 Range Front: 3.1 nm
 Range Rear: 5 - 7 nm
 Flare Effect: Low
 Max Target g: 9
 Max Vel.(mach): 3.1 (2,050 kts)

Names: R-27T
 Aircraft: J-8/B/C/D, J-11, Mig-29G/ M, Mig-31, Su-27/UB, Su-30M/ MKK, Su-33, Su-34, Su-35, Su-37
 Notes: 1983. USSR. Brk turn 9g, 4-5 flares. IRCCM. (26g), Max AOA 20°, gmbl lmt 40°, trkg rate 22°/sec, FOV 3°, 55 sec. Seeker Front 3.1-(3.1)nm, Rear 6.8-(8.1)nm.

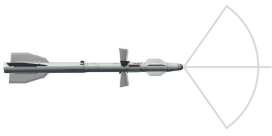
AA-10C Alamo



Guidance: SARH
 Range Front: 15 - 25 nm
 Range Rear: 8 - 10 nm
 Chaff Effect: Med
 Max Target g: 9
 Max Vel.(mach): 3.9 (2,579 kts)

Names: R-27ER
 Aircraft: J-11, Mig-31, Su-27/ UB, Su-30M/ MKK, Su-33, Su-34, Su-35, Su-37
 Notes: 1983. USSR. Brk turn 9g, chaff, beam x>15nm, weave, dive & climb. (26g), Max AOA 20°, gmbl limit 55°, trkg rate 25°/sec, FOV 8°, 60 sec. Min. 1.2nm.

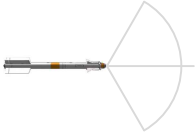
AA-10D Alamo



Guidance: IR all aspect
 Range Front: 4.5 - (4.9) nm
 Range Rear: 8 - 10 nm
 Flare Effect: Low
 Max Target g: 9
 Max Vel.(mach): 3.6 (2,381 kts)

Names: R-27ET
 Aircraft: J-11, Su-27/ UB, Su-30M/ MKK, Su-33, Su-34, Su-35, Su-37
 Notes: 1983. USSR. Break turn 9g, 4-5flares. IRCCM. (26g), Max AOA 20°, 26°, gimbal limit 55°, trkg rate 25°/sec, FOV 8°, 60 sec. Skr Frnt 4.5-(4.9)nm, Rr 9.5-(11.2)nm.

AA-11 Archer



Guidance: IR all aspect
 Range Front: 3.2 - (3.4)nm
 Range Rear: 5 - 6 nm
 Flare Effect: Very Low
 Max Target g: 12
 Max Vel.(mach): 3.0 (1,984 kts)

Names: R-73
 Aircraft: J-11, Ka-50, Mi-24, -28, Mig-29A/G/M/S, Mig-31, Su-27/ UB, Su-30M/ MKK, Su-33, -34, -35, -37, -39
 Notes: 1984. USSR. Hd on, high spd, no AB brk turn. TVC. IRCCM. HMCS. (45g), Max AOA 56°, 25°, gmbl lmt 60°, trkg rate 60°/sec, FOV 3°, 40 sec. Seeker Front 3.2-(3.4), Rr 7.5-(9)nm.


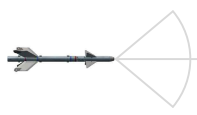



AA-12 Adder






Guidance: ARH
 Range Front: 14 - 23 nm
 Range Rear: 5 - 8 nm
 Chaff Effect: Very Low
 Max Target g: 11
 Max Vel.(mach): 4.2 10/2.0 15/1.3 20/0.6










Names: R-77, Amramski
 Aircraft: J-11, Mig-29S, Su-27/ UB, Su-30M/ MKK, Su-33, Su-34, Su-35, Su-37, Su-39
 Notes: 1994. USSR. HOJ. Break turn 9g, chaff, bm, weaving, dive & climb. Crank & pump. (35g), Max AOA 30°, gmbl limit 60°, tkg rate 40°/sec, FOV 10°, 70 sec, PB 8-13 nm.







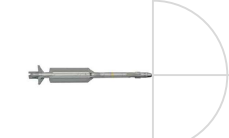
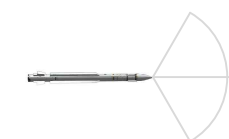
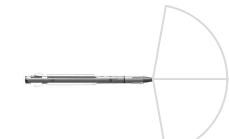
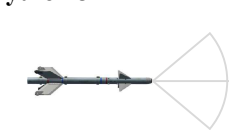
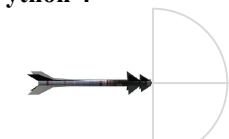
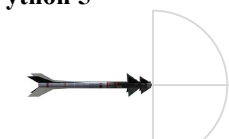
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| <p>PL-7 Thunderbolt</p>  | <p>Guidance: IR Rear Aspect Range Front: 1.1 Range Rear: 2.9 - (3.4) nm Flare Effect: Very High Max Target g: 9 Max Vel.(mach): 2.8 (1,852 kts)</p> | <p>Names: N/A Aircraft: Chengdu J-7G, J-8I, Q-5 Notes: ~1982. PLAAF. Break turn 9g, flare. (30g), Max AOA 21°, gimbal limit 45°, tracking rate 16.5°/sec, FOV 3°, 27 sec. Reverse engineered R550 Magic I but not as good. Seeker front 1.1-(1.1)nm, rear 2.9-(3.4)nm.</p> |
| <p>PL-8 Thunderbolt</p>  | <p>Guidance: IR All Aspect Range Front: 3.4 nm Range Rear: 3 - 5 nm Flare Effect: Medium Max Target g: 9 Max Vel.(mach): 2.5 (1,654 kts)</p> | <p>Names: Licensed copy of Python-3 Aircraft: Chengdu J-7G, J-8I, J-15 Notes: ~1988. PLAAF. Break turn, flare. Rudimentary IRCCM. Bleeds speed in high g maneuver. (35g), Max AOA 20°, gimbal limit 40°, tracking rate 22°/sec, FOV 3°, 35 sec. IR seeker Front 3.4-(3.4)nm, Rear 7.4-(8.9)nm.</p> |
| <p>PL-10 Thunderbolt</p>  | <p>Guidance: IR All Aspect Range Front: 4.2 - (4.5) nm Range Rear: 5 - 7 nm Flare Effect: Very Low Max Target g: 15 Max Vel.(mach): 3.3 (2,183 kts)</p> | <p>Names: Luoyang PL-ASR, Institute 612 Aircraft: J-15 Notes: 2008. PLAAF. IRCCM. LOAL N/I. (50g), Max AOA 35° 47°, gimbal limit 90°, tracking rate 90°/sec, FOV 3°, 35 sec. IR seeker Front 4.2-(4.5)nm, Rear 9.5-(11.4)nm. Unable to test, estimated ranges.</p> |
| <p>PL-12 Thunderbolt</p>  | <p>Guidance: ARH Range Front: 15 - 35 nm Range Rear: 10 - 12 nm Chaff Effect: Very Low Max Target g: 11 Max Vel.(mach): 3.8 10/2.8 15/2.2 20/1.6</p> | <p>Names: Pen Lung, Air Dragon, SD-10, Project 129 or R129 Aircraft: JH-7, J-8F, J-10, J-11B, J-15, JF-17 Notes: 2005. PLAAF. HOJ. Break turn 9g, chaff, bm, weaving, dive & climb. Crank & pump. (35g), Max AOA 30°, gmb limit 60°, tkg rate 40°/sec, FOV 10°, 80 sec, PB 8-13 nm. Self lofting.</p> |
| <p>PL-15 Thunderbolt</p>  | <p>Guidance: ARH Range Front: 15 - 35 nm Range Rear: 10 - 12 nm Chaff Effect: Very Low Max Target g: 11 Max Vel.(mach): 3.5 10/2.5 15/1.8 20/1.2</p> | <p>Names: Aerial Trident Aircraft: J-20 Notes: 2016. PLAAF. HOJ. Break AC rdr lock prior to term phase. Crank & pump. (35g), Max AOA 29°, gmb lmt 60°, tkg rate 40°/sec, FOV 15°, 120 sec. PB 9-14nm. Self lofting. Larger, heavier and a little slower than PL-12 in BMS.</p> |

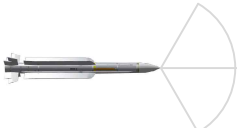
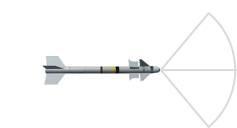






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| AIM-4C Falcon  | Guidance: IR Rear Aspect Range Front: N/A Range Rear: <u>1.1 nm</u> Flare Effect: Very High Max Target g: 3 Max Vel.(mach): 3.0 (1,984 kts) | Names: Falcon Aircraft: F-89H, F102, F-101, F-106, SAAB Draken Notes: USA. Break turn 5g, flares. (13g), Max AOA 15°, gimbal limit 20°, tracking rate 11°/sec, FOV 2°, 45 sec. |
| AIM-4D Falcon  | Guidance: IR All Aspect Range Front: <u>1.4 nm</u> Range Rear: 1.4 nm Flare Effect: Very High Max Target g: 4 Max Vel.(mach): 4.0 (2,646 kts) | Names: Falcon Aircraft: F-101, F-102, F-106, F-4J, SAAB Draken Notes: USA. Break turn 5g, flares. (15g), Max AOA 15°, gimbal limit 25°, tracking rate 12.5°/sec, FOV 2°, 50 sec. |
| AIM-4G Super Falcon  | Guidance: IR All Aspect Range Front: <u>1.4 nm</u> Range Rear: 1.4 nm Flare Effect: High Max Target g: 4 Max Vel.(mach): 4.0 (2,646 kts) | Names: Super Falcon, GAR-4A Aircraft: F-101, F-102, F-106, F-4J, SAAB Draken Notes: USA. Break turn 5g, flares. (15g), Max AOA 15°, gimbal limit 25°, tracking rate 12.5°/sec, FOV 2°, 60 sec. |
| AIM-7D Sparrow  | Guidance: SARH Range Front: <u>6 - 7 nm</u> Range Rear: 2 - 3 nm Chaff Effect: Low Max Target g: 5 Max Vel.(mach): 2.1 (1,389 kts) | Names: Sparrow, AAM-N-6a, AIM-101 Aircraft: F-4B/ C/ D/ J/ N/ S Notes: 1959. USA. Break turn 6g, chaff, beam, weaving, dive and climb. (15g), Max AOA 16°, gimbal limit 60°, tracking rate 25°/sec, FOV 7.8°, 100 sec. |
| AIM-7E Sparrow  | Guidance: SARH Range Front: <u>6 - 10 nm</u> Range Rear: 2 - 5 nm Chaff Effect: Very High Max Target g: 5 Max Vel.(mach): 3.0 (1,984 kts) | Names: Sparrow, AAM-N-6b Aircraft: F-4B/ C/ D/ J/ N/ S Notes: 1963. USA. Break turn 6g, chaff, beam, weaving, dive and climb.(20g), Max AOA 17°, gimbal limit 60°, tracking rate 25°/sec, FOV 7.8°, 100 sec. Bad performance 10% PK. |
| AIM-7E-2 Sea Sparrow  | Guidance: SARH Range Front: <u>10 - 15 nm</u> Range Rear: 3 - 5 nm Chaff Effect: Very High Max Target g: 7 Max Vel.(mach): 3.3 (2,183 kts) 10/1.5 | Names: RIM-7E Sea Sparrow Ships: Basic Point Defense Missile System for ships, F-4B/ C/ D/ EJ/ E-IAF/ J/ K/ M/ N/ S Notes: 1969. USN. Break turn 8g, chaff, beam, weaving, dive and climb.(23g), Max AOA 17°, gimbal limit 60°, tracking rate 25°/sec, FOV 7.8°, 100 sec. 13% PK. |
| AIM-7F Sparrow  | Guidance: SARH Range Front: <u>12 - 17 nm</u> Range Rear: 4 - 5 nm Chaff Effect: High Max Target g: 7 Max Vel.(mach): 3.5 (2,315 kts) | Names: Sparrow Aircraft: CF/A-18, F-15A, F-16C30 IAF, F-16-C32EAF, F/A-18A/ B/ C/ D/ E. Notes: 1976. USA. Break turn 7g, chaff, beam, weaving, dive and climb. 24nm shots but low PK. Low energy >9nm. (23g), Max AOA 17°, GL 60°, 25°/sec, FOV 7.8°, 75s. |
| AIM-7M Sparrow  | Guidance: SARH Range Front: <u>11 - 18 nm</u> Range Rear: 6 - 8 nm Chaff Effect: High Max Target g: 7 Max Vel.(mach): 3.5 10/2.4 15/1.3 | Names: Sparrow Aircraft: CF/A-18, F-4D/ E/ EJ/ F/ G, F-14A/ B/ D, F-15A/ C/ D/ E/ J, F-16A15/ C25/ C30/ C32, F/A-18A/ B/ C/ D/ E Notes: 1982. USA. Break turn 7g, chaff, beam, weaving, dive and climb. (23g), Max AOA 17°, gimbal limit 60°, tracking rate 25°/sec, FOV 7.8°, 75 sec. |
| AIM-9B Sidewinder  | Guidance: IR Rear Aspect Range Front: 1.4 nm Range Rear: <u>2 - 3 nm</u> Flare Effect: Very High Max Target g: 5 Max Vel.(mach): 2.6 (1,733 kts) | Names: GAR-8, AAM-N-7 Sidewinder IA, Aircraft: F-4, F-8E, F-104C/ DJ/ G/ J, F-105D, Mirage IIIIE Notes: 1956. USA. Break turn 5g, flare. No ground clutter recognition. No night time trkg. (12g, 23g), Max AOA 14°, 15°, gimbal limit 25°, tracking rate 11°/sec, FOV 2.5°, 20 sec. Seeker front 1.4-(1.4)nm, rear 3.7-(4.5)nm . |
| AIM-9D Sidewinder  | Guidance: IR Rear Aspect Range Front: 1.8 - (2) nm Range Rear: <u>2 - 3 nm</u> Flare Effect: Very High Max Target g: 7 Max Vel.(mach): 2.9 (1,918 kts) | Names: AAM-N-7 Sidewinder IC (IR) Aircraft: Navy only, F-4B/ J/ M/ N/ S, F-8E, F-104 DJ/ J/ M Notes: 1965-1969. USN. Break turn 8g, flare. Better ground clutter recognition. (15g, 25g), Max AOA 16°, gimbal limit 30°, tracking rate 12°/sec, FOV 2.5°, 40 sec. Seeker front 1.8-(2)nm, rear 4.4 - (5.4)nm . |

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|  <p>AIM-9E Sidewinder</p> | <p>Guidance: IR Rear Aspect Range Front: 1.8 nm Range Rear: 2.5 nm Flare Effect: Very High Max Target g: 6 Max Vel.(mach): 2.5 (1,654 kts)</p> | <p>Names: Sidewinder Aircraft: Airforce aircraft, F-4C/ D, F-104DJ/ J Notes: 1969, 1972. USAF. Break turn 5g, flare. Easy to evade. (15g), Max AOA 16°, gimbal limit 25°, tracking rate 16.5°/sec, FOV 4°, 20 sec. Seeker Front 1.8-(1.8)nm, Rear 3.6-(4.4)nm.</p> |
|  <p>AIM-9G Sidewinder</p> | <p>Guidance: IR Rear Aspect Range Front: 1.8 nm Range Rear: 3 nm Flare Effect: Very High Max Target g: 6 Max Vel.(mach): 2.5 (1,654 kts)</p> | <p>Names: Sidewinder Aircraft: Navy aircraft, F-4B/ J/ M/ N/ S, F-8E Notes: 1970. USN. Break turn 7g, flare. (15g, 28g), Max AOA 16°, gimbal limit 30°, tracking rate 12°/sec, FOV 2.5°, 40 sec. Seeker Front 1.8-(1.8)nm, Rear 3.6-(4.4)nm. Unable to test, estimated ranges.</p> |
|  <p>AIM-9H Sidewinder</p> | <p>Guidance: IR Rear Aspect Range Front: 1.2 nm Range Rear: 3.5 nm Flare Effect: Very High Max Target g: 7 Max Vel.(mach): 2.8 (1,852 kts)</p> | <p>Names: Sidewinder Aircraft: Navy only: CF/A-18, F-4B/ J/ N/ S, F-8E, F/A-18A/ B Notes: 1972-1974. Break turn 8g, flare. (18g, 32g), Max AOA 18°, gimbal limit 30°, tracking rate 15°/sec, FOV 2.5°, 40 sec. Seeker Front 1.2-(1.2)nm, Rear 5.6-(7.3)nm.</p> |
|  <p>AIM-9J Sidewinder</p> | <p>Guidance: IR Rear Aspect Range Front: 1.4 nm Range Rear: 2 - 2.5 nm Flare Effect: Very High Max Target g: 8 Max Vel.(mach): 2.6 (1,733 kts)</p> | <p>Names: Sidewinder Aircraft: A-4E/ PTM/ SU, CF/A-18, F-4C/ D, F/A-18A/ B Notes: 1972. USA. Break turn 8g, flare. Easy to evade. (18g, 27g), Max AOA 16°, gimbal limit 25°, tracking rate 16.5°/sec, FOV 3°, 40 sec. Seeker Front 1.4-(1.4)nm, Rear 3.7-(4.5)nm.</p> |
|  <p>AIM-9M Sidewinder</p> | <p>Guidance: IR All Aspect Range Front: 3 - (3.2) nm Range Rear: 5 - 6 nm Flare Effect: Low Max Target g: 12 Max Vel.(mach): 3.2 (2,134 kts)</p> | <p>Aircraft: A-4E/ PTM/ M/ SU, A-7D/ E, A-10, AJ 37, AMX, AV-8B, CF/A-18, F-4D/ E/ EJ/ F/ G/ K, F-5A/ E, F-14, F-15, F-16, F/A-18, F-111C/ G, JA 37, Jaguar GR3 GAF, Tornado Notes: 1983. USA. Brk 9g, flare. IRCCM. Smokeless. (30g), Max AOA 30° 20°, gimbal limit 40°, tkg rate 25°/sec, FOV 3°, 40 sec. Seeker range Front 3-(3.2)nm, Rear 6.8-(8.1)nm.</p> |
|  <p>AIM-9P Sidewinder</p> | <p>Guidance: IR Rear Aspect Range Front: 0.5 - (1) nm Range Rear: 2.3 - (2.8) nm Flare Effect: High Max Target g: 9 Max Vel.(mach): 2.3 (1,520 kts)</p> | <p>Names: Sidewinder Aircraft: A-4E/ PTM/ M/ SU, A-7D/ E, A-10, CF/A-18, F-4D/ E/ F/ G, F-5A/ E, F-14, F-15, F-16, F/A-18, F-104DJ/ J Notes: 1978. USA. Break turn 9g, flare. (25g), Max AOA 17°, 30°, gimbal limit 40°, tracking rate 16.5°/sec, FOV 3°, 40 sec. IR seeker Front 0.5-(1)nm, Rear 2.3-(2.8)nm.</p> |
|  <p>AIM-9X Sidewinder</p> | <p>Guidance: IR All Aspect Range Front: 4.2 - (4.5) nm Range Rear: 5 - 7 nm Flare Effect: Very Low Max Target g: 13 Max Vel.(mach): 3.3 (2,183 kts)</p> | <p>Names: Sidewinder Aircraft: CF/A-18, F-15C/ D/ E/ J/ K, F-16AM MLU/ C/ D, F/A-18C/ D/ E/ F Notes: 2004. USA. IRCCM. LOAL. (40g), Max AOA 51°, 35°, gimbal limit 90°, tracking rate 90°/sec, FOV 4°, 40 sec. IR seeker Front 4.2-(4.5)nm, Rear 9.5-(11.4)nm.</p> |
|  <p>AIM-54A Phoenix</p> | <p>Guidance: ARH Range Front: 20 - 50 nm Range Rear: 12 - 16 nm Chaff Effect: Very Low Max Target g: 7 Max Vel.(mach): 4.0 10/4 20/3.2 30/2.5</p> | <p>Names: Phoenix Aircraft: F-14A/ B/ D Notes: 1974. USA. HOJ. Break turn 8g, chaff, beam, weaving, dive and climb. (17g), Max AOA 15°, gimbal limit 60°, tracking rate 25°/sec, FOV 10°, 150 sec. PB 17-21nm. Self lofting.</p> |
|  <p>AIM-54C Phoenix</p> | <p>Guidance: ARH Range Front: 20 - 50 nm Range Rear: 12 - 16 nm Chaff Effect: Very Low Max Target g: 7 Max Vel.(mach): 4.0 10/4 20/3.2 30/2.5</p> | <p>Names: Phoenix Aircraft: F-14A/ B/ D Notes: 1986. USA. HOJ. Break turn 8g, chaff, beam, weaving, dive and climb. (17g), Max AOA 15°, gimbal limit 60°, tracking rate 25°/sec, FOV 10°, 150 sec. PB 20-24nm. Self lofting.</p> |



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| AIM-120B AMRAAM  | Guidance: ARH Range Front: 17 - 30 nm Range Rear: 12 - 16 nm Chaff Effect: Very Low Max Target g: Max Vel.(mach): 3.3 10/2.6 15/2.0 20/1.2 | Names: Slammer Aircraft: AJ 37, CF/A-18, F-15C/ D/ E/ I/ J/ , F-16, F/A-18, JA 37, Tornado F3 Notes: 1994. USA. HOJ. Break AC radar lock prior to terminal phase. Crank & pump. (35g), AOA 27°, gmb lmt 60°, tkg rate 40°/sec, FOV 15°, 80 sec. PB 8-13nm . Lofted numbers. |
| AIM-120C AMRAAM  | Guidance: ARH Range Front: 17 - 30 nm Range Rear: 12 - 16 nm Chaff Effect: Very Low Max Target g: Max Vel.(mach): 3.5 10/3.0 15/2.1 20/1.2 | Names: Slammer Aircraft: Eurofighter GAF, F-15C/ D/ I/ J/ K, F-16AM MLU RDAF/ C/ D, F/A-18, F-22, KF16C52, Tornado F3, Typhoon FGR.4 Notes: 1996. USA. HOJ. Break AC rdr lock prior to term phase. Crank & pump. (35g), Max AOA 29°, gmb lmt 60°, tkg rate 40°/sec, FOV 15°, 120 sec. PB 9-14nm . Lofted numbers. |
| AIM-132 ASRAAM  | Guidance: IR All Aspect Range Front: 4.1 - (4.3) nm Range Rear: 6 - 8 nm Flare Effect: Very Low Max Target g: 15 Max Vel.(mach): 3.5 (2,315 kts) | Names: Advanced Short Range Air to Air Missile Aircraft: Tornado F3/ GR4, Typhoon FGR.4 Notes: 1998. RAF, RAAF. IRCCM. LOAL N/I . (50g), Max AOA 35° 47°, gimbal limit 90°, tracking rate 90°/sec, FOV 3°, 40 sec. IR seeker Front 4.1-(4.3)nm, Rear 8.8-(11.2)nm . |
| BVRAAM Meteor  | Guidance: ARH Range Front: 75 - 80 nm Range Rear: 40 - 45 nm Chaff Effect: Very Low Max Target g: Max Vel.(mach): 4.2 (2,800 kts) | Names: Meteor Aircraft: Eurofighter GAF, F-35 (2024), Gripen, Rafale, Typhoon FGR.4 Notes: 2016. ECCM. HOJ. LOAL N/I . (28g), Max AOA 20°, gimbal limit 60°, tracking rate 40°/sec, FOV 40°, 120 sec, PB 20 - 24nm . |
| IRIS T  | Guidance: IR All Aspect Range Front: 4.2 - 4.6 nm Range Rear: 5 nm Flare Effect: Very Low Max Target g: Max Vel.(mach): 2.4 (1,588 kts) | Names: IRIS T Aircraft: Eurofighter GAF, F-16AM MLU RDAF, F16C52+PXII/ III/ IV, Tornado IDS GAF Notes: 2005. GAF. IRCCM. TVC. HMCS. LOAL . (50g), Max AOA 35°, 52°, gimbal limit 90°, tracking rate 90°/sec, FOV 3°, 35 sec. IR seeker range Front 4.2-(4.6), Rear 9.5-(11.2)nm . |
| Mica EM  | Guidance: ARH Range Front: 14 - 22 nm Range Rear: 6 - 8 nm Chaff Effect: Very Low Max Target g: 13 Max Vel.(mach): 3.9 5/3.2 10/2.0 15/1.0 | Names: Mica RF Aircraft: Mirage 2000F/ EGM Notes: 2007. FAF. 360° launch envelope. HOJ. Link 16 targeting. LOAL , ECCM, TVC, HMCS. (40g), Max AOA 30°, gimbal limit 60°, tracking rate 40°/sec, FOV 10°, 65 sec. PB 7nm . |
| Mica IR  | Guidance: IR All Aspect Range Front: 14 - 22 nm Range Rear: 6 - 8 nm Flare Effect: Very Low Max Target g: 13 Max Vel.(mach): 3.8 (2,514 kts) | Names: Mica Aircraft: Mirage 2000F/ 9/ D/ EGM, Rafale C Notes: 2007. FAF. 360° launch envelope. Link 16 targeting. ~ LOAL , IRCCM, TVC, HMCS. (40g), Max AOA 43°, 30°, gimbal limit 80°, tracking rate 40°/sec, FOV 10°, 65 sec. IR seeker Front 5.1-(5.3), Rear 11.4-(13.4) . |
| Python 3  | Guidance: IR All Aspect Range Front: 1.1 - (1.2) nm Range Rear: 2.7 - (3.4) nm Flare Effect: Very High Max Target g: Max Vel.(mach): 2.7 (1,786 kts) | Names: Python-3 Aircraft: F-15C Baz IDF, F-15I Ra'am IDF Notes: 1985. IAF. (35g), Max AOA 20°, 26°, gimbal limit 40°, tracking rate 25°/sec, FOV 3°, 40 sec. Seeker range Front 1.1-(1.2)nm, Rear 2.7-(3.4)nm . |
| Python 4  | Guidance: IR All Aspect Range Front: 3.4 - (3.8) nm Range Rear: 5 - 7 nm Flare Effect: Low Max Target g: Max Vel.(mach): 3.3 (2,183 kts) | Names: Python-4 Aircraft: F-15C Baz IDF, F-15I Ra'am IDF, F-16C-30 IAF/ D-30 IAF/ C-40 IAF/ D-40 IAF, F-16I-52-CFT Notes: 1990. IAF. IRCCM. HMCS. (50g), Max AOA 30°, gimbal limit 90°, tracking rate 90°/sec, FOV 4°, 30 sec. IR seeker Front 3.4-(3.8)nm, Rear 7.3-(9.7)nm . |
| Python 5  | Guidance: IR All Aspect Range Front: 4.6 - (4.7) nm Range Rear: 5 - 7 nm Flare Effect: Very Low Max Target g: Max Vel.(mach): 3.3 (2,183 kts) | Names: Python-5 Aircraft: F-15C Baz IDF, F-15I Ra'am IDF, F-16C-30 IAF/ D-30 IAF/ C-40 IAF/ D-40 IAF, F-16I-52-CFT Notes: 2003. IAF. IRCCM. HMCS. LOAL . (50g), Max AOA 30°, gimbal limit 90°, tracking rate 90°/sec, FOV 4°, 45 sec. IR seeker Front 4.6-(4.7)nm, Rear 10.1-(12)nm . |

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|  <p>R.530D Super Matra</p> | <p>Guidance: SARH Range Front: 20 - 25 nm Range Rear: 6 - 10 nm Chaff Effect: Max Target g: 13 Max Vel.(mach): 3.8 (2,513 kts)</p> | <p>Names: Super Matra Aircraft: Mirage 2000C, Mirage F1 Notes: 1988. FAF. ECCM. (23g), Max AOA 17°, gimbal limit 60°, tracking rate 25°/sec, FOV 7.8°, 100 sec. Limited by supporting AC radar. Hard to keep lock over 10 nm.</p> |
|  <p>R.550 Magic</p> | <p>Guidance: IR All Aspect Range Front: 3.3 - (3.8) nm Range Rear: 3 - 4 nm Flare Effect: High Max Target g: Max Vel.(mach): 2.6 (1,178 kts)</p> | <p>Names: R550 Magic. Aircraft: Jaguar A, MB-339, Mirage IIIE/ F-1 Notes: 1975. FAF. (35g), Max AOA 23°, 35°, gimbal limit 50°, tracking rate 25°/sec, FOV 3°, 30 sec. IR seeker Front 3.3-(3.8)nm, Rear 7.4-(8.9)nm.</p> |
|  <p>R.550 Magic II</p> | <p>Guidance: IR All Aspect Range Front: 3.2 - (3.4) nm Range Rear: 3 - 4 nm Flare Effect: Low Max Target g: Max Vel.(mach): 2.9 (1,918 kts)</p> | <p>Names: R550 Magic II. Aircraft: Jaguar A, Mirage 2000C/ D/ 5F/ EGM/ N, Mirage F-1 Notes: 1986. FAF. (35g), Max AOA 23°, 35°, gimbal limit 70°, tracking rate 25°/sec, FOV 3°, 30 sec. IR seeker Front 3.2-(3.4)nm, Rear 6.7-(8.1)nm.</p> |
|  <p>Skyflash</p> | <p>Guidance: SARH Range Front: 10 - 17 nm Range Rear: 4 - 7 nm Chaff Effect: Medium Max Target g: 7 Max Vel.(mach): 4.0 10/1.58 15/1.03</p> | <p>Names: Skyflash Aircraft: AJ 37, EF-2000 RAF, F-4K/ M, JA 37, Tornado ADV Notes: 1978. RAF. (23g), Max AOA 17°, gimbal limit 60°, tracking rate 25°/sec, FOV 7.8°, 100 sec. Maneuver to break lock of launching AC.</p> |
|  <p>Tien Chien I</p> | <p>Guidance: IR All Aspect Range Front: 2.8 - (3.0) nm Range Rear: 4 - 5 nm Flare Effect: Low Max Target g: 12 Max Vel.(mach): 2.9 (1,918 kts)</p> | <p>Names: Sky Sword I, TC-1 Aircraft: F-CK-1C/ D Notes: 1993. ROCAF. Brk 9g, flare. IRCCM. Smokeless. (30g), Max AOA 30° 20°, gimbal limit 40°, tkg rate 25°/sec, FOV 3°, 40 sec. Seeker range Front 2.8-(3.0)nm, Rear 6.7-(8.1)nm.</p> |
|  <p>Tien Chien II</p> | <p>Guidance: ARH Range Front: 17 - 30 nm Range Rear: 12 - 16 nm Chaff Effect: Very Low Max Target g: Max Vel.(mach): 3.3 10/2.6 15/2.0 20/1.2</p> | <p>Names: Sky Sword II, TC-2 Aircraft: F-CK-1C/ D Notes: 1999. ROCAF. HOJ. ECCM. Break AC radar lock prior to terminal phase. Crank & pump. (35g), AOA 27°, gmb lmt 60°, tkg rate 40°/sec, FOV 15°, 80 sec. PB 8-13nm. Lofted numbers.</p> |



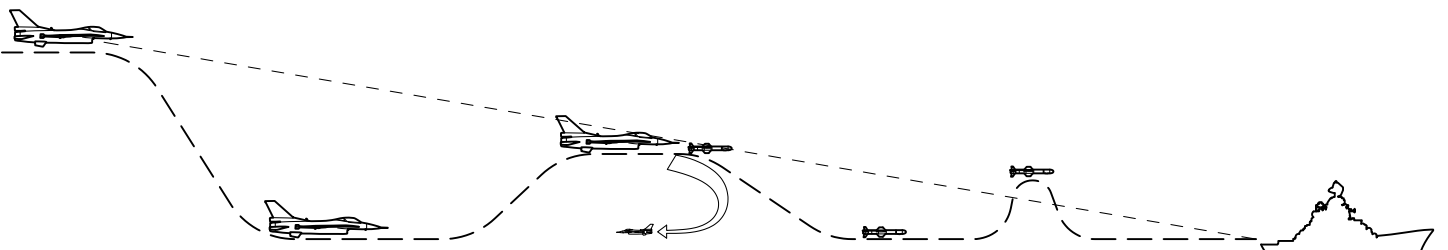
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General Notes

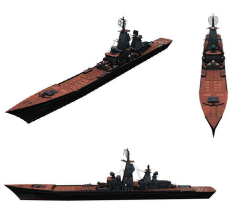
- Statistics for ships focus on their anti aircraft capabilities.
- Items that are in gray are not implemented in BMS.
- Modern ships, especially guided missile type ships, can be extremely dangerous for aircraft. Stay out of their engagement zones.
- CIWS systems are capable of destroying missiles N/I in BMS.
- #x Indicates number of launching systems, not the amount of ammunition or individual weapons in the system. One launching system could have 2 guns on a turret or 4 tubes for launching missiles for example. If the launching system can launch different types of missiles such as Harpoons, Tomahawks and Standards then the total number of systems will be in the notes.
- Generally, a ship radar's blind zone gets higher the further one gets from the ship.
- Attack ships by staying low to the surface and use pop up attacks with long range anti-ship weapons such as the Harpoon.
- Knots are equal to nautical miles per hour. So a ship that can do 24 knots can move 24 nm in 1 hour.
- Increase ship threat ring sizes by approximately 25nm to compensate for possible ship movement in 1 hour.

Abbreviations


| | |
|------|---|
| AA | Anti Aircraft |
| AAA | Anti Aircraft Artillery |
| ABM | Anti Ballistic Missile |
| AC | Aircraft |
| ASub | Anti Submarine |
| BB | Battleship |
| CIWS | Close-in Weapon System |
| CG | Cruiser Guided Missile |
| CVN | Carrier Fixed Wing Aircraft Nuclear |
| DDG | Guided Missile Destroyer |
| FC | Fire Control |
| FF | Frigate |
| FFG | Guided Missile Frigate |
| FIIA | Flight IIA ship version |
| FLIR | Foward Looking Infrared |
| GMLS | Guided Missile Launching System |
| JMDS | Japanese Maritime Self Defense Force(Japan) |
| KPN | Korean People's Navy (North Korea) |
| LAM | Land Attack Missile |
| LT | Launch Time, time between launches |
| PLAN | Peoples Liberation Army Navy (China) |
| RKN | Republic of Korea Navy (South Korea) |
| SA | Search and Acquisition |
| SAG | Surface Action Group |
| SAM | Surface to Air Missile |
| SSM | Surface to Ship Missile |
| SSG | Surface to Surface Gun |
| UAV | Unmanned Aerial Vehicle |
| USN | United States Navy (USA) |
| USSR | Rusion Navy/ Voyenno-Morskoi Flot (VMF) |
| VLS | Guided Missile Vertical Launching System |




Kirov ☞ Tracking: SAM: [Top Pair \(MR-800\)](#), [Top Dome](#) Type: Guided Missile Cruiser
 CIWS: [Bass Tilt \(MR-123\)](#) ECM BT Range: No Effect
 Rdr Lock Range: SAM: FC: 26 nm SA: 57nm (120nm) Chaff Vuln.: Very Low
 CIWS: FC: 0 nm Bands (System): SA:C/D/E/F FC: J CIWS: K
 Min Range: SAM: 0.8 nm / 6/0, 11/50, 14/100, 16/200 Targets: 3
 Typical Engagement: SAM: [23 nm / 35,000 ft](#) SA-N-6 Weapons: SSM: 20x SS-N-19 Shipwreck
 Max Range: SAM: 48 nm / 290,000 ft SAM: 12x SA-N-6 Grumble
 Typical Engagement: SAM: [4 nm / 16,000 ft](#) SA-N-4 SAM: 2x SA-N-4 Gecko
 Notes: 1980. USSR. No launch warning. No smoke. Names: Pyotr Velikiy. AAA: 2x AK-100 100mm flak
 Evade missiles by getting below radar. Max range SA-N-4 9nm. CIWS: 8x AK-630 30mm
 SA-N-4 similar to SA-8. Top Dome Volna 3R41 naval version of Flap ASub: SS-N-14/15or10xType53,
 Lid 36N85. SA-N-6 similar to SA-10. 2x PK-2 decoy disp. 3x helo. 2x RBU-1000, 1x RBU-12000



Kuznetsov ☞ Tracking: SAM: [3R95 Cross Swords](#) Type: Aircraft Carrier/ Cruiser
 CIWS: [Bass Tilt \(MR-123\)](#) ECM BT Range: No Effect
 Rdr Lock Range: SAM: FC: 9 nm SA: 57nm Chaff Vuln.: Very Low
 CIWS: FC: 2.7 nm Bands (System): SA: G FC: K CIWS: K
 Min Range: SAM: 0.5 nm / 35 ft Targets: 4
 Typical Engagement: SAM: [6.5 nm / 20,000 ft](#) SA-N-9 Weapons: SSM: 12x SS-N-19 Shipwreck
 Max Range: SAM: 7 nm / 42,500 ft SAM: 24x SA-N-9 Gauntlet aka
 CIWS: [2.7nm / 10,000 ft](#) 3K95 Kinzhal
 Notes: 1995. USSR. Aircraft 33 + 12 helo. BMS unlimited AC. 3R95 has SAM: 8x SA-N-11 Grison 9M311
 secondary IR guidance. CIWS: 8x GSh-30 30mm
 CIWS: 6x AK-630 30mm
 ASub: 1x Udav-1




Osa II Tracking: SSM: Square Tie (MR-331 Rangout) Type: Missile Boat
 CIWS: Drum Tilt (MR-104)/ Optical ECM BT Range: No Effect
 Rdr Range: SSM: FC: 40 nm Chaff Vuln.: No Effect
 CIWS: FC: 12 nm Bands (System): I
 Min Range: SAM: None Targets: 1
 Typical Engagement: SAM: None Weapons: SSM: 4x SS-N-2 Styx (P-15U)
 Max Range: SAM: None CIWS: 2nm CIWS: 2x AK-230 30mm
 Notes: 1960. USSR. AK-230 CIWS gun at fore and aft with 2x 30mm guns each. Anti ship missiles only
 no SAM. CIWS Doesn't shoot or use radar. This ship is no threat to BMS AC.



Sovremenny ☞ Tracking: SAM: [Top Plate](#), [6x Font Dome\(MR-90\)](#) Type: Guided Missile Destroyer
 CIWS: [2x Bass Tilt \(MR-123\)](#) ECM BT Range: No Effect
 Rdr Range: SAM: FC: Chaff Vuln.: Very Low
 CIWS: FC: 2 nm Bands (System): SA:D/E FC:H/I CIWS: K
 Min Range: SAM: 1.6 nm / 140 ft launch / 50 ft trk Targets: 4 (40)
 Typical Engagement: SAM: [16.5 nm / 112,000 ft](#) * SA-N-7 Weapons: SSM: 2x SS-N-22 Sunburn
 Max Range: SAM: 18.5 nm / 112,000 ft SAM: 2x SA-N-7 Gadfly
 CIWS: 2nm SSG: 4x AK-130 130mm
 Notes: 1980. USSR. Launch warning. Smoke. ECM, decoys. 1x Helo. In CIWS: 4x AK-630 30mm
 Kuznetsov CSG. Names: Nastoychivyy, Admiral Ushakov, ASub: 2x 533mm torpedos, 2x
 Gremyashchiy, Bystryy. PLAN: CV-16 Liaoning CSG, Hangzhou, Fuzhou, Taizhou, Ningbo. * PLAN typical engagement is [12nm](#). RBU-1000 rockets



Type 053H3 CLS ☞ Tracking: SAM: [Type 360 \(SR60\)](#), [Type 345](#) Type: Frigate
 AAG: [Type 347 G/EFR-1\(Rice Lamp\)](#) ECM BT Range: No Effect
 Rdr Range: SAM: FC: 30 nm SA: 50 Chaff Vuln.: Low
 AAA: FC: 0 nm Bands (System): SA:E/F FC:J Guns: I
 Min Range: SAM: 0 nm / 0 ft Targets: 6
 Typical Engagement: SAM: [8 nm / 15,000 ft](#) HQ-7 Weapons: SSM: 2x YJ-83
 Max Range: SAM: 8 nm / 20,000 ft SSG: 1x PJ33A 100mm
 AAA: 2.7 nm / 10,000 ft 37mm SAM: 1x HQ-7 (FM-80)
 Notes: 1996. PLAN. Jang Wei II. Launch warning. Smoke. ECM, decoys. AAA: 4x Type 76A 37mm
 Aircraft: Harbin Z-9C. Type 345 radar (MR-35). HQ-7 similar to ASUB: 2x 3200 ASW
 RIM-7. Beam, chaff. Beam, split-s turn away.



Belknap CLS



Tracking: SAM: [AN/SPS-48/ 49, AN/SPG-55](#)
 CIWS: Radar/ FLIR
 Rdr Range: SAM: FC: 100 nm SA: 100
 CIWS: FC: 0 nm
 Min Range: SAM: 3 nm / 50 ft 17/100, 25/300, 32/500
 Typical Engagement: SAM: [39 nm / 469,000 ft](#) SM-2ER
 Max Range: SAM: 117 nm / 469,000 ft
 CIWS: 2.7 nm / 10,000 ft
 Notes: 1964. USN. Smoke. No launch warning. ECM, decoys. 1x Helo.
 SM-2ER upgrade late 1980s. 1x Mk 10 GMLS. RIM-2 Terrier prior to
 1980s with 17nm range. Use pop up attack stay under radar.

Type: Guided Missile Cruiser CG
 ECM BT Range: No Effect
 Chaff Vuln.: Very Low
 Bands (System): SA:E/F/L FC:G/H/I/J Guns:Ku
 Targets: 6
 Weapons: AZ: 180 (180) EL: 90 (90)
 SSM: RGM-84 Harpoon
 SSG: 1x Mk 42 127mm
 SAM: RIM-67 SM-2ER
 CIWS: 2x Phalanx 20 mm
 ASub: 20x RUR-5 ASROC, 2x Mk 46

Burke CLS FIHA



Tracking: SAM: [AN/SPY-1D, AN/SPG-62](#)
 CIWS: Radar / FLIR
 Rdr Range: SAM: FC: 73 nm SA: 100 nm
 AAG: FC: 0 nm SA: 0
 Min Range: SAM: 3 nm / 50 ft 17/100, 25/300, 32/500
 Typical Engagement: SAM: [39 nm / 469,000 ft](#) SM-2ER
 Max Range: SAM: 117 nm / 469,000 ft
 Typical Engagement: SAM: [35 nm / 469,000 ft](#) SM-2MR
 Notes: 1991. FIHA 1998. USN. Arleigh Burke class destroyer. No smoke. No
 launch warning. ECM, decoys. Aegis system. VLS 96 cells. 2x Helo.
 ABM RIM-162 Evolved Sea Sparrow 2009. RIM-66C/D aka SM-2MR
 max rng 73nm. Use pop up attack stay under radar. 12s LT.

Type: Guided Missile Destroyer DDG
 ECM BT Range: No Effect
 Chaff Vuln.: Very Low
 Bands (System): SA: D/E FC: I/J Guns: Ku
 Targets: 7 (>100)
 Weapons: AZ: 180 (180) EL: 90 (90)
 SSM: RGM-84 Harpoon
 LAM: BGM-109 Tomahawk
 SSG: Mk 45 127mm
 SAM: RIM-66C/D/ 67/161/162/
 174A
 CIWS: 2x Phalanx 20mm
 ASub: Mk 46/50/54, RUM-139A

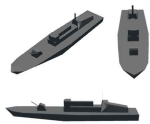
California CLS



Tracking: SAM: [AN/SPS-48E 49, AN/SPG-51](#)
 CIWS: Radar / FLIR
 Rdr Lock Range: SAM: FC: 29 nm SA: 29 nm (250 nm)
 CIWS: FC: 0 nm SA: 0
 Min Range: SAM: 3 nm / 50 ft 17/100, 25/300
 Typical Engagement: SAM: [15 nm / 78,300 ft](#) SM-1MR
 Max Rng: SAM: 21 nm / 78,300 ft
 CIWS: 2.7 nm / 10,000 ft
 Notes: 1974. USN. Smoke. No launch warning. ECM, decoys. Mk 13 GMLS.
 2x Helo. Use pop up attack, stay under radar.

Type: Guided Missile Cruiser CG
 ECM BT Range: No Effect
 Chaff Vuln.: Very Low
 Bands (System): SA: E/ F/ L FC: G Guns: Ku
 Targets: 7
 Weapons: AZ: 180 (180) EL: 90 (90)
 SSM: RGM-84 Harpoon
 SSG: 2x Mk 45 127mm
 SAM: RIM-66 (SM-1MR)
 CIWS: 2x Phalanx 20mm
 ASub: 6x Mark 46, RUM-139A

Chamsuri



Tracking: AAA: STX Radar
 CIWS:Ku Band Radar, FLIR
 Rdr Range: AAA: FC: 0 nm SA: 0nm
 CIWS: FC: 0 nm
 Min Range: CIWS: 0 nm / 0 ft
 Typical Engagement: CIWS: [2.7nm / 10,000 ft](#) 20mm
 Max Range: CIWS: 2.7 nm / 10,000 ft
 Notes: 1970. RKN. CIWS Doesn't shoot or use radar. This ship is no threat to
 BMS AC.

Type: Patrol Boat
 ECM BT Range: No Effect
 Chaff Vuln.: No Effect
 Bands (System): CIWS: Ku
 Targets: 1
 Weapons: AZ: 180 (180) EL: 90 (90)
 SSG: 1x Bofors 40 mm
 AAA: 2x 12.7mm machine guns
 CIWS: 2x Sea Vulcan 20 mm

Nimitz CVN



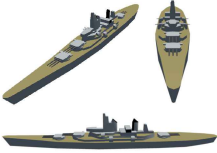
Tracking: SAM: [AN/SPS-48E/ 49\(V\)5, AN/SPQ-9B](#)
 CIWS: Radar / FLIR
 Rdr Lock Range: SAM: FC: 35 nm SA: 44 nm
 CIWS: FC: 2.5 nm SA: 37
 Min Range: SAM: 0 nm / 0 ft
 Typical Engagement: SAM: [8nm / 15,000 ft](#) RIM-7
 Max Rng: SAM: 8 nm / 26,000 ft
 CIWS: [2.2 nm / 9,500 ft](#)
 Notes: USN. USS Enterprise CVN-65 1961. USS Carl Vinson CVN-70 1982.
 USS Theodore Roosevelt CVN-71 1984. ECM, decoys. 4x Mk-57
 Mod3 VLS. Beam, chaff. Beam, split-s, turn away. 90 aircraft
 capacity. BMS unlimited AC.

Type: Nimitz Class Supercarrier
 ECM BT Range: No Effect
 Chaff Vuln.: Low
 Bands (System): SA:E/ F/ L/ I FC: I/ J Guns:Ku
 Targets: 7 (120)
 Weapons: AZ: 180 (180) EL: 90 (90)
 SSM: None
 SSG: None
 SAM: RIM-7 Sea Sparrow,
 RIM-116
 CIWS: 3x Phalanx 20mm
 ASub: None

Farragut CLS ☞ Tracking: SAM: [AN/SPS-48/ 49, AN/SPG-55](#) Type: Guided Missile Destroyer DDG
 CIWS: Radar / FLIR ECM BT Range: No Effect
 Rdr Lock Range: SAM: FC: 90 nm SA: 90 nm Chaff Vuln.: Very Low
 CIWS: FC: 0 nm SA: 0 Bands (System): SA: E/F/L FC:G/H/I/J Guns: AZ: 180 (180) EL: 90 (90)
 Min Range: SAM: 3 nm / 600 ft launch, 100' track Targets: 7
 Typical Engagement: SAM: [39 nm / 469,000 ft](#) SM-2ER Weapons: SSM: RGM-84 Harpoon 1981
 Max Range: SAM: 117 nm / 469,000 ft CIWS: None SSG: 1x Mk 42 127mm
 Notes: 1959. USN. No launch warning, Smoke. ECM, decoys. 0x Helo. 2x SAM: RIM-67 Std ER 1981
 Mk 10 Mod 0 GMLS. Little RWR wrng. 38nm = 37s impact. Mach 6.9. ASub: 2x Mk 32, 1x RUR-5
 RIM-2 Terrier prior to 1981. RIM-67 (SM-2ER). Use pop up attack, ASROC
 stay under radar. 36/800, 30/600, 25/400, 21/200, 14/100.



Iowa CLS BB ☞ Tracking: SAM: [AN/SPS-49](#) Type: Fast Battleship BB
 CIWS: Radar / FLIR ECM BT Range: No Effect
 Rdr Lock Range: SAM: FC: 25 nm SA: 36 nm Chaff Vuln.: No Effect
 CIWS: FC: 0 nm SA: 0 Bands (System): SA: L FC: Guns: Ku AZ: 180 (180) EL: 90 (90)
 Min Range: SAM: None Targets: 6
 Typical Engagement: SAM: None Weapons: SSM: RGM-84 Harpoon
 Max Range: SAM: None LAM: BGM-109 Tomahawk
 CIWS: 2.7 nm / 10,000 ft SSG: 9x 406 mm
 Notes: 1944. USN. 1986 for weapons listed. ECM, decoys. 5x UAV. Mk 141 SSG: 12x 127 mm
 GMLS. USS Missouri (Mighty Mo, Big Mo). Ship doesn't have any CIWS: 4x Phalanx 20mm
 SAMs and doesn't shoot guns, no threat in BMS. ASub: None



Kidd CLS ☞ Tracking: SAM: [AN/SPS-48E, AN/SPG-51D](#) Type: Guided Missile Destroyer DDG
 CIWS: Radar / FLIR ECM BT Range: No Effect
 Rdr Lock Range: SAM: FC: 45 nm SA: 45 nm Chaff Vuln.: Very Low
 CIWS: FC: 0 nm SA: 0 Bands (System): SA: E/F FC: G Guns: Ku AZ: 180 (180) EL: 90 (90)
 Min Range: SAM: 3 nm / 100 ft launch, 50' track Targets: 1
 Typical Engagement: SAM: [24 nm / 469,000 ft](#) SM-1ER Weapons: SSM: RGM-84 Harpoon 1981
 Max Range: SAM: 90 nm / 469,000 ft CIWS: 2.7 nm / 10,000 ft SSG: 2x Mk 45 127mm
 Notes: 1981. USN. No launch warning, Smoke. ECM, decoys. 2x Helo. 2x SAM: 2x RIM-67 Std ER
 Mk 26 GMLS. RIM-2 Terrier prior to 1981. RIM-67 (SM-1ER). Use ASub: 6x Mk 32, 1x RUR-5
 pop up attack, stay under radar. 28/500, 25/400, 22/300, 21/200, 14/100 ASROC



Knox CLS ☞ Tracking: SAM: [AN/SPS-40](#) Type: Frigate FF
 CIWS: Radar / FLIR ECM BT Range: No Effect
 Rdr Lock Range: SAM: FC: 35 nm SA: 44 nm Chaff Vuln.: Low
 CIWS: FC: 0 nm SA: 0 Bands (System): SA: B FC: Guns: Ku AZ: 180 (180) EL: 90 (90)
 Min Range: SAM: 0 nm / 0 ft Targets: 7
 Typical Engagement: SAM: [8nm / 15,000 ft](#) RIM-7 Weapons: SSM: RGM-84 Harpoon
 Max Range: SAM: 8 nm / 26,000 ft SSG: 2x Mk 45 127 mm
 CIWS: 2.7 nm / 10,000 ft SAM: 1x RIM-7 Sea Sparrow
 Notes: 1969. USN. Launch warning. Smoke. ECM, decoys. 1x Helo. 1x CIWS: 1x Phalanx 20mm
 Mk-25, 29, 16 GMLS. Radar detection 18/200, 12/100, 9/50. Beam, ASub: 1x RUR-5 ASROC, 2x
 chaff. Beam, split-s, turn away. Primarily an anti-submarine ship. Mk 32/ 46



Leahy CLS ☞ Tracking: SAM: [AN/SPS-48/ 49, AN/SPG-55](#) Type: Guided Missile Cruiser CG
 CIWS: Radar / FLIR ECM BT Range: No Effect
 Rdr Lock Range: SAM: FC: 90 nm SA: 90 nm Chaff Vuln.: Very Low
 CIWS: FC: 0 nm SA: 0 Bands (System): SA: E/F/L FC:G/H/I/J Guns:Ku AZ: 180 (180) EL: 90 (90)
 Min Range: SAM: 3 nm / 600 ft launch, 100' track Targets: 1
 Typical Engagement: SAM: [39 nm / 469,000 ft](#) SM-2ER Weapons: SSM: RGM-84 Harpoon 1981
 Max Range: SAM: 117 nm / 469,000 ft CIWS: 2.7 nm / 10,000 ft SSG: 4x 76mm prior to 1981
 Notes: 1962, 1981. USN. No launch wrng. Smoke. ECM, decoys. 0x Helo. SAM: 2x RIM-67 Std ER 1981
 2x Mk 10 GMLS. Little RWR wrng. 38nm = 37s impact. Mach 6.9. CIWS: 2x Phalanx 20mm
 RIM-2 Terrier prior to 1981. RIM-67 (SM-2ER). Use pop up attack, ASub: 6x Mk 32, 1x RUR-5
 stay under radar. 36/800, 30/600, 25/400, 22/300, 14/100 ASROC

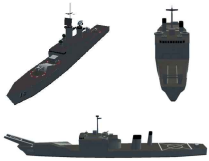


Newport CLS



Tracking: SA: [AN/SPS-10](#)
 CIWS: N/A
 Rdr Lock Range: SAM: FC: 0 nm SA: 0 nm
 AAA: FC: 50 nm SA: 50
 Min Range: SAM: None
 Typical Engagement: SAM: None
 Max Range: SAM: None
 AAA: [2 nm / 10,000 ft](#)
 Notes: 1969. USN.

Type: Tank Landing Ship LST
 ECM BT Range: No Effect
 Chaff Vuln.: Very Low
 Bands (System): SA: G FC: Guns:
 Targets: 7 AZ: 180 (180) EL: 90 (90)
 Weapons: SSM: None
 SSG: None
 SAM: None
 AAA: 2x twin 76 mm
 Asub: None



Osumi



Tracking: SAM: [OPS-14C](#)
 CIWS: Radar / FLIR
 Rdr Lock Range: SAM: SA: 50 nm
 CIWS: FC: 0 nm SA: 0
 Min Range: SAM: None
 Typical Engagement: SAM: None
 Max Range: SAM: None
 CIWS: 2.7 nm / 10,000 ft
 Notes: 1998. JMDF. Amphibious assault ship. ECM, decoys. 8 Helos. Ship doesn't have any SAMs and doesn't shoot guns, no threat in BMS.

Type: Amphibious Transport Dock LST
 ECM BT Range: No Effect
 Chaff Vuln.: No Effect
 Bands (System): SA: FC: Guns: Ku
 Targets: 6 AZ: 180 (180) EL: 90 (90)
 Weapons: SSM: None
 SSG: None
 AAA: 2x M2 12.7mm
 SAM: None
 CIWS: 2x Phalanx 20mm
 Asub: None



Perry CLS



Tracking: SAM: [AN/SPS-49/ 55, Mk 92](#)
 CIWS: Radar / FLIR
 Rdr Lock Range: SAM: FC: 33 nm SA: 43 nm
 CIWS: FC: 0 nm SA: 0
 Min Range: SAM: 3 nm / 50 ft 17/100, 25/300
 Typical Engagement: SAM: [15 nm / 78,300 ft](#) SM-1MR
 Max Range: SAM: 21 nm / 78,300 ft
 CIWS: 2.7 nm / 10,000 ft
 Notes: 1977. USN. Smoke. No launch warning. Oliver Hazard Perry-class Frigate. ECM, decoys. 2x Helo. 1x Mk 13 GMLS. SM-1MR 1967. At 12nm takes 26s to impact. Use pop up attack stay under radar. Change direction chaff. 12s launch time.

Type: Guided Missile Frigate FFG
 ECM BT Range: No Effect
 Chaff Vuln.: Very Low
 Bands (System): SA: C FC: I/J Guns: Ku
 Targets: 7 AZ: 180 (180) EL: 90 (90)
 Weapons: SSM: RGM-84 Harpoon
 SSG: 1x OTO Melara 76 mm
 AAA: 2x Mk38 Mod 2 25 mm
 SAM: 1xRIM-66A/B(SM-1MR)
 CIWS: 1x Phalanx 20mm
 Asub: 2x Mark 32 system



Shirane CLS



Tracking: SAM: [OPS-12](#)
 CIWS: Radar / FLIR
 Rdr Lock Range: SAM: FC: 35 nm SA: 44 nm
 CIWS: FC: 0 nm SA: 0
 Min Range: SAM: 0 nm / 0 ft
 Typical Engagement: SAM: [8nm / 15,000 ft](#) RIM-7
 Max Range: SAM: 8 nm / 26,000 ft
 CIWS: 2.7 nm / 10,000 ft
 Notes: 1980. JMDF. Launch warning. Smoke. ECM, decoys. 3x Helo. Radar detection 9/50, 12/100, 18/200. Beam, chaff. Beam, split-s, turn away.

Type: Destroyer DDH
 ECM BT Range: No Effect
 Chaff Vuln.: Low
 Bands (System): SA: FC: Guns: Ku
 Targets: 7 AZ: 180 (180) EL: 90 (90)
 Weapons: SSG: 2x Mk 42 127 mm
 SAM: 1x RIM-7 Sea Sparrow
 CIWS: 2x Phalanx 20mm
 Asub: 1x Mk 112 ASROC, 2x Mk 32/ 46



Spruance CLS



Tracking: SAM: [AN/SPS-40, AN/SPG-60](#)
 CIWS: Radar / FLIR
 Rdr Lock Range: SAM: FC: 35 nm SA: 44 nm
 CIWS: FC: 0 nm SA: 0
 Min Range: SAM: 0 nm / 0 ft
 Typical Engagement: SAM: [8nm / 15,000 ft](#) RIM-7
 Max Range: SAM: 8 nm / 26,000 ft
 CIWS: 2.7 nm / 10,000 ft
 Notes: 1975. USN. Launch warning. Smoke. ECM, decoys. 2x Helo. 1x Mk 29 GMLS. Radar detection 9/50, 12/100, 18/200. Beam, chaff. Beam, split-s, turn away. Later fitted with vertical launch system 61 cells.

Type: Destroyer DD
 ECM BT Range: No Effect
 Chaff Vuln.: Low
 Bands (System): SA: B FC: I/J Guns: Ku
 Targets: 7 AZ: 180 (180) EL: 90 (90)
 Weapons: SSM: RGM-84 Harpoon
 LAM: BGM-109 Tomahawk
 SSG: 2x Mk 45 127 mm
 SAM: 1x RIM-7 Sea Sparrow
 CIWS: 2x Phalanx 20mm
 Asub: 1x RUR-5 ASROC



Ticon Mk 26 GMLS



Tracking: SAM: [AN/SPY-1D](#), [AN/SPG-62](#)
 CIWS: Radar / FLIR

Rdr Lock Range: SAM: FC: 73 nm SA: 100 nm
 CIWS: FC: 0 nm SA: 0

Min Range: SAM: 3 nm / 50 ft 17/100, 25/300, 32/500
 Typical Engagement: SAM: [35 nm / 469,000 ft](#) SM-2MR
 Max Range: SAM: 73 nm / 469,000 ft
 CIWS: 2.7 nm / 10,000 ft

Notes: 1983-87. USN. Ticonderoga. Smoke. No launch warning. ECM, decoys. Aegis system. 2x Mk 26 GMLS. 2x Helo. ABM RIM-162 Evolved Sea Sparrow 2009. RIM-66C/D aka SM-2MR 1979. At 34nm takes 35s to impact. 12s LT. Use pop up attack, stay under radar.

Type: Guided Missile Cruiser CG
 ECM BT Range: No Effect
 Chaff Vuln.: Very Low
 Bands (System): SA: D/E FC: I/J Guns: Ku
 AZ: 180 (180) EL: 90 (90)
 Weapons: SSM: RGM-84 Harpoon
 SSG: 2x Mk 45 127mm
 SAM: RIM-66C/D
 CIWS: 2x Phalanx 20mm
 ASub: 2x Mark 32, 20x RUR-5 ASROC

Ticon Mk41 VLS



Tracking: SAM: [AN/SPY-1D](#), [AN/SPG-62](#)
 CIWS: Radar / FLIR

Rdr Lock Range: SAM: FC: 73 nm SA: 100 nm
 CIWS: FC: 0 nm SA: 0

Min Range: SAM: 3 nm / 50 ft 17/100, 25/300, 32/500
 Typical Engagement: SAM: [35 nm / 469,000 ft](#) SM-2MR
 Max Range: SAM: 73 nm / 469,000 ft
 CIWS: 2.7 nm / 10,000 ft

Notes: 1985-92. USN. Ticonderoga. Smoke. No launch warning. ECM, decoys. Aegis system. Mk 41 VLS 122 cells. 2x Helo. ABM RIM-162 Evolved Sea Sparrow 2009. RIM-66C/D aka SM-2MR 1979. 34nm = 35s impact. 12s LT. Use pop up attack, stay under radar.

Type: Guided Missile Cruiser CG
 ECM BT Range: No Effect
 Chaff Vuln.: Very Low
 Bands (System): SA: D/E FC: I/J Guns: Ku
 AZ: 180 (180) EL: 90 (90)
 Weapons: SSM: RGM-84 Harpoon
 LAM: BGM-109 Tomahawk
 SSG: 2x Mk 45 127mm
 SAM: RIM-66C/D/ 156A/ 161/ 162/ 174A
 CIWS: 2x Phalanx 20mm
 ASub: 2x Mark 32, RUM-139A

Ulsan CLS



Tracking: SA: Signaal DA-08
 CIWS: RTN-10X Orion

Rdr Range: SAM: None
 CIWS: FC: 0 nm SA: 0

Min Range: SAM: None
 Typical Engagement: SAM: None
 Max Range: SAM: None
 CIWS: 4.5 nm / 25,000 ft

Notes: 1980. RKN. ECM. 2x Mk 141 GMLS. Ship doesn't shoot guns and has no SAMs, no threat in BMS.

Type: Frigate FF
 ECM BT Range: No Effect
 Chaff Vuln.: No Effect
 Bands (System): SA: F FC: I Guns: I
 AZ: 180 (180) EL: 90 (90)
 Weapons: SSM: 2x RGM-84 Harpoon
 SSG: 2x Otobreda 76 mm
 SAM: None
 CIWS: 3x DARDO 40mm
 ASub: 2x Blue Shark Torpedo

Virginia CLS



Tracking: SAM: [AN/ASP-48E/ 49](#), [AN/SPG-51](#)
 CIWS: Radar/ FLIR

Rdr Range: SAM: FC: 95 nm SA: 95
 CIWS: FC: 0 nm SA: 0

Min Range: SAM: 3 nm / 50 ft 17/100, 25/300, 32/500
 Typical Engagement: SAM: [35 nm / 469,000 ft](#) SM-2MR
 Max Range: SAM: 73 nm / 469,000 ft
 CIWS: 2.7 nm / 10,000 ft

Notes: 1976. USN. No launch warning. Smoke. ECM, decoys. 2x Mk 26 GMLS. 1x helo. Use pop up attack, stay under radar.

Type: Guided Missile Cruiser CGN
 ECM BT Range: No Effect
 Chaff Vuln.: Very Low
 Bands (System): SA: E/F FC: G Guns: Ku
 AZ: 180 (180) EL: 90 (90)
 Weapons: SSM: RGM-84 Harpoon 1981
 LAM: BGM-109 Tomahawk
 SSG: 2x 127mm
 SAM: RIM-66 Stnd MR
 AAA: 2x Mk 38 25mm
 CIWS: 2x Phalanx 20mm
 ASub: 4x Mk 46

Wasp LHD



Tracking: SAM: [AN/SPS-48/ 49](#), [Mk 23](#)
 CIWS: Radar / FLIR

Rdr Lock Range: SAM: FC: 29 nm SA: 51 nm
 CIWS: FC: 0 nm SA: 0

Min Range: SAM: 0 nm / 0 ft 11/50, 15/100, 19/200
 Typical Engagement: SAM: [8 nm / 15,000 ft](#) RIM-7
 Max Range: SAM: 8 nm / 26,000 ft
 CIWS: 2.7 nm / 10,000 ft

Notes: 1989. USN. Amphibious assault ship. No launch warning. Smoke. ECM, decoys. 20-22 aircraft. BMS unlimited aircraft. Aircraft types: AV-8B, F-35B, MV-22B, CH-53E, UH-1Y, SH-60F/HH-60H ASW.

Type: Landing Helicopter Dock LHD
 ECM BT Range: No Effect
 Chaff Vuln.: Very Low
 Bands (System): SA: E/F FC: D Guns: Ku
 AZ: 180 (180) EL: 90 (90)
 Weapons: SSM: None
 SSG: None
 AAA: 4x Mk38 Mod 2 25 mm
 SAM: 2x RIM-116 RAM IR
 SAM: 2x RIM-7 Sea Sparrow
 CIWS: 3x Phalanx 20mm
 ASub: None

| AIR DEFENSE VEHICLE THREAT GUIDE - OPFOR - AN/ALR-69(V), AN/ALR-56M | | | | | | | | | | | | | |
|---|--------|----------|----------|-----------|------------|------------|-----------------------|--------------------|--------------|--------------------|-------------------|----------|-----------|
| SAM | RWR | | HARM | | ALIC | | SA/ EWR | Tracking | Min Rng/ Alt | Typical Engagement | Max Range/ Alt | ECM | CM |
| | S A | F C | S A | F C | S A | F C | | | | | | | |
| SA-2 | --- | 2 | 2A | 2T | 402 | 202 | Spoon Rest | Fan Song E/ F | 4nm/ 300ft | 16nm/ 73,000ft | 38nm/ 198,000ft | E12-F9nm | Med |
| SA-3 | F | 3 | F | 3T | 403 | 203 | Flat Face | Low Blow | 2.7nm/ 150ft | 9nm/ 45,000ft | 11nm/ 67,000ft | 6nm | Med |
| SA-4 | L | 4 | 4A | 4T | 404 | 204 | Long Track | Pat Hand | 4nm/ 500ft | 18nm/ 60,000ft | 22nm/ 80,000ft | 14nm | Med |
| SA-5 | B B | 5 --- | 5A 5A | 5T --- | 405 --- | 205 --- | Bar Lock Odd Group | Square Pair --- | 7nm/ 1,000ft | 53nm/ 123,000ft | 190nm/ 327,000ft | 26nm | Med |
| SA-6 | F | 6 | F | 6T | 403 | 206 | Flat Face | Straight Flush | 2nm/ 550ft | 10nm/ 36,000ft | 20nm/ 101,500ft | 4nm HOJ | Med |
| HN-5A | | | | | | | | Rear Aspect IR | 0nm/ 60ft | 1.6nm/ 8,000ft | 2nm/ 10,500ft | N/A | Very High |
| SA-7 | | | | | | | | Rear Aspect IR | 0.2nm/ 50ft | 1.5nm/ 5,000ft | 2nm/ 12,000ft | N/A | Very High |
| SA-8 | --- | 8 | --- | 8T | --- | 608 | --- | OB Land Roll | 0.8nm/ 80ft | 4nm/ 16,000ft | 8.5nm/ 50,000ft | 14nm | Med |
| SA-9 | O | --- | D | --- | 609 | --- | Dog Ear | Rear Aspect IR | 0.3nm/ 50ft | 2nm/ 14,500ft | 3.2nm/ 14,500ft | N/A | Very High |
| SA-10 | 10 | 10 | 10A | 10T | 410 | 210 | Big Bird | Flap Lid | 3nm/ 60ft | 48nm/ 123,000ft | 54nm/ 276,000ft | 36nm HOJ | No Effect |
| SA-11 | D | 11 | 11A | 11T | 411 | 211 | Snow Drift | OB Fire Dome | 1.5nm/ 180ft | 12nm/ 54,000ft | 20nm/ 90,000ft | 19nm HOJ | Very Low |
| SA-13 ∞ | O | --- | D | --- | 609 | --- | Dog Ear | OB Snap Shot/ IR | 0.1nm/ 30ft | 2nm/ 9,000ft | 5nm/ 26,800ft | 4nm | Very Low |
| SA-14 | | | | | | | | All Aspect IR | 0nm/ 50ft | 1.6nm/ 10,000ft | 3nm/ 12,100ft | N/A | Very High |
| SA-15 | --- | 15/M | --- | 15T | --- | 615 | --- | OB Scrum Half | 0.5nm/ 35ft | 6.5nm/ 20,000ft | 7nm/ 42,500ft | 13nm | Med |
| SA-16 | | | | | | | | All Aspect IR | 0.2nm/ 60ft | 3nm/ 10,000ft | 3.5nm/ 19,400ft | N/A | Very Low |
| SA-17 | D | 17 | 17A | 17T | 417 | 217 | Snow Drift | OB Chair Back | 1.6nm/ 140ft | 16.5nm/ 81,000ft | 18.5nm/ 115,000ft | 30nm HOJ | No Effect |
| SA-19/ 2S6 ∞ | --- | A | --- | 19T | --- | 619 | --- | OB Hot Shot/ IR | 0nm/ 0ft | 6.5nm/ 10,200ft | 5.7nm/ 33,000ft | 7nm HOJ | Med |

| AAA | RWR | | HARM | | ALIC | | SA/ EWR | Tracking | Min Rng/ Alt | Typical Engagement | Max Range/ Alt | Caliber | CM |
|----------|--------|--------|--------|--------|--------|--------|---------|-------------------|--------------|--------------------|-----------------|------------|-----------|
| | S A | F C | S A | F C | S A | F C | | | | | | | |
| KS-12 | | A/S | --- | AAA | --- | 692 | | Fire Can/ Optical | 0nm/ 2,000ft | 5nm/ 28,000ft | 5nm/ 28,000ft | 85mm Flak | Med |
| KS-19 | | A/S | --- | AAA | --- | 692 | | Fire Can/ Optical | 0nm/ 2,000ft | 5nm/ 33,500ft | 5nm/ 33,500ft | 100mm Flak | Med |
| S-60 | | A/S | --- | AAA | --- | 692 | | Fire Can/ Optical | 0nm/ 2,000ft | 3nm/ 20,900ft | 3nm/ 20,900ft | 57mm Flak | Med |
| M-1939 | | | | | | | | Optical | 0nm/ 2,000ft | 1.3nm/ 8,600ft | 1.3nm/ 8,600ft | 37mm Flak | No Effect |
| M-1992 | | A | --- | --- | --- | --- | | OB Gun Dish | 0nm/ 0ft | 2.5nm/ 10,000ft | 2.5nm/ 14,000ft | 30mm | Med |
| ZU-23 | | | | | | | | Optical | 0nm/ 0ft | 2.0nm/ 9,900ft | 2.0nm/ 9,900ft | 23mm | No Effect |
| ZPU-2 | | | | | | | | Optical | 0nm/ 0ft | 1.8nm/ 9,800ft | 1.8nm/ 9,800ft | 14.5mm | No Effect |
| ZSU-23-4 | O | A | --- | --- | --- | --- | Dog Ear | OB Gun Dish | 0nm/ 0ft | 2nm/ 10,000ft | 3nm/ 16,000ft | 23mm | Med |
| ZSU-57-2 | | | | | | | | Optical | 0nm/ 2,000ft | 3nm/ 20,800ft | 3nm/ 20,800ft | 57mm Flak | No Effect |

A/S Alternating A and S flashing on RWR
 HOJ Home on jam
 OB On board radar
 15/M Alternating 15 and M Flashing on RWR
 ∞ Impossible to evade/ drag missile

| AIR DEFENSE VEHICLE THREAT GUIDE - OPFOR - AN/ ALR-93(V)1 | | | | | | | | |
|---|----------|--------|------------------|--------------|--------------------|-------------------|----------|-----------|
| SAM | RWR | | Tracking | Min Rng/ Alt | Typical Engagement | Max Range/ Alt | ECM | CM |
| | S A | F C | | | | | | |
| SA-2 | | 72 | Fan Song E/ F | 4nm/ 300ft | 16nm/ 73,000ft | 38nm/ 198,000ft | E12-F9nm | Med |
| SA-3 | 1F | 73 | Low Blow | 2.7nm/ 150ft | 9nm/ 45,000ft | 11nm/ 67,000ft | 6nm | Med |
| SA-4 | 1L | 74 | Pat Hand | 4nm/ 500ft | 18nm/ 60,000ft | 22nm/ 80,000ft | 14nm | Med |
| SA-5 | 15 15 | 75 | Square Pair | 7nm/ 1,000ft | 53nm/ 123,000ft | 190nm/ 327,000ft | 26nm | Med |
| SA-6 | 1F | 76 | Straight Flush | 2nm/ 550ft | 10nm/ 36,000ft | 20nm/ 101,500ft | 4nm HOJ | Med |
| HN-5A | | | Rear Aspect IR | 0nm/ 60ft | 1.6nm/ 8,000ft | 2nm/ 10,500ft | N/A | Very High |
| SA-7 | | | Rear Aspect IR | 0.2nm/ 50ft | 1.5nm/ 5,000ft | 2nm/ 12,000ft | N/A | Very High |
| SA-8 | | 78 | OB Land Roll | 0.8nm/ 80ft | 4nm/ 16,000ft | 8.5nm/ 50,000ft | 14nm | Med |
| SA-9 | 113 | | Rear Aspect IR | 0.3nm/ 50ft | 2nm/ 14,500ft | 3.2nm/ 14,500ft | N/A | Very High |
| SA-10 | 110 | 710 | Flap Lid | 3nm/ 60ft | 48nm/ 123,000ft | 54nm/ 276,000ft | 36nm HOJ | No Effect |
| SA-11 | 1D | 711 | OB Fire Dome | 1.5nm/ 180ft | 12nm/ 54,000ft | 20nm/ 90,000ft | 19nm HOJ | Very Low |
| SA-13 | ∞ | 113 | OB Snap Shot/ IR | 0.1nm/ 30ft | 2nm/ 9,000ft | 5nm/ 26,800ft | 4nm | Very Low |
| SA-14 | | | All Aspect IR | 0nm/ 50ft | 1.6nm/ 10,000ft | 3nm/ 12,100ft | N/A | Very High |
| SA-15 | | 715 | OB Scrum Half | 0.5nm/ 35ft | 6.5nm/ 20,000ft | 7nm/ 42,500ft | 13nm | Med |
| SA-16 | | | All Aspect IR | 0.2nm/ 60ft | 3nm/ 10,000ft | 3.5nm/ 19,400ft | N/A | Very Low |
| SA-17 | 1D | 717 | OB Chair Back | 1.6nm/ 140ft | 16.5nm/ 81,000ft | 18.5nm/ 115,000ft | 30nm HOJ | No Effect |
| SA-19/ 2S6 | ∞ | 19 | OB Hot Shot/ IR | 0nm/ 0ft | 6.5nm/ 10,200ft | 5.7nm/ 33,000ft | 7nm HOJ | Med |

| AAA | RWR | | Tracking | Min Rng/ Alt | Typical Engagement | Max Range/ Alt | Caliber | CM |
|----------|--------|--------|-------------------|--------------|--------------------|-----------------|------------|-----------|
| | S A | F C | | | | | | |
| KS-12 | | K | Fire Can/ Optical | 0nm/ 2,000ft | 5nm/ 28,000ft | 5nm/ 28,000ft | 85mm Flak | Med |
| KS-19 | | K | Fire Can/ Optical | 0nm/ 2,000ft | 5nm/ 33,500ft | 5nm/ 33,500ft | 100mm Flak | Med |
| S-60 | | K | Fire Can/ Optical | 0nm/ 2,000ft | 3nm/ 20,900ft | 3nm/ 20,900ft | 57mm Flak | Med |
| M-1939 | | | Optical | 0nm/ 2,000ft | 1.3nm/ 8,600ft | 1.3nm/ 8,600ft | 37mm Flak | No Effect |
| M-1992 | | 23 | OB Gun Dish | 0nm/ 0ft | 2.5nm/ 10,000ft | 2.5nm/ 14,000ft | 30mm | Med |
| ZU-23 | | | Optical | 0nm/ 0ft | 2.0nm/ 9,900ft | 2.0nm/ 9,900ft | 23mm | No Effect |
| ZPU-2 | | | Optical | 0nm/ 0ft | 1.8nm/ 9,800ft | 1.8nm/ 9,800ft | 14.5mm | No Effect |
| ZSU-23-4 | 113 | 23 | OB Gun Dish | 0nm/ 0ft | 2nm/ 10,000ft | 3nm/ 16,000ft | 23mm | Med |
| ZSU-57-2 | | | Optical | 0nm/ 2,000ft | 3nm/ 20,800ft | 3nm/ 20,800ft | 57mm Flak | No Effect |

CM Counter measure effectiveness
 HOJ Home on jam
 OB On board radar
 ∞ Impossible to evade/ drag missile

SA Symbols
 1 D Snow Drift
 1 F Flat Face
 1 L Long Track
 1 5 Bar Lock
 1 5 Odd Group
 1 10 Big Bird
 1 13 Dog Ear

| AIR DEFENSE VEHICLE THREAT GUIDE - BLUEFOR - AN/ALR-69(V), AN/ALR-56M | | | | | | | | | | | | | |
|---|----------|----------|----------|-----------|------------|------------|------------------------|------------------|--------------|--------------------|------------------|------------|-----------|
| SAM | RWR | | HARM | | ALIC | | SA/ EWR | Tracking | Min Rng/ Alt | Typical Engagement | Max Range/ Alt | ECM | CM |
| | S A | F C | S A | F C | S A | F C | | | | | | | |
| Avenger | | | | | | | | All Aspect IR | 0nm/ 50ft | 4nm/ 10,000 ft | 4.1nm/ 20,000ft | N/A | Very Low |
| Chaparral | | | | | | | | Rear Aspect IR | 0nm/ 0ft | 0.2nm/ 100ft | 1.4nm/ 3,100ft | N/A | High |
| Hawk | 50 55 | H --- | HA HA | HT --- | 430 --- | 230 --- | AN/MPQ-50 AN/MPQ-55 | AN/MPQ-46 --- | 0.5nm/ 200ft | 9-12nm/ 44,000ft | 18-39nm/ 62000ft | 8-10nm HOJ | Med |
| KSAM | --- | C | --- | --- | --- | --- | --- | OB Daewoo | 0nm/ 0ft | 5nm/ 10,000ft | 8nm/ 27,000ft | 7nm | Med |
| LAV-AD | | | | | | | | All Aspect IR | 0nm/ 50ft | 4nm/ 10,000ft | 41.nm/ 20,000ft | N/A | Very Low |
| M2A2/ ADATS | | | | | | | | All Aspect IR | 0nm/ 50ft | 4nm/ 10,000ft | 41.nm/ 20,000ft | N/A | Very Low |
| BSFV-AD/M6 BL | | | | | | | | All Aspect IR | 0nm/ 50ft | 4nm/ 10,000ft | 41.nm/ 20,000ft | N/A | Very Low |
| Mistral | | | | | | | | All Aspect IR | 0nm/ 0ft | 3nm/ 10,000ft | 3nm/ 18,000ft | N/A | Very Low |
| Nike Hercules | --- | N P | --- | N --- | --- | 696 --- | --- | AN/MPQ-43 --- | 3nm/ 3,400ft | 46nm/ 150,000ft | 70nm/ 259,000ft | 15nm | Med |
| Patriot | --- | P | --- | P | --- | 693 | --- | AN/MPQ-53 | 2nm/ 160ft | 49nm/ 80,000ft | 91nm/ 80,000ft | 63nm HOJ | No Effect |
| Sky Guard | --- | P | --- | SKY | --- | 695 | --- | Sky Guard | 0nm/ 0ft | 8nm/ 20,000ft | 11nm/ 23,000ft | 4nm | Med |
| Stinger | | | | | | | | All Aspect IR | 0nm/ 50ft | 4nm/ 10,000ft | 41.nm/ 20,000ft | N/A | Very Low |
| | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| AAA | RWR | | HARM | | ALIC | | Tracking | Min Rng/ Alt | Typical Engagement | Max Range/ Alt | Caliber | CM |
|-------------|-----|-----|------|-----|------|-----|----------|--------------|--------------------|----------------|---------|----------|
| | S A | F C | S A | F C | S A | F C | | | | | | |
| K263 | | A | --- | --- | --- | --- | OB Radar | 0nm/ 0ft | 2nm/ 9,900ft | 2nm/9,900ft | 20mm | Very Low |
| M-163/ -167 | | | --- | --- | --- | --- | OB Radar | 0nm/ 0ft | 2nm/ 9,900ft | 2nm/9,900ft | 20mm | Very Low |
| | | | | | | | | | | | | |
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CM Counter measure effectiveness
 HOJ Home on jam
 OB On board radar
 ∞ Impossible to evade/ drag missile

AIR DEFENSE VEHICLE THREAT GUIDE - BLUEFOR - AN/ ALR-93(V)1

| SAM | RWR | | Tracking | Min Rng/ Alt | Typical Engagement | Max Range/ Alt | ECM | CM |
|----------------|----------|--------|----------------|--------------|--------------------|-------------------|------------|-----------|
| | S A | F C | | | | | | |
| Avenger | | | All Aspect IR | 0nm/ 50ft | 4nm/ 10,000ft | 4.1nm/ 20,000ft | N/A | Very Low |
| Chaparral | | | Rear Aspect IR | 0nm/ 0ft | 0.2nm/ 100ft | 1.4nm/ 3,100ft | N/A | High |
| Hawk | ∞H ∞H | ∞MQ | AN/ MPQ-46 | 0.5nm/ 200ft | 9-12nm/ 44,000ft | 18-39nm/ 62,000ft | 8-10nm HOJ | Med |
| KSAM | | ∞C | OB Daewoo | 0nm/ 0ft | 5nm/ 10,000ft | 8nm/ 27,000ft | 7nm | Med |
| LAV-AD | | | All Aspect IR | 0nm/ 50ft | 4nm/ 10,000ft | 4.1nm/ 20,000ft | N/A | Very Low |
| M2A2/ ADATS | | | All Aspect IR | 0nm/ 50ft | 4nm/ 10,000ft | 4.1nm/ 20,000ft | N/A | Very Low |
| BSFV-AD/ M6 BL | | | All Aspect IR | 0nm/ 50ft | 4nm/ 10,000ft | 4.1nm/ 20,000ft | N/A | Very Low |
| Mistral | | | All Aspect IR | 0nm/ 0ft | 3nm/ 10,000ft | 3nm/ 18,000ft | N/A | Very Low |
| Nike Hercules | | ∞N | AN/ MPQ-43 | 3nm/ 3,400ft | 46nm/ 150,000ft | 70nm/ 259,000ft | 15nm | Med |
| Patriot | | ∞P | AN/ MPQ-53 | 2nm/ 160ft | 49nm/ 80,000ft | 91nm/ 80,000ft | 63nm HOJ | No Effect |
| Sky Guard | | ∞R | Sky Guard | 0nm/ 0ft | 8nm/ 20,000ft | 11nm/ 23,000ft | 4nm | Med |
| Stinger | | | All Aspect IR | 0nm/ 50ft | 4nm/ 10,000ft | 4.1nm/ 20,000ft | N/A | Very Low |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| AAA | RWR | | Tracking | Min Rng/ Alt | Typical Engagement | Max Range/ Alt | Caliber | CM |
|----------------|--------|--------|----------|--------------|--------------------|----------------|---------|----------|
| | S A | F C | | | | | | |
| K263 Cheongoon | | 63 | OB Radar | 0nm/ 0ft | 2nm/ 9,900ft | 2nm/ 9,900ft | 20mm | Very Low |
| M-163/ -167 | | | OB Radar | 0nm/ 0ft | 2nm/ 9,900ft | 2nm/ 9,900ft | 20mm | Very Low |
| | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |

CM Counter measure effectiveness
 HOJ Home on jam
 OB On board radar
 ∞ Impossible to evade/ drag missile

SA Symbols
 ∞H AN/ MPQ-50
 ∞H AN/ MPQ-55

| AIRCRAFT THREAT GUIDE - OPFOR | | | | | | | | |
|-------------------------------|-------------|-----|----------------|--------------|--------------------|--------------|---------------|-----------|
| Aircraft | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR |
| G-4 | Attack | 7 | 2 | | AA-8 | | | |
| J-5 | Attack | 2 | 0 | | | | | |
| J-6 | Fighter | 2 | 0 | | | | | |
| J-6B | Fighter | 7 | 4 | AA-2B | AA-2C | | | |
| J-7G | Fighter | 8 | 4 | AA-2B | AA-2C, PL-7, PL-8 | | | |
| J-8I | Interceptor | 8 | 4 | | PL-7, PL-8 | | | |
| J-11 | Multi | 15 | 10 | | AA-8, A-11 | AA-10A/ C | AA-10B/ D | AA-12 |
| J-15 | Multi | 17 | 8 | | PL-8, PL-10 | | | PL-12 |
| J-20 | Fighter | 17 | 6 | | PL-10 | | | PL-12/ 15 |
| Ka-50 | Helo Attack | 9 | | | AA-11 | | | |
| Mi-24 | Helo Attack | 9 | | | AA-11 | | | |
| Mi-28 | Helo Attack | 9 | | | AA-11 | | | |
| Mig-17PF | Multi | 4 | 4 | AA-1 | | | | |
| Mig-19PM | Fighter | 7 | 4 | AA-2B | AA-2C | | | |
| Mig-19SF | Attack | 2 | 0 | | | | | |
| Mig-21F-13 | Multi | 7 | 2 | AA-1 | AA-2C | | | |
| Mig-21bis | Multi | 8 | 4-6 | AA-2B | AA-2C, AA-8 | | | |
| Mig-21MF | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | |
| Mig-23ML | Multi | 12 | 4-6 | AA-2B, AA-7A | AA-2C, AA-7B, AA-8 | | | |
| Mig-25 | Interceptor | 12 | 4-6 | AA-7A | AA-7B, AA-8 | AA-6A | AA-6B | |
| Mig-27 | Attack | 8 | 4-6 | | AA-2C, AA-7B, AA-8 | | | |
| Mig-29A | Multi | 12 | 6 | | AA-8, A-11 | AA-10A | | |
| Mig-29G | Multi | 12 | 6 | | AA-8, A-11 | AA-10A | | |
| Mig-29M | Multi | 15 | 8 | | AA-8, A-11 | AA-10A/ C | AA-10B/ D | AA-12 |
| Mig-29S | Multi | 15 | 6 | | AA-8, A-11 | AA-10A | | AA-12 |
| Mig-31 | Interceptor | 20 | 8-10 | | AA-8, A-11 | AA-9, AA-10C | AA-6B, AA-10B | |
| Q-5III/ N | Attack | 5 | 4 | | AA-2C, PL-7 | | | |
| Su-7BMK | Multi | 2 | 0 | | | | | |
| Su-15 | Interceptor | 7 | 4 | AA-1 | AA-2C | | | |
| Su-17 | Attack | 7 | 4 | | AA-2C, AA-8 | | | |
| Su-20 | Attack | 7 | 4 | | AA-2C, AA-8 | | | |
| Su-22 | Attack | 7 | 4 | | AA-2C, AA-8 | | | |
| Su-24 | Attack | 7 | 2 | | AA-8 | | | |
| Su-25 | Attack | 7 | 2 | | AA-8 | | | |
| Su-27 | Multi | 15 | 10 | | AA-8, AA-11 | AA-10A/ C | AA-10B/ D | AA-12 |
| Su-27UB | Multi | 15 | 10 | | AA-8, A-11 | AA-10A/ C | AA-10B/ D | AA-12 |
| Su-30M | Multi | 15 | 10 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 |
| Su-30MKK | Multi | 15 | 10 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 |
| Su-33 | Multi | 15 | 10 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 |
| Su-34 | Multi | 15 | 10 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 |
| Su-35S | Multi | 15 | 8 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 |
| Su-35SK | Multi | 17 | 10 | | PL-10 | | | PL-12 |
| Su-39 | Attack | 15 | 6 | AA-2B | AA-2C, AA-8, A-11 | | | AA-12 |
| | | | | | | | | |
| | | | | | | | | |

| AIRCRAFT THREAT GUIDE - BLUEFOR | | | | | | | | | |
|---------------------------------|---------|---------|-----|----------------|----------|---------------------------|-------------|--------|----------------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR |
| A-1H | | Attack | 2 | 0 | | | | | |
| A-4E | USN | Attack | 7 | 4 | | AIM-9J/ M/ P | | | |
| A-4E Agressor | USN | Attack | 7 | 4 | | AIM-9J/ M/ P | | | |
| A-4PTM | RMAF | Attack | 7 | 4 | | AIM-9J/ M/ P | | | |
| A-4SU | RSAF | Attack | 7 | 4 | | AIM-9J/ M/ P | | | |
| A-6E | USN | Attack | 0 | 0 | | | | | |
| A-7E | USN | Attack | 8 | 2 | | AIM-9M/ P | | | |
| A-10A/ C | USAF | Attack | 7 | 2 | | AIM-9M/ P | | | |
| AJ 37 | SAF | Multi | 17 | 6 | | AIM-9M | Skyflash | | AIM-120B |
| AMX | ITAF | Attack | 7 | 2 | | AIM-9M | | | |
| AV-8B Harrier II | USMC | Attack | 7 | 4 | | AIM-9M | | | |
| AV-8B Harrier II+ | USMC | Attack | 17 | 4 | | AIM-9M | | | AIM-120B |
| CF-188A | RCAF | Multi | 17 | 12 | | AIM-9H/ J/ M/ P | AIM-7F/ M | | AIM-120B |
| EA-6B | USN | EW | 0 | 0 | | | | | |
| EA-18G | USN | EW | 20 | 2 | | | | | AIM-120C |
| Eurofighter GAF | GAF | Multi | 56 | 6-8 | | IRIS-T | | | 120C, Meteor |
| F-4D ROKAF | ROKAF | Multi | 13 | 4-8 | | AIM-9M/ P | AIM-7M | | |
| F-4E IAF | IAF | Multi | 13 | 4-8 | | AIM-9M | AIM-7E-2/ M | | |
| F-4E ROKAF | ROKAF | Multi | 13 | 4-8 | | AIM-9M/ P | AIM-7M | | |
| F-4EJ | JASDF | Multi | 13 | 4-8 | | AAM-3, AIM-9M | AIM-7E-2/ M | | |
| F-4F | GAF | Multi | 17 | 5-9 | | AIM-9M/ P | AIM-7M | | AIM-120B |
| F-4G Wild Weasel | USAF | Multi | 13 | 4-8 | | AIM-9M/ P | AIM-7M | | |
| F-5A | USAF | Fighter | 7 | 6 | | AIM-9M/ P | | | |
| F-5E | USAF | Fighter | 7 | 6 | | AIM-9M/ P | | | |
| F-14A | USN | Fighter | 40 | 8 | | AIM-9M | AIM-7M | | AIM-54A |
| F-14B | USN | Fighter | 40 | 8 | | AIM-9M | AIM-7M | | AIM-54A/ C |
| F-14D | USN | Fighter | 40 | 8 | | AIM-9M | AIM-7M | | AIM-54A/ C |
| F-15A | USAF | Fighter | 13 | 8 | | AIM-9M/ P | AIM-7F/ M | | |
| F-15C | USAF | Fighter | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C |
| F-15C 65th AS | USAF | Fighter | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C |
| F-15C Baz IDF | IAF | Fighter | 20 | 8 | | AIM-9M/ P, Python 3/ 4/ 5 | AIM-7M | | AIM-120B/ C |
| F-15CJ | JASDF | Fighter | 20 | 8 | | AAM-3, AIM-9M/ P/ X | AIM-7M | | AAM-4, 120B/ C |
| F-15D | USAF | Fighter | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C |
| F-15DJ | JASDF | Fighter | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C |
| F-15E-220 | USAF | Multi | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C |
| F-15E-229 | USAF | Multi | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C |
| F-15I Ra'am IDF | IAF | Fighter | 20 | 8 | | AIM-9M/ P, Python 3/ 4/ 5 | AIM-7M | | AIM-120B/ C |
| F-15J | JASDF | Fighter | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C |
| F-15K | ROKAF | Fighter | 20 | 8 | | AIM-9X | | | AIM-120C |
| F-16A Blk 15 | USAF | Multi | 17 | 6 | | AIM-9M/ P | AIM-7M | | AIM-120B |
| F-16AM BAF | BAF | Multi | 17 | 6 | | AIM-9M/ P/ X | | | AIM-120B |
| F-16AM RDAF | RDAF | Multi | 17 | 6 | | AIM-9M/ P/ X | | | AIM-120B/ C |
| F-16AM RNLAf | RNLAf | Multi | 17 | 6 | | AIM-9M/ P/ X | | | AIM-120B |
| F-16AM RNoAF | RNoAF | Multi | 17 | 6 | | AIM-9M/ P, IRIS-T | | | AIM-120B |
| F-16B Blk 15 | USAF | Multi | 17 | 6 | | AIM-9M/ P | AIM-7M | | AIM-120B |
| F-16C Blk 30 AGRS | USAF | Multi | 17 | 6 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C |
| F-16C Blk 32 AGRS | USAF | Multi | 17 | 6 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C |
| F-16C Blk 25 | USAF | Multi | 17 | 6 | | AIM-9M/ P | AIM-7M | | AIM-120B |
| F-16C Blk 30 | USAF | Multi | 17 | 6 | | AIM-9M/ P | AIM-7M | | AIM-120B |
| F-16C Blk 30 IAF | Bfs IAF | Multi | 13 | 6 | | AIM-9P | AIM-7F, M | | |
| F-16C Blk 32 | USAF | Multi | 17 | 6 | | AIM-9M/ P | AIM-7M | | AIM-120B |
| F-16C Blk 32 EAF | Bfs EAF | Multi | 13 | 6 | | | AIM-7F, M | | |
| F-16C Blk 32 ROKAF | ROKAF | Multi | 17 | 6 | | AIM-9M/ P | AIM-7M | | AIM-120B |
| F-16CM Blk 40 | USAF | Multi | 17 | 6 | | AIM-9M/ P/ X | | | AIM-120B/ C |
| F-16CM Blk 42 | USAF | Multi | 17 | 6 | | AIM-9M/ P/ X | | | AIM-120B/ C |
| F-16CM Blk 50 | USAF | Multi | 17 | 6 | | AIM-9M/ P/ X | | | AIM-120B/ C |

| | | | | | | | | | |
|---------------------|-------|---------|----|-------|--|--------------------|-----------|---------|---------------|
| F-16CM Blk 52 | USAF | Multi | 17 | 6 | | AIM-9M/ P/ X | | | AIM-120B/ C |
| F-16C Blk 52 CFT | HAF | Multi | 17 | 6 | | AIM-9M, IRIS-T | | | AIM-120B/ C |
| KF-16C Blk 52 ROKAF | ROKAF | Multi | 17 | 6 | | AIM-9M/ P | AIM-7M | | AIM-120B/ C |
| F-16DM Blk 40 | USAF | Multi | 17 | 6 | | AIM-9M/ P/ X | | | AIM-120B/ C |
| F-16DM Blk 52 | USAF | Multi | 17 | 6 | | AIM-9M/ P/ X | | | AIM-120B/ C |
| F/A-18A | USN | Multi | 17 | 8-12 | | AIM-9H/ J/ M/ P | AIM-7F/ M | | AIM-120B |
| F/A-18B | USN | Multi | 17 | 8-12 | | AIM-9H/ J/ M/ P | AIM-7F/ M | | AIM-120B |
| F/A-18C | USN | Multi | 17 | 8-12 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C |
| F/A-18D | USN | Multi | 17 | 8-12 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C |
| F/A-18E | USN | Multi | 17 | 10-16 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C |
| F/A-18F | USN | Multi | 17 | 10-16 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C |
| F-22A | USAF | Fighter | 20 | 6-8 | | AIM-9M/ X | | | AIM-120C |
| F-100D | USAF | Multi | 2 | 0 | | | | | |
| F-104DJ | USAF | Fighter | 5 | 4 | | AIM-9B/ D/ E/ L/ P | | | |
| F-104J | JASDF | Fighter | 5 | 4 | | AIM-9B/ D/ E/ L/ P | | | |
| F-105D | USAF | Multi | 5 | 2-4 | | AIM-9B | | | |
| F-111E | USAF | Attack | 0 | 0 | | | | | |
| F-111F | USAF | Attack | 0 | 0 | | | | | |
| F-117A | USAF | Attack | 0 | 0 | | | | | |
| F-CK-1C | ROCAF | Multi | 17 | 6 | | Tien Chien I | | | Tien Chien II |
| JA 37 | SAF | Fighter | 17 | 6 | | AIM-9M | Skyflash | | AIM-120B |
| MB-339 | ITAF | Attack | 8 | 2 | | AIM-9M, R.550 | | | |
| Mirage 2000C | FAF | Fighter | 17 | 4 | | R.550-II | R.530D | | |
| Mirage 2000D | FAF | Fighter | 14 | 2 | | R.550-II | | MICA IR | |
| Mirage 2000-5F | FAF | Fighter | 14 | 6 | | R.550-II | | MICA IR | MICA EM |
| Mirage 2000EGM | HAF | Fighter | 14 | 8 | | R.550-II | | MICA IR | MICA EM |
| Mirage 2000N | FAF | Fighter | 8 | 2 | | R.550-II | | | |
| Mirage F-1CT | FAF | Fighter | 17 | 4 | | R.550/ -II | R.530D | | |
| Mirage IIIE | FAF | Fighter | 8 | 2 | | AIM-9B, R.550 | | | |
| MQ-9 | USAF | UAV | 0 | 0 | | | | | |
| OV-10A | USAF | FAC | 7 | 2 | | AIM-9M | | | |
| Rafale C | FAF | Multi | 14 | 10 | | | | MICA IR | MICA EM |
| S-3B | USN | Attack | 0 | 0 | | | | | |
| SEPECAT Jaguar | FAF | Multi | 7 | 2 | | AIM-9M | | | |
| Tornado F3 | RAF | Fighter | 17 | 8 | | AIM-9M | Skyflash | AIM-132 | AIM-120B/ C |
| Tornado ECR AMI | ITAF | Attack | 7 | 2 | | AIM-9M | | | |
| Tornado ECR GAF | GAF | Attack | 7 | 2 | | AIM-9M | | | |
| Tornado IDS AMI | ITAF | Attack | 7 | 2 | | AIM-9M | | | |
| Tornado IDS GAF | GAF | Attack | 7 | 2 | | AIM-9M, IRIS-T | | | |
| Tornado GR.4 | RAF | Attack | 14 | 2 | | AIM-9M | | AIM-132 | |
| Typhoon FRG.4 RAF | RAF | Multi | 56 | 6-8 | | | | AIM-132 | 120-C, Meteor |

AV-MF: Russian Naval Aviation (Aviatsiya Voenno Morskogo Flota)
 BAF: Belgium Air Force (Belgische Luchtmacht/Force Aérienne Belge)
 EAF: Egyptian Air Force
 EPAF: European Participating Air Forces
 FAF: French Air Force (Armée de l'Air) (Army of the Air)
 GAF: German Air Force (LW: Luftwaffe)
 HAF: Hellenic Air Force (Greece) (Polemikí Aeroporía)
 IAF: Israeli Air Force
 ITAF: Italian Air Force (AM: Aeronautica Militare)
 JASDF: Japanese Air Self Defense Force (Kōkū Jieitai)
 PLAAF: Peoples Liberation Army Air Force (China)
 RAF: Royal Air Force (England)
 RAAF: Royal Australian Air Force
 RCAF: Royal Canadian Air Force
 RDAF: Royal Danish Air Force (Denmark) (Flyvevåbnet)
 RMAF: Royal Malaysian Air Force
 RN: British Royal Navy aka FAA
 RNLAf: Royal Netherlands Air Force (Koninklijke Luchtmacht)

RNoAF: Royal Norwegian Air Force (Luftforsvaret)
 ROCAF: Republic of China Air Force (Taiwanese Air Force)
 ROKAF: Republic of Korea Air Force (South Korea)
 RSAF: Republic of Singapore Air Force
 SAF: Swedish Air Force (Flygvapnet)
 TuAF: Turkish Air Force (Türk Hava Kuvvetleri)
 USAF: United States Air Force
 USN: United States Navy
 USMC: United States Marine Corps
 VVS: Russian Air Force (Voyenno-Vozdushnye Sily Rossii)



KTO-Tiger Spirit

Objectives

ROK/ US wins if:

Kalma, P'Yongyang, Onch'ang-ni, Hamju, Huich'on, Kaech'on and Taehung are controlled in less than 5 days, or....

Kalma and P'Yongyang are controlled in less than 5 days and DPRK strength is less than 1/10th that of allied forces.

DPRK wins if:

Either Kalma or P'Yongyang are controlled in less than 5 campaign days and DPRK maintains 1:1 force ratio.

If none of these conditions are met in 5 days then the outcome will be a stalemate.

KTO-Rolling Fire

Objectives

ROK/ US wins if:

Kalma and P'Yongyang are controlled in less than 30 days or....

Kalma and P'Yongyang are controlled in less than 5 days and DPRK strength is less than 1/10th that of allied forces.

DPRK wins if:

Seoul and Pusan are controlled in less than 30 days.

If none of these conditions are met in 30 days then the outcome will be a peace treaty. If no major objective is captured in 20 days then the outcome will be a stalemate.

KTO-Iron Fortress

Objectives

ROK/ US wins if:

Pusan and Seoul are controlled in less than 5 days.

DPRK wins if:

Seoul and Pusan are controlled in less than 5 days.

If none of these conditions are met in 5 days then the outcome will be a peace treaty.

See aircraft charts for additional campaign objectives.

Balkans-Balance of Power

Objectives

Blueforce wins if:

Zagreb, Zadar, Banja Luka, Split, Mostar, Tuzla, Osijek, Sarajevo, Gornji Vakuf and Bihać are controlled.

Opfor wins if:

Rijeka, Kranj and Ljubljana are controlled.

Balkans-Under Siege

Objectives

Blueforce wins if:

Podgorica City, Plav Town, Pec City, Dakovica City, Volkovija Town and Velesta City are controlled.

Opfor wins if:

Shkoder City, Kukes Town, Elbasan City and Tirane City are controlled.

Balkans-Powderkeg

Objectives

Blueforce wins if:

Beograd City is controlled or if Bijeljina City, Vlascencia City, Novi Sad City, Zrenjanin City, Stepoejevac City, Sabac City and Sarajevo Village are controlled.

Opfor wins if:

Bihać City, Banja Luka City, Gornji Vakuf City, Mostar City, Sarajevo City, Tuzla City, Gruda City, Split City, Zadar City, Rijeka City, Zagreb City and Osjek City are controlled.

| AIRCRAFT THREAT GUIDE - OPFOR (KTO-Tiger Spirit) | | | | | | | | | | |
|--|--------|-------------|-----|----------------|--------------|--------------------|----------|----------|-----------|---------------------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| J-5 | DPRK | Attack | 2 | 0 | | | | | | Panghyon, |
| J-6 | DPRK | Attack | 2 | 0 | | | | | | Hwangsuwon |
| J-7G | DPRK | Fighter | 8 | 4 | AA-2B | AA-2C, PL-7, PL-8 | | | | T'aech'on |
| J-8I | DPRK | Interceptor | 8 | 4 | | PL-7, PL-8 | | | | T'aech'on |
| J-11 | PLAAF | Multi | 15 | 10 | | AA-8, AA-11 | AA-10A/C | AA-10B/D | AA-12 | Shenyang, Liuhe |
| J-20 | PLAAF | Fighter | 17 | 4-6 | | PL-10 | | | PL-12/ 15 | Shenyang |
| Mig-21MF | DPRK | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Hwangsuwon, Orang |
| Mig-23ML | DPRK | Multi | 12 | 4-6 | AA-2B, AA-7A | AA-2C, AA-7B, AA-8 | | | | Iwon |
| Mig-29A | DPRK | Multi | 12 | 6 | | AA-8, AA-11 | AA-10A | | | Samjiyon-up, Orang |
| Mig-29S | DPRK | Multi | 15 | 6 | | AA-8, AA-11 | AA-10A | | AA-12 | Samjiyon-up |
| Q-5N | DPRK | Attack | 5 | 4 | | AA-2C, PL-7 | | | | Kaech'on, Panghyon, |
| Su-25 | DPRK | Attack | 7 | 2 | | AA-8 | | | | Iwon, Orang |
| Su-30MKK | PLAAF | Multi | 15 | 10 | | AA-11 | AA-10A/C | AA-10B/D | AA-12 | Shenyang, Liuhe |
| Su-35S | VVS | Multi | 15 | 8 | | AA-11 | AA-10A/C | AA-10B/D | AA-12 | Uglovoye |
| Su-35SK | VVS | Multi | 17 | 10 | | PL-10 | | | PL-12 | Liuhe |

| AIRCRAFT THREAT GUIDE - BLUEFOR (KTO-Tiger Spirit) | | | | | | | | | | |
|--|--------|---------|-----|----------------|----------|--------------|----------|--------|-------------|-----------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| A-10C | USAF | Attack | 7 | 2 | | AIM-9P/ M | | | | Haeju |
| EA-18G | USN | EW | 17 | 2 | | | | | AIM-120C | Seoul |
| F-4E ROKAF | ROKAF | Multi | 13 | 4-8 | | AIM-9P/ M | AIM-7M | | | Gangneung |
| F-5E | ROKAF | Fighter | 7 | 6 | | AIM-9P/ M | | | | Gangneung |
| F-15C | USAF | Fighter | 20 | 8 | | AIM-9P/ M/ X | AIM-7M | | AIM-120B/ C | Gimpo |
| F-15E-229 | USAF | Multi | 20 | 8 | | AIM-9P/ M/ X | AIM-7M | | AIM-120B/ C | Seoul |
| F-16C Blk 32 | ROKAF | Multi | 17 | 6 | | AIM-9P/ M | AIM-7M | | AIM-120B | Gangneung |
| F-16CM Blk 40 | USAF | Multi | 17 | 6 | | AIM-9P/ M/ X | | | AIM-120B/ C | Haeju |
| F-16CM Blk 50 | USAF | Multi | 17 | 6 | | AIM-9P/ M/ X | | | AIM-120B/ C | Gimpo |
| F-117A | USAF | Attack | 0 | 0 | | | | | | Seoul |
| MQ-9 | USAF | Drone | 0 | 0 | | | | | | Osan |
| | | | | | | | | | | |
| | | | | | | | | | | |

DPRK: Democratic People's Republic of Korea (North Korea)
 PLAAF: Peoples Liberation Army Air Force (China) (PRC)
 ROKAF: Republic of Korea Air Force (South Korea)
 USAF: United States Air Force
 USN: United States Navy
 VVS: Russian Air Force (Voyenno-Vozdushnye Sily Rossii) (CIS)

Objectives

ROK/ US wins if:

Kalma, P'yongyang, Onch'ang-ni, Hamju, Huich'on, Kaech'on and Taehung are controlled in less than 5 campaign days, or...
 Kalma and P'yongyang are controlled in less than 5 campaign days and DPRK strength is less than 1/10th that of allied forces.

DPRK wins if:

Either Kalma or P'yongyang are controlled in less than 5 campaign days and DPRK maintains 1:1 force ratio.
 If none of these conditions are met in 5 days then the outcome will be a stalemate.

BOMBERS AND SUPPORT AC

A-50 Liuhe, Uglovoye
 An-24 Samjiyon-up
 B-2A Iwami
 C-17 Iwami
 C-130H Gunsan
 CH-53 815th Mech Corps
 E-3 Kadena (Off Map South)
 E-8C Kadena (Off Map South)
 IL-28 Iwon
 IL-76M Liuhe
 IL-78M Uglovoye, Liuhe
 KC-10 Kadena (Off Map South)
 KC-135R Kadean (Off Map South)
 MD-500 108th Mech Corps
 Mi-26 Tangch'on
 RC-135V Iwakuni
 OH-58D 815th Mech Corps
 Tu-16 Liuhe
 UH-1H 806th Mech Corps



AIRCRAFT THREAT GUIDE - OPFOR (KTO-Rolling Fire)

| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
|----------|--------|-------------|-----|----------------|--------------|--------------------|--------------|---------------|-----------|-----------------------|
| J-5 | DPRK | Attack | 2 | 0 | | | | | | Kuum-ni, Ayang-Ni, *1 |
| J-6 | DPRK | Attack | 2 | 0 | | | | | | Ich'on, Kalma, *2 |
| J-8I | DPRK | Interceptor | 8 | 4 | | PL-7, PL-8 | | | | Liuhe |
| J-11 | PLAAF | Multi | 15 | 10 | | AA-8, A-11 | AA-10A/ C | AA-10B/ D | AA-12 | Liuhe, Shenyang |
| J-15 | PLAAF | Multi | 17 | 8 | | PL-8, PL-10 | | | PL-12 | CV-16 Liaoning |
| J-20 | PLAAF | Fighter | 17 | 6 | | PL-10 | | | PL-12/ 15 | Shenyang |
| Mig-21MF | DPRK | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Taetan, Hyon-Ni, *3 |
| Mig-23ML | DPRK | Multi | 12 | 4-6 | AA-2B, AA-7A | AA-2C, AA-7B, AA-8 | | | | Kalma, Koksan, *4 |
| Mig-29A | DPRK | Multi | 12 | 6 | | AA-8, AA-11 | AA-10A | | | Kalma, Sunan, *5 |
| Mig-29S | VVS | Multi | 15 | 6 | | AA-8, A-11 | AA-10A | | AA-12 | Uglovoeye |
| Mig-31 | VVS | Interceptor | 20 | 8-10 | | AA-8, A-11 | AA-9, AA-10C | AA-6B, AA-10B | | Uglovoeye |
| Q-5N | PLAAF | Attack | 5 | 4 | | AA-2C, PL-7 | | | | Liuhe |
| Su-25 | DPRK | Attack | 7 | 2 | | AA-8 | | | | Kalma, Koksan, *6 |
| Su-27 | DPRK | Multi | 15 | 10 | | AA-8, AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Uglovoeye |
| Su-30MKK | PLAAF | Multi | 15 | 10 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Liuhe, Shenyang, *7 |
| Su-33 | VVS | Multi | 15 | 10 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Kuznetsov |
| Su-35S | VVS | Multi | 15 | 8 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Uglovoeye |
| Su-35SK | PLAAF | Multi | 17 | 10 | | PL-10 | | | PL-12 | Liuhe |

AIRCRAFT THREAT GUIDE - BLUEFOR (KTO-Rolling Fire)

| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
|-------------------|--------|---------|-----|----------------|----------|--------------|-----------|--------|-------------|---------------------|
| A-10C | USAF | Attack | 7 | 2 | | AIM-9P/ M | | | | Osan |
| AV-8B Harrier II+ | USMC | Attack | 17 | 4 | | AIM-9M | | | AIM-120B | Wasp LHD-1 |
| EA-6B | USAF | EW | 0 | 0 | | | | | | Iwakuni |
| EA-18G | USN | EW | 20 | 2 | | | | | AIM-120C | CVN-70 Vinson |
| F-4E ROKAF | ROKAF | Multi | 13 | 4-8 | | AIM-9P/ M | AIM-7M | | | Cheongju |
| F-5E | ROKAF | Fighter | 7 | 6 | | AIM-9P/ M | | | | Gangneung, Suwon |
| F-15C | USAF | Fighter | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C | Gunsan |
| F-15K | ROKAF | Multi | 20 | 8 | | AIM-9X | | | AIM-120C | Daegu |
| F-16C Blk 32 | ROKAF | Multi | 17 | 6 | | AIM-9P/ M | AIM-7M | | AIM-120B | Jungwon |
| F-16C Blk 52 | ROKAF | Multi | 17 | 6 | | AIM-9P/ M | AIM-7M | | AIM-120B | Gunsan, Jungwon, *8 |
| F-16CM Blk 40 | USAF | Multi | 17 | 6 | | AIM-9P/ M/ X | | | AIM-120B/ C | Gunsan, Osan |
| F-16CM Blk 50 | USAF | Multi | 17 | 6 | | AIM-9P/ M/ X | | | AIM-120B/ C | Gunsan, Gangneung |
| F/A-18C | USN | Multi | 17 | 8-12 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C | CVN-70 Vinson |
| F/A-18D | USN | Multi | 17 | 8-12 | | AIM-9P/ M/ X | AIM-7F/ M | | AIM-120B/ C | Iwakuni |
| F/A-18E | USN | Multi | 17 | 10-16 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C | CVN-70 Vinson |
| F/A-18F | USN | Multi | 17 | 10-16 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C | CVN-70 Vinson |
| MQ-9 | USAF | Drone | 0 | 0 | | | | | | Gwangju |

DPRK: Democratic People's Republic of Korea (North Korea)
 FRAB: Forward Reserve Air Base
 PLAAF: Peoples Liberation Army Air Force (China) (PRC)
 ROKAF: Republic of Korea Air Force (South Korea)
 USAF: United States Air Force
 USN: United States Navy
 USMC: United States Marine Corps
 VVS: Russian Air Force (Voyenno-Vozdushnye Silyi Rossii) (CIS)

*1: Mirim, Hwangju
 *2: Koksan, Nuch'on-ni, Taebukpo-ri
 *3: Haeju, Koksan
 *4: Ongjin, Toksan
 *5: Sunchon
 *6: Kuum-ni
 *7: Uglovoeye
 *8: Seosan

BOMBERS AND SUPPORT AC

| | | | |
|--------|---------------------------------|---------|---------------------------------------|
| A-50 | Shenyang, Uglovoeye | Ka-52K | Kuznetsov |
| AH-15 | R217, Chuncheon, Wasp LHD-1 | KC-130 | Iwakuni |
| AH-64D | Pyongtaeg | KC-135R | Kadena (Off Map South) |
| AH-64E | FRAB, Pyeongtaek | MD-500 | Chuncheon, R103, R217, Sokcho |
| An-2 | Nuch'on-ni, Taebukpo-ri | MD-500 | Hyon-Ni, 4th Inf Corps, 2nd Inf Corps |
| An-124 | Uglovoeye | MH-60R | CVN-70 Vinson, Wasp LHD-1 |
| An-24 | Pukch'ang-up, Sondok, Shenyang | Mi-8 | Hyon-Ni, 4th Inf Corps |
| C-17 | Off Map South | MV-22 | Wasp LHD-1 |
| C-130H | Gimhae, Seoul, Yokota (Off Map) | Q-5N | Liuhe |
| CH-47 | FRAB, Pyongtaeg | RC-135W | Kadena (Off Map South) |
| CH-53 | Wasp LHD-1 | Tu-16 | Liuhe |
| E-2C | CVN-70 Vinson | U-2 | Osan |
| E-3 | Kadena (Off Map South) | UH-1H | Chuncheon, R419, Yongin |
| E-8C | Kadena (Off Map South) | UH-1J | Wasp LHD-1 |
| IL-28 | Hwangju, Kalma, Kuumni | UH-60L | Pyongtaeg, R217, R505, Seoul, Yongin |
| IL-76M | Puckchang-up | | |
| IL-78M | Uglovoeye, Shenyang | | |

Objectives

ROK/ US wins if:
 Kalma and P'yongyang are controlled in less than 30 campaign days or...
 Kalma and P'yongyang are controlled in less than 5 campaign days and DPRK strength is less than 1/10th of allied forces.
DPRK wins if:
 Seoul and Pusan are controlled in less than 30 campaign days.
 If none of these conditions are met in 30 days then the outcome will be a peace treaty.
 if no major objective is captured in 20 days then the outcome will be a stalemate.



AIRCRAFT THREAT GUIDE - OPFOR (KTO-Iron Fortress)

| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
|----------|--------|-------------|-----|----------------|--------------|--------------------|--------------|---------------|-----------|----------------------|
| J-6 | DPRK | Attack | 2 | 0 | | | | | | Ich'on, Ongin, *1 |
| J-15 | PLAAF | Multi | 17 | 8 | | PL-8, PL-10 | | | PL-12 | CV-16 Liaoning |
| J-20 | PLAAF | Fighter | 17 | 6 | | PL-10 | | | PL-12/ 15 | Shenyang |
| Mig-19SF | DPRK | Attack | 2 | 0 | | | | | | Ongjin, Sokcho |
| Mig-21MF | DPRK | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Suwon, Chuncheon |
| Mig-23ML | DPRK | Multi | 12 | 4-6 | AA-2B, AA-7A | AA-2C, AA-7B, AA-8 | | | | Gangneung, Gimpo,*2 |
| Mig-29A | DPRK | Multi | 12 | 6 | | AA-8, AA-11 | AA-10A | | | Mirim, Seoul, Sondok |
| Mig-29S | DPRK | Multi | 15 | 6 | | AA-8, AA-11 | AA-10A | | AA-12 | Sunan |
| Mig-31 | VVS | Interceptor | 20 | 8-10 | | AA-8, A-11 | AA-9, AA-10C | AA-6B, AA-10B | | Uglovoye |
| Q-5N | DPRK | Attack | 5 | 4 | | AA-2C, PL-7 | | | | Hyon-Ni, Sunchon |
| Su-25 | DPRK | Attack | 7 | 2 | | AA-8 | | | | Gimpo, Onchon |
| Su-33 | VVS | Multi | 15 | 10 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Kuznetsov |
| Su-35S | VVS | Multi | 15 | 8 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Uglovoye |
| Su-35SK | PLAAF | Multi | 17 | 10 | | PL-10 | | | PL-12 | Liuhe |

AIRCRAFT THREAT GUIDE - BLUEFOR (KTO-Iron Fortress)

| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
|-------------------|--------|---------|-----|----------------|----------|-----------------|-----------|--------|-------------|-----------------|
| A-10C | USAF | Attack | 7 | 2 | | AIM-9P/ M | | | | Gunsan |
| AV-8B Harrier II | USMC | Attack | 7 | 4 | | AIM-9M | | | | Gwangju |
| AV-8B Harrier II+ | USMC | Attack | 17 | 4 | | AIM-9M | | | AIM-120B | Wasp LHD-1 |
| CF188 | RCAF | Multi | 17 | 12 | | AIM-9H/ J/ M/ P | AIM-7F/ M | | AIM-120B | Sacheon |
| EA-18G | USN | Multi | 20 | 2 | | | | | AIM-120C | CVN-70, Gimhae |
| F-4E ROKAF | ROKAF | Multi | 13 | 4-8 | | AIM-9P/ M | AIM-7M | | | Pohang |
| F-15C | USAF | Fighter | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C | Gunsan |
| F-16CM Blk 40 | USAF | Multi | 17 | 6 | | AIM-9P/ M/ X | | | AIM-120B/ C | Gimhae, Pohang |
| F-16CM Blk 50 | USAF | Multi | 17 | 6 | | AIM-9P/ M/ X | | | AIM-120B/ C | Gunsan |
| F/A-18C | USN | Multi | 17 | 8-12 | | AIM-9P/ M/ X | AIM-7F/ M | | AIM-120B/ C | CVN-70, Sacheon |
| F/A-18D | USN | Multi | 17 | 8-12 | | AIM-9P/ M/ X | AIM-7F/ M | | AIM-120B/ C | CVN-70 |
| F/A-18E | USN | Multi | 17 | 10-16 | | AIM-9P/ M/ X | AIM-7F/ M | | AIM-120B/ C | CVN-70, Gimhae |
| F/A-18F | USN | Multi | 17 | 10-16 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C | Gimhae |
| MQ-9 | USAF | Drone | 0 | 0 | | | | | | Iwakuni |
| Tornado IDS GAF | GAF | Attack | 7 | 2 | | AIM-9M, IRIS-T | | | | Sacheon |

DPRK: Democratic People's Republic of Korea (North Korea)
 FRAB: Forward Reserve Air Base
 PLAAF: Peoples Liberation Army Air Force (China) (PRC)
 ROKAF: Republic of Korea Air Force (South Korea)
 USAF: United States Air Force
 USN: United States Navy
 USMC: United States Marine Corps
 VVS: Russian Air Force (Voyenno-Vozdushnye Silyi Rossii) (CIS)

*1: Pongsan, Sokcho
 *2: Haeju, Kwail

Objectives

ROK/ US wins if:
 Pusan and Seoul are controlled in less than 5 campaign days.
 DPRK wins if:
 Seoul and Pusan are controlled in less than 5 campaign days.
 If none of these conditions are met in 5 days then the outcome will be a peace treaty.

BOMBERS AND SUPPORT AC

- A-50 Uglovoye, Shenyang
- AH-1S Suemal,
- AH-64D 2nd Army Base, Wasp LHD-1
- An-2 R113
- An-24 Kalma, Kuum-ni
- B-1B Iwami
- B-2A Iwami
- C-17 Iwami
- C-130H Gimhae
- CH-47 Camp Walker
- E-2C CVN-70 CSG
- E-3A Kadena (Off Map South)
- E-8C Kadena (Off Map South)
- IL-28 Hwangjiu, Kuum-ni
- IL-76M Koksan, Sunan
- IL-78M Uglovoye, Shenyang
- Ka-52K Kuznetsov
- KC-135R Kadena (Off Map South)
- MD-500 Singal
- Mi-8 Sangwon, Wonju
- UH-1J Camp Walker
- UH-60L Suemal

| AIRCRAFT THREAT GUIDE - OPFOR (KTO-Double Dragon) | | | | | | | | | | |
|---|--------|-------------|-----|----------------|--------------|--------------------|-----------|-----------|-----------|---------------------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| J-6B | PLAAF | Fighter | 2 | 0 | | | | | | Uiju |
| J-7G | PLAAF | Fighter | 8 | 4 | AA-2B | AA-2C, PL-7, PL-8 | | | | Kwail, Liuhe, *1 |
| J-8I | PLAAF | Interceptor | 8 | 4 | | PL-7, PL-8 | | | | Shenyang, Liuhe, *2 |
| J-11 | PLAAF | Multi | 15 | 10 | | AA-8, AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Kaech'on, Kwail, *3 |
| J-15 | PLAAF | Multi | 17 | 10 | | PL-8, PL-10E | | | PL-12 | CV-16 Liaoning CSG |
| J-20 | PLAAF | Fighter | 17 | 6 | | PL-10 | | | PL-12/ 15 | Shenyang |
| Q-5N | PLAAF | Attack | 5 | 4 | | AA-2C, PL-7 | | | | Ongjin, Sunan |
| Su-27 | VVS | Multi | 15 | 10 | | AA-8, AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Uglovoeye |
| Mig-23ML | PLAAF | Multi | 12 | 4-6 | AA-2B, AA-7A | AA-2C, AA-7B, AA-8 | | | | Mirim, Pukchang-up |
| Mig-29S | VVS | Multi | 15 | 6 | | AA-8, AA-11 | AA-10A | | AA-12 | Uglovoeye |
| Su-30MKK | PLAAF | Multi | 15 | 10 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Dalian |
| Su-35S | VVS | Multi | 15 | 8 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Uglovoeye |
| Su-35SK | PLAAF | Multi | 17 | 10 | | PL-10 | | | PL-12 | Shenyang |

| AIRCRAFT THREAT GUIDE - BLUEFOR (KTO-Double Dragon) | | | | | | | | | | |
|---|--------|---------|-----|----------------|--------------|---------------------|-------------|--------|----------------|----------------------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| A-10C | USAF | Attack | 7 | 2 | | AIM-9P/ M | | | | Osan |
| F-4E ROKAF | ROKAF | Multi | 13 | 4-8 | | AIM-9P/ M | AIM-7M | | | Gimpo, Cheongju |
| F4-EJ | JASDF | Multi | 13 | 4-8 | | AAM-3, AIM-9M | AIM-7E-2/ M | | | Iwami |
| F-5E | ROKAF | Fighter | 7 | 6 | | AIM-9P/ M | | | | Gangneung, Suwon |
| F-15C | USAF | Fighter | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C | Gunsan |
| F-15CJ | JASDF | Fighter | 20 | 8 | | AAM-3, AIM-9M/ P/ X | AIM-7M | | AAM-4, 120B/ C | Iwami |
| F-15K | ROKAF | Fighter | 20 | 8 | | AIM-9X | | | AIM-120C | Daegu |
| F-16C Blk 32 | ROKAF | Multi | 17 | 6 | | AIM-9P/ M | AIM-7M | | AIM-120B | Jungwon |
| F-16C Blk 52 | ROKAF | Multi | 17 | 6 | | AIM-9P/ M | AIM-7M | | AIM-120B | Oson, Seosan, Sokcho |
| F-16CM Blk 40 | USAF | Multi | 17 | 6 | | AIM-9P/ M/ X | | | AIM-120B/ C | Gunsan, Osan |
| F-CK-1C | JASDF | Multi | 17 | 6 | | Tien Chien I | | | Tien Chien II | Iwami |
| J-6 | DPRK | Fighter | 2 | 0 | | | | | | Gunsan, Iwon |
| Mig-19SF | DPRK | Attack | 2 | 0 | | | | | | Iwon, |
| Mig-21MF | DPRK | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Hwangju, Hyon-ni, *4 |
| Mig-23ML | DPRK | Multi | 12 | 4-6 | AA-2B, AA-7A | AA-2C, AA-7B, AA-8 | | | | Hæju, Kuum-ni, *5 |
| Mig-29A | DPRK | Fighter | 12 | 6 | | AA-8, AA-11 | AA-10A | | | Onch'on, Gunsan |
| MQ-9 | USAF | Drone | 0 | 0 | | | | | | Iwakumi |
| Su-20 | DPRK | Attack | 7 | 4 | | AA-2C, AA-8 | | | | Onch'on, Hwangsuwon |
| Su-25 | DPRK | Attack | 7 | 2 | | AA-8 | | | | Gunsan, Kuum-ni, *6 |

DPRK: Democratic People's Republic of Korea (North Korea)
 FRAB: Forward Reserve Air Base
 JASDF: Japanese Air Self Defense Force (Kōkū Jieitai)
 PLAAF: Peoples Liberation Army Air Force (China) (PRC)
 ROKAF: Republic of Korea Air Force (South Korea)
 USAF: United States Air Force
 USN: United States Navy
 USMC: United States Marine Corps
 VVS: Russian Air Force (Voyenno-Vozdushnye Sily Rossii) (CIS)

- *1: Samjiyon-up
- *2: Kaech'on
- *3: Shenyang, Samjiyon-up, Uiju
- *4: Hwangsuwon, Panghyon, Sanghyon, Sondok
- *5: Mirim, Pukchang-up, Seosan
- *6: Panghyon

Objectives

ROK/ US/ DPRK wins if:
 P'yongyang, Kalma, Koksan and Changyon are captured in less than 10 campaign days and PRC strength is less than 1/10th that of allied forces.
DPRK wins if:
 P'yongyang, Kalma, Koksan, Changyon, Chongjin and Tan-tung are controlled.
PRC wins if:
 P'yongyang, Kaesong, Koksan and either Changyon or Kalma are controlled in less than 15 campaign days and PRC maintains 1:1 force ratio.

BOMBERS AND SUPPORT AC

- A-50 Changchun, Shenyang, Uglovoeye
- AH-15 Camp Humphreys
- An-2 Pongsan, Taebukpo-ri
- An-24 Gunsan, Hyon-Ni
- An-72 Shenyang, Uglovoeye
- AC-130 Gunsan
- C-130H Gunsan, Seoul
- CH-47 Camp Eagle
- E-2C Iwami
- E-3 Seoul
- E-8C Seoul
- IL-28 Onch'on
- IL-78M Changchun (Off Map), Kuum-ni
- KC-10 Iwami
- KC-135R Seoul
- MV-22 Gunsan
- Mi-8 Kwail, Ongjin, 3rd Inf, Shenyang, P'Yonyang
- Mi-8 815th Mech, 2nd Artillery, Onch'on
- Mi-26 Uglovoeye
- RC-135W Iwakumi
- Tu-16 Off Map, Shenyang, T'aech'on
- U-2 Gunsan
- UH-1H R419, Seoul, Songwhan
- UH-60L Gunsan

| AIRCRAFT THREAT GUIDE - OPFOR (KTO-Bear Trap) | | | | | | | | | | |
|---|--------|-------------|-----|----------------|----------|--------------------|--------------|---------------|---------|----------------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| Mig-27 | VVS | Attack | 8 | 4-6 | | AA-2C, AA-7B, AA-8 | | | | Gimhae |
| Mig-29S | VVS | Multi | 15 | 6 | | AA-8, AA-11 | AA-10A | | AA-12 | Gimhae |
| Mig-31 | VVS | Interceptor | 20 | 8-10 | | AA-8, AA-11 | AA-9, AA-10C | AA-6B, AA-10B | | Gimhae |
| Su-24M | VVS | Attack | 7 | 2 | | AA-8 | | | | Uglovoye |
| Su-25 | VVS | Attack | 7 | 2 | | AA-8 | | | | Sokcho |
| Su-27 | VVS | Multi | 15 | 10 | | AA-8, AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Uglovoye |
| Su-33 | VVS | Multi | 15 | 10 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Kuznetsov |
| Su-35S | VVS | Multi | 15 | 8 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Pohang, Sokcho |
| Su-39 | VVS | Attack | 15 | 6 | | AA-8 | | | AA-12 | Tsushima |
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| AIRCRAFT THREAT GUIDE - BLUEFOR (KTO-Bear Trap) | | | | | | | | | | |
|---|--------|---------|-----|----------------|----------|-----------|----------|--------|----------|----------------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| A-10A | ROKAF | Attack | 7 | 2 | | AIM-9P/ M | | | | Osan |
| F-4E ROKAF | ROKAF | Multi | 13 | 4-8 | | AIM-9P/ M | AIM-7M | | | Pyontaek, Osan |
| F-5E ROKAF | ROKAF | Fighter | 7 | 6 | | AIM-9P/ M | | | | Gimpo, Wonju |
| F-16C Blk 32 | ROKAF | Multi | 17 | 6 | | AIM-9P/ M | AIM-7M | | AIM-120B | Gunsan, Osan |
| F-16C Blk 52 | ROKAF | Multi | 17 | 6 | | AIM-9P/ M | AIM-7M | | AIM-120B | Jungwon, Osan |
| | | | | | | | | | | |
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ROKAF: Republic of Korea Air Force/ South Korea
 USAF: United States Air Force
 VVS: Russian Air Force (Voyenno-Vozdushnye Sily Rossii) (CIS)

Objectives

ROK wins if:

Pusan, Sockcho and Pohang are controlled in less than 8 campaign days.

CIS wins if:

Not pushed out of South Korea within 8 campaign days.

BOMBERS AND SUPPORT AC

- A-50 Uglovoye
- AH-64A Cheongju
- C-17 Sacheon
- C-130H Gunsan
- E-3 Seoul
- E-8C Seoul
- IL-76M Gangneung
- IL-78M Gangneung
- Ka-52 Daegu
- Ka-52K Kuznetsov
- KC-135E Gwangju
- KC-135R Seoul
- Mi-8 Daegu
- Mi-26 Gimhae
- Mi-28 Gimhae
- RC-135W Seoul
- Tu-95MS Uglovoye
- Tu-160 Uglovoye
- UH-60L Osan



| AIRCRAFT THREAT GUIDE - OPFOR (KTO-Mantis at Dawn) | | | | | | | | | | |
|--|--------|---------|-----|----------------|----------|--------------|-----------|---------|-------------------|-----------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| F-16AM RDAF | RDAF | Multi | 17 | 6 | | AIM-9M/ P/ X | | | AIM-120B/ C | Sacheon |
| F-16AM RNLAf | RNLAf | Multi | 17 | 6 | | AIM-9M/ P/ X | | | AIM-120B | Sacheon |
| F-16CM Blk 50 | USAF | Multi | 17 | 6 | | AIM-9P/ M/ X | | | AIM-120B/ C | Gunsan |
| F-16DM Blk 52 | USAF | Multi | 17 | 6 | | AIM-9P/ M/ X | | | AIM-120B/ C | Gunsan |
| F/A-18C | USN | Multi | 17 | 8-12 | | AIM-9P/ M/ X | AIM-7F/ M | | AIM-120B/ C | Gunsan |
| Mirage 2000D | FAF | Fighter | 14 | 2 | | R.550-II | | MICA IR | | Sacheon |
| Rafale C | FAF | Multi | 14 | 10 | | | | MICA IR | MICA EM | Gwangju |
| Tornado IDS GAF | GAF | Attack | 7 | 2 | | AIM-9M | | | | Sacheon |
| Typhoon FGR.4 | RAF | Multi | 56 | 6-8 | | | | AIM-132 | AIM-120-C, Meteor | Gwangju |
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| AIRCRAFT THREAT GUIDE - BLUEFOR (KTO-Mantis at Dawn) | | | | | | | | | | |
|--|--------|---------|-----|----------------|----------|--------------|-----------|--------|-------------|---------------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| AV-8B Harrier II+ | USMC | Attack | 17 | 4 | | AIM-9M | | | AIM-120B | Wasp LHD-1 |
| A-4E | USAF | Attack | 7 | 4 | | AIM-9J/ M/ P | | | | Osan |
| A-10A | USAF | Attack | 7 | 2 | | AIM-9P/ M | | | | Osan |
| A-10C | USAF | Attack | 7 | 2 | | AIM-9P/ M | | | | Seosan |
| F-4E ROKAF | ROKAF | Multi | 13 | 4-8 | | AIM-9P/ M | AIM-7M | | | Cheongju |
| F-15C | USAF | Fighter | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C | Osan |
| F-15C 65th AS | USAF | Fighter | 20 | 8 | | AIM-9P/ M/ X | AIM-7M | | AIM-120B/ C | Iwami |
| F-16C Blk 30 AGRS | USAF | Multi | 17 | 6 | | AIM-9P/ M/ X | AIM-7M | | AIM-120B/ C | Seosan |
| F-16C Blk 32 AGRS | USAF | Multi | 17 | 6 | | AIM-9P/ M/ X | AIM-7M | | AIM-120B/ C | Seosan |
| F/A-18A AGRS | USN | Multi | 17 | 8-12 | | AIM-9M/ X | AIM-7F/ M | | AIM-120B | CVN-70 Vinson |
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FAF: French Air Force (Armée de l'Air) (Army of the Air)
 ITAF: Italian Air Force (AM: Aeronautica Militare)
 RAF: Royal Air Force (England)
 ROKAF: Republic of Korea Air Force/ South Korea
 USAF: United States Air Force
 USMC: United States Marine Corps
 USN: United States Navy

Objectives

Blueforce wins if:
 Cheongju is controlled in less than 5 campaign days.
 Redforce wins if:
 Cheongju stays controlled within 5 campaign days.

BOMBERS AND SUPPORT AC

AC-130H Seosan
 AH-64A/D Pyeongtaek
 B-1B Iwami
 B-2A Iwami
 C-130H Seosan
 C-160D Gunsan
 C-160R Sacheon
 EA-6B CVN-70 Vinson
 E-2C CVN-70 Vinson
 E-3 Gwangju
 KC-10 Iwami
 KDC-10 Sacheon
 MH-60R CVN-70, Wasp LHD-1
 UH-60L Sacheon
 U-2 Cheongju



| AIRCRAFT THREAT GUIDE - OPFOR (Balkans Balance of Power) | | | | | | | | | | |
|--|--------|---------|-----|----------------|-------------|-------------------|-----------|-----------|---------|---------------------------------------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| G-4 | FRY | Attack | 7 | 2 | | AA-8 | | | | Dubrovnik, Kastela, Ladevci, *1 |
| J-22 | FRY | Attack | 7 | | AA-2B | AA-8 | | | | Dubrave, Ladevci, Mostar, Ponikve, *2 |
| Mig-21bis | FRY | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Pleso, Nikola, Tesla |
| Mig-21F-13 | FRY | Fighter | 7 | 2 | AA-1 | AA-2C | | | | Dubrovnik |
| Mig-21MF | FRY | Multi | 8 | 4 | AA-1, AA-2B | AA-2C, AA-8 | | | | Dolac, Kastela, Ubdnina, Zeljava, *3 |
| Mig-29A | FRY | Fighter | 12 | 6 | | AA-8, AA-11 | AA-10A | | | Banja Luka, Batajnica, Dubrave, Kilsa |
| Su-25 | FRY | Attack | 7 | 2 | | AA-8 | | | | St. Paul |
| Su-33 | FRY | Multi | 15 | 10 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Kuznetsov |
| Su-39 | FRY | Attack | 15 | 6 | AA-2B | AA-2C, AA-8, A-11 | | | AA-12 | Kuznetsov |

| AIRCRAFT THREAT GUIDE - BLUEFOR (Balkans Balance of Power) | | | | | | | | | | |
|--|--------|---------|-----|----------------|----------|-----------------|------------------|---------|-------------|--|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| A-10A | USAF | Attack | 7 | 2 | | AIM-9M | | | | Brnik, Cerklje ob Kiri, Matera, Pula, *4 |
| AMX | ITAF | Attack | 7 | 2 | | AIM-9M | | | | Istrana |
| AV-8B Harrier II | USMC | Attack | 7 | 4 | | AIM-9M | | | | Rijeka, Varazdin, Wasp LHD-1 |
| CF-188A | RCAF | Multi | 17 | 12 | | AIM-9H/ J/ M/ P | AIM-7F/ M | | AIM-120B | Padova |
| EA-6B | USN | EW | 0 | 0 | | | | | | Casale, CVN-71, Secovlje, Tessera, *5 |
| F-14B | USN | Fighter | 40 | 8 | | AIM-9M | AIM-7M | | AIM-54A/ C | CVN-71 |
| F-15C | USAF | Fighter | 20 | 8 | | AIM-9M/ X | | | AIM-120B/ C | Bolzano, Cervia, Orehova, Padova |
| F-15E-229 | USAF | Multi | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C | Miramare, Rivolto, Tessera |
| F-16AM RNLAf | RNLAF | Multi | 17 | 6 | | AIM-9M/ M/ X | | | AIM-120B | Pula, Amendola |
| F-16CM Blk 40 | USAF | Multi | 17 | 6 | | AIM-9M/ X | | | AIM-120B/ C | Aviano |
| F-16CM Blk 50 | USAF | Multi | 17 | 6 | | AIM-9M/ X | | | AIM-120B/ C | Brnik, Falconara, Gino Lisa, Palese |
| F-18C | USN | Multi | 17 | 8-12 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C | CVN-71 |
| F-18D | USN | Multi | 17 | 8-12 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C | Slovenj, Tessera |
| F-104S | ITAF | Fighter | 13 | 6 | | AIM-9M/ P | AIM-7E-2, ASPIDE | | | Amendola, Cervia |
| F-117A | USAF | Attack | 0 | 0 | | | | | | Aviano |
| G-4 | BIH | Attack | 7 | 2 | | AA-8 | | | | Varazdin |
| Jaguar Gr.3 | FAF | Multi | 7 | 2 | | AIM-9M | | | | Padova |
| Mig-19PM | FUAS | Fighter | 7 | 4 | AA-2B | AA-2C | | | | Gjader, Kucova |
| Mig-21bis | HRZ | Multi | 8 | 4-6 | AA-2B | AA-2C, AA-8 | | | | Varazdin |
| Mig-21MF | FUAS | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Gjader |
| Mig-29A Neutral | ML | Fighter | 12 | 6 | | AA-8, A-11 | AA-10A | | | Satorhely |
| Mirage 2000C | FAF | Fighter | 17 | 4 | | R.550-II | R.530D | | | Grosseto |
| Mirage 2000D | FAF | Fighter | 14 | 2 | | R.550-II | | MICA IR | | Frosinone |
| S-3B | USN | Attack | 0 | 0 | | | | | | CVN-71 |
| Tornado F3 | RAF | Fighter | 17 | 8 | | AIM-9M | Skyflash | AIM-132 | AIM-120B/ C | Gioia del Colle |
| Tornado IDS AMI | ITAF | Attack | 7 | 2 | | AIM-9M | | | | Forl, Gioia del Colle, Ronchi d. L. |
| Tornado IDS GAF | GAF | Attack | 7 | 2 | | AIM-9M, IRIS-T | | | | Vicenza |
| U-2 | USAF | Recon | 0 | 0 | | | | | | Signonella |

BAF: Belgium Air Force (Belgische Luchtmacht/Force Aérienne Belge)
 BIH: Air Force of Bosnia and Herzegovina
 EPAF: European Participating Air Forces
 FAF: French Air Force (Armée de l'Air) (Army of the Air)
 FRY: Federal Republic of Yugoslavia
 FUAS: Forcat Ushtarake Ajore Shqiptare (Albanian Air Force)
 HAF: Hellenic Air Force (Greece) (Polemiki Aeroporía)
 HRZ: Hrvatsko Ratno Zrakoplovstvo (Croatia)
 ITAF: Italian Air Force (AM: Aeronautica Militare)
 ML: Magyar Legiero (Hungarian Air Force)
 RAF: Royal Air Force (England)
 RCAF: Royal Canadian Air Force
 RDAF: Royal Danish Air Force (Denmark) (Flyvevåbnet)
 RNLAF: Royal Netherlands Air Force (Koninklijke Luchtmacht)
 RNOAF: Royal Norwegian Air Force (Luftforsvaret)
 USA: United States Army
 USAF: United States Air Force
 USN: United States Navy
 USMC: United States Marine Corps

*1: Mostar, Podgorica, Tivat, Ubdnina, Varazdin, Zeljava, Zemunik
 *2: Varazdin
 *3: Zemunik
 *4: Secovlje
 *5: Urbe

BOMBERS AND SUPPORT AC

AH-1S Casale, Grottaglie, Falconara, Rivolto, Tessera, Varazdin
 AH-64D Cerklje
 AN-2 Batajnica, Dubrave, Kilsa, Sarajevo, Sombor
 AN-24 Banja Luka, Batajnica, Dolac, Dubrave, Kilsa, Nikola Tesla, Ponikve, Sarajevo, Sombor, Szeged
 B-1B Amendola
 B-2A Bolzano
 B-52H Casale, Forli
 CH-47 Aviano, Casale, Cerklje, Miramare, Ostariji, Palese, Ronchi d. L., Slovenj, Varazdin
 C-5 Ampugnano, S. Francesco
 C-17 Asagio, Borgo Panigale, Fiumicino, Gjirokaster, Guidonia, Peretola, Reggio Calabria, S. Francesco
 C-130H Ciampino
 E-2C CVN-71 Roosevelt
 E-3 Bolzano
 E-8C Matarello
 IL-28 Tirana
 KC-10 Asiago
 KC-135R Asagio, Aviano, Capodichino, Galatina, Istrana, Pescara, Ravenna, Ronchi d. L., S. Angelo
 MI-8 Kovin, Dubrovnik, Ladevci, Nagykanizsa, Podgor., S. Paul, ..
 MI-24 Nagykanizsa, Varazdin Army Base
 OH-58D Amendola, Lagoriste, Rijeka, Varazdin
 UH-1J Cerklje, Matera, Orehova, Pescara, Secovlje
 UH-60L Brnik, Cerklje, Gioia d. C., Gino L., Logoriste, Ostarije, SanP.



| AIRCRAFT THREAT GUIDE - OPFOR (Balkans Under Siege) | | | | | | | | | | |
|---|--------|---------|-----|----------------|----------|-------------------|-----------|-----------|---------|-----------------------------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| G-4 | FRY | Attack | 7 | 2 | | AA-8 | | | | Ladevci, Podgorica, Ponikve |
| J-22 | FRY | Attack | 8 | 4 | AA-2B | AA-8 | | | | Ladevci, Banja Luka |
| Mig-21bis | FRY | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Nikola Tesla, St. Paul |
| Mig-21F-13 | FRY | Fighter | 7 | 2 | AA-1 | AA-2C | | | | Ladevci, Sombor |
| Mig-21MF | FRY | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Dolac |
| Mig-29A | FRY | Fighter | 12 | 6 | | AA-8, AA-11 | AA-10A | | | Tivat, Batajnica |
| Su-25 | FRY | Attack | 7 | 2 | | AA-8 | | | | St. Paul |
| Su-33 | FRY | Multi | 15 | 10 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Kuznetsov |
| Su-39 | FRY | Attack | 15 | 6 | AA-2B | AA-2C, AA-8, A-11 | | | AA-12 | Kuznetsov |

| AIRCRAFT THREAT GUIDE - BLUEFOR (Balkans Under Siege) | | | | | | | | | | |
|---|--------|---------|-----|----------------|----------|--------------|------------------|--------|-------------|-------------------------------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| A-10A | USAF | Attack | 7 | 2 | | AIM-9M | | | | Galatina, Gioia del Colle, *1 |
| AMX | ITAF | Attack | 7 | 2 | | AIM-9M | | | | Istrana |
| AV-8B Harrier II | USMC | Attack | 7 | 4 | | AIM-9M | | | | LHD-1 Wasp, Falconara |
| EA-6B | USN | EW | 0 | 0 | | | | | | CVN-71, Palese, Tesserà |
| F-14B | USN | Fighter | 40 | 8 | | AIM-9M | AIM-7M | | AIM-54A/ C | CVN-71 |
| F-15C | USAF | Fighter | 20 | 8 | | AIM-9M/ X | | | AIM-120B/ C | Bolzano, Padova, Palese, *2 |
| F-15E-229 | USAF | Multi | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C | Miramare, Rivolto, Tesserà |
| F-16AM RNLAf | RNLAf | Multi | 17 | 6 | | AIM-9M/ P/ X | | | AIM-120B | Amendola, Gino Lisa |
| F-16CM Blk 40 | USAF | Multi | 17 | 6 | | AIM-9M/ X | | | AIM-120B/ C | Aviano, Padova |
| F-16CM Blk 50 | USAF | Multi | 17 | 6 | | AIM-9M/ X | | | AIM-120B/ C | Casale, Falconara, Padova, *3 |
| F/A-18C | USN | Multi | 17 | 8-12 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C | CVN-71 |
| F/A-18D | USN | Multi | 17 | 8-12 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C | Tesserà |
| F-104S | ITAF | Fighter | 13 | 6 | | AIM-9M/ P | AIM-7E-2, ASPIDE | | | Amendola, Cervia |
| F-117A | USAF | Attack | 0 | 0 | | | | | | Lamezia Terme |
| G-4 | BIH | Attack | 7 | 2 | | AA-8 | | | | Banja Luka |
| Jaguar Gr.3 | FAF | Multi | 7 | 2 | | AIM-9M | | | | Padova |
| Mig-19PM | FUAS | Attack | 2 | 0 | | | | | | Cerrik, Kucova |
| Mig-21bis | HRZ | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Kastela, Pleso, Pula |
| Mig-21MF | FUAS | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Cerrik |
| Mig-29A Neutral | ML | Fighter | 12 | 6 | | AA-8, A-11 | AA-10A | | | Satorhely |
| Mirage F-1CT | FAF | Fighter | 17 | 4 | | R.550/ -II | R.530D | | | Casale |
| S-3B | USN | Attack | 0 | 0 | | | | | | CVN-71 |
| Tornado IDS AMI | ITAF | Attack | 7 | 2 | | AIM-9M | | | | Aviano, Gioia del Colle |
| U-2 | USAF | Recon | 0 | 0 | | | | | | Crotone |

BAF: Belgium Air Force (Belgische Luchtmacht/Force Aérienne Belge)
 BIH: Air Force of Bosnia and Herzegovina
 EFAF: European Participating Air Forces
 FAF: French Air Force (Armée de l'Air) (Army of the Air)
 FRY: Federal Republic of Yugoslavia
 FUAS: Forcat Ushtarake Ajore Shqiptare (Albanian Air Force)
 HAF: Hellenic Air Force (Greece) (Polemiki Aeroporía)
 HRZ: Hrvatsko Ratno Zrakoplovstvo i Protu Zracna Obrana (Croatian Air Force)
 ITAF: Italian Air Force (AM: Aeronautica Militare)
 ML: Magyar Legiero (Hungarian Air Force)
 RAF: Royal Air Force (England)
 RCAF: Royal Canadian Air Force
 RDAF: Royal Danish Air Force (Denmark) (Flyvevaebnet)
 RNLAf: Royal Netherlands Air Force (Koninklijke Luchtmacht)
 RNoAF: Royal Norwegian Air Force (Luftforsvaret)
 USA: United States Army
 USAF: United States Air Force
 USN: United States Navy
 USMC: United States Marine Corps

*1: Lapraka, Matera, Palese
 *2: Ronchi dei Legionari
 *3: Pescara, S. Pancrazio

BOMBERS AND SUPPORT AC

| | |
|---------|---|
| AH-1S | Grottagnie, Lushenje |
| AH-64D | Casale, Tirana |
| AN-2 | Sjenica |
| AN-24 | Batajnica, Kovin, Nikola Tesla, Sombor, Szeged |
| B-1B | Birgi |
| B-2A | Pantelleria |
| B-52H | Punta Raisi |
| CH-47 | Cerrik, Gioia del Colle, Lapraka |
| C-5 | Ampugnano |
| C-17 | Cervia, S. Francesco, Vicenza |
| C-130H | Ciampino |
| CH-47 | Cerrik, Gioia del Colle, Lapraka |
| E-2C | CVN-71 Roosevelt |
| E-3 | Bolzano |
| E-8C | Matarello |
| IL-28 | Tirana |
| KC-10 | Asiago |
| KC-135R | Asiago, Capodichino, Guidonia |
| Mi-8 | Cacac, Kastela, Kovin, Ladevci, Mostar, Pleso, Podgorica, Sjenica, S. Paul, Szeged, Uzice |
| Mi-24 | Banja Luka, Nagykanizsa, Pleso |
| OH-58D | Korce, Galatina |
| UH-1D | Palese |
| UH-J | Banja Luka |
| UH-60L | Casale, Lushnje, Mifol, S. Pancrazio |

| AIRCRAFT THREAT GUIDE - OPFOR (Balkans Powder Keg) | | | | | | | | | | |
|--|--------|---------|-----|----------------|----------|-------------------|-----------|-----------|---------|-------------------------------------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| G-4 | FRY | Attack | 7 | 2 | | AA-8 | | | | Ladevci, Podgorica, Ponikve, *1 |
| J-22 | FRY | Attack | 7 | | | AA-8 | | | | Batajnica, Ladevci |
| Mig-21F-13 | FRY | Fighter | 7 | 2 | AA-1 | AA-2C | | | | Ponikve |
| Mig-21bis | FRY | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Nikola Tesla, Podgorica, Sombor, *2 |
| Mig-21MF | FRY | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Tivat, Dolac |
| Mig-29A | FRY | Fighter | 12 | 6 | | AA-8, AA-11 | AA-10A | | | Batajnica, Kovin, Nikola Tesla |
| Su-25 | FRY | Attack | 7 | 2 | | AA-8 | | | | St. Paul |
| Su-33 | FRY | Multi | 15 | 10 | | AA-11 | AA-10A/ C | AA-10B/ D | AA-12 | Kuznetsov |
| Su-39 | FRY | Attack | 15 | 6 | AA-2B | AA-2C, AA-8, A-11 | | | AA-12 | Kuznetsov |

| AIRCRAFT THREAT GUIDE - BLUEFOR (Balkans Powder Keg) | | | | | | | | | | |
|--|--------|---------|-----|----------------|----------|-----------------|------------------|---------|-------------|-----------------------------------|
| Aircraft | Origin | Role | MAR | AA Hard Points | SARH WVR | IR WVR | SARH BVR | IR BVR | ARH BVR | AIR BASES |
| A-10A | USAF | Attack | 7 | 2 | | AIM-9M | | | | Amendola, Cerklje Ob Krki, *3 |
| AMX | ITAF | Attack | 7 | 2 | | AIM-9M | | | | Istrana |
| AV-8B Harrier II | USMC | Attack | 7 | 4 | | AIM-9M | | | | LHD-1 Wasp, S. Pancrazio, Cerklje |
| CF-188A | RCAF | Multi | 17 | 12 | | AIM-9H/ J/ M/ P | AIM-7F/ M | | AIM-120B | Reggio Calabria |
| EA-6B | USN | EW | 0 | 0 | | | | | | CVN-71, Gino Lisa, Matera, *4 |
| F-14B | USN | Fighter | 40 | 8 | | AIM-9M | AIM-7M | | AIM-54A/ C | CVN-71 |
| F-15C | USAF | Fighter | 20 | 8 | | AIM-9M/ X | | | AIM-120B/ C | Bolzano, Gino Lisa, *5 |
| F-15E-229 | USAF | Multi | 20 | 8 | | AIM-9M/ P/ X | AIM-7M | | AIM-120B/ C | Crotone, Lamezia T., Pratica d.M. |
| F-16AM RNLAf | RNLAF | Multi | 17 | 6 | | AIM-M/ P/ X | | | AIM-120B | Amendola, Crotone |
| F-16CM Blk 40 | USAF | Multi | 17 | 6 | | AIM-9M/ X | | | AIM-120B/ C | Matera, Miramare |
| F-16CM Blk 50 | USAF | Multi | 17 | 6 | | AIM-9M/ X | | | AIM-120B/ C | Casale, Falconara, Galatina, *6 |
| F/A-18C | USN | Multi | 17 | 8-12 | | AIM-9M/ P/ X | AIM-7F/ M | | AIM-120B/ C | CVN-71 |
| F/A-18D | USN | Multi | 17 | 8-12 | | AIM-M/ P/ X | AIM-7F/ M | | AIM-120B/ C | Grazzanise, Lamezia Terme |
| F-104S | ITAF | Fighter | 13 | 6 | | AIM-9M/ P | AIM-7E-2, ASPIDE | | | Amendola, Cervia |
| F-117A | USAF | Attack | 0 | 0 | | | | | | Birgi |
| G-4 | BIH | Attack | 7 | 2 | | AA-8 | | | | Banja Luka |
| J-22 | BIH | Attack | 8 | 4 | AA-2B | AA-8 | | | | Banja Luka |
| Jaguar GR.3 | FAF | Multi | 7 | 2 | | AIM-9M | | | | Palese |
| Mirage 2000C | FAF | Fighter | 17 | 4 | | R.550-II | R.530D | | | Grosseto |
| Mirage 2000D | FAF | Fighter | 14 | 2 | | R.550-II | | MICA IR | | Frosinone |
| Mig-17PFU | FUAS | Fighter | 4 | 4 | AA-1 | | | | | Gjader |
| Mig-19PM | FUAS | Attack | 2 | 0 | | | | | | Gjader, Kucova |
| Mig-21bis | HRZ | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Kastela, Pleso, Pula |
| Mig-21MF | FUAS | Multi | 8 | 4 | AA-2B | AA-2C, AA-8 | | | | Gjader |
| Mig-29A | ML | Fighter | 12 | 6 | | AA-8, A-11 | AA-10A | | | Satorhely |
| S-3B | USN | Attack | 0 | 0 | | | | | | CVN-71 |
| Tornado F3 | RAF | Fighter | 17 | 8 | | AIM-9M | Skyflash | AIM-132 | AIM-120B/ C | Gioia del Colle |
| Tornado IDS AMI | ITAF | Attack | 7 | 2 | | AIM-9M | | | | Gioia del Colle, Grottaglie, *7 |
| Tornado IDS GAF | GAF | Attack | 7 | 2 | | AIM-9M | | | | Galatina |
| U-2 | USAF | Recon | 0 | 0 | | | | | | Crotone |

BAF: Belgium Air Force (Belgische Luchtmacht/Force Aérienne Belge)
 CAF: Croatia Air Force (Hrvatsko ratno zrakoplovstvo)
 EPAF: European Participating Air Forces
 FAF: French Air Force (Armée de l'Air) (Army of the Air)
 FRY: Federal Republic of Yugoslavia
 FUAS: Forcat Ushtarake Ajore Shqipetare (Albanian Air Force)
 HAF: Hellenic Air Force (Greece) (Polemiki Aeroporía)
 ITAF: Italian Air Force (AM: Aeronautica Militare)
 ML: Magyar Legiero (Hungarian Air Force)
 RAF: Royal Air Force (England)
 RCAF: Royal Canadian Air Force
 RDAF: Royal Danish Air Force (Denmark) (Flyvevåbnet)
 RNLAF: Royal Netherlands Air Force (Koninklijke Luchtmacht)
 USA: United States Army
 USAF: United States Air Force
 USN: United States Navy
 USMC: United States Marine Corps

*1: Sombor, Tivat

*2: Sjenica, Tivat

*3: Gioia del Colle, Grottaglie, Miramare

*4: San Pancrazio, Urbe

*5: Latina, Orehova Vas

*6: Gioia del Colle, Matera

*7: Palese, Ronchi dei Legionari

BOMBERS AND SUPPORT AC

AH-15 Casale, Falconara, Grottaglie, Novo Mesto, Rivolto
 AH-64D Cerklje
 AN-2 Batajnica, Dolac, Kovin, Ladevci, Ponikve, S. Paul
 AN-24 Batajnica, Dolac, Kovin, Ladevci, Ponikve, Sjenica, St. Paul, Sombor, Szeged
 B-1B Birgi
 B-2A Padova
 B-52H Casale, Forli
 C-5 Ampugnano, S. Francesco
 C-17 Asagio, Borgo Panigale, Fiumicino, Guidonia, Orehova Vas, Pantelleria, Peretola, S. Francesco
 C-130H Ciampino
 CH-47 Casale, Cerklje, Gioia d. Colle, Gradec, Mirame, Palese, ...
 E-2C CVN-71
 E-3 Pantelleria
 E-8C Mattarello
 IL-28 Tirana
 KC-10 Vicenza
 KC-135R Asagio, Aviano, Capodichino, Grottaglie, Pescara, S. Angelo, ...
 Mi-8 Kastela, Kovin, Ladevci, Mostar, Nagykanizsa, Pleso, Podgorica, ...
 Mi-24 Banja Luka, Nagykanizsa, Pleso
 OH-58D Bloska, Casale, Matera, Rijeka
 UH-1J Banja Luka, Cerklje O. K., Galatina, Matera, Orehova V., Pescara
 UH-60L Cerklje A.B., Gino Lisa, Gioia del Colle, San Pancrazio, Zagreb

| SHIP THREAT GUIDE - BLUEFOR | | | | | | | |
|-----------------------------|------------------------|------------|--------------|--------------------|------------------|-----------|-----------|
| Name | Class | Weapon | Min Rng/ Alt | Typical Engagement | Max Range/ Alt | ECM | CM |
| LHD-1 Wasp ARG | Amphibious Ready Group | | 0nm/ 0ft | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| LHD-1 Wasp | Wasp LHD | RIM-7 | 0nm/ 0ft | 8nm/ 15,000ft | 8nm/ 26,000ft | No Effect | Low |
| Burke CLS FIIA | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Burke CLS FIIA | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Burke CLS FIIA | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Perry CLS | Perry CLS | SM-1MR | 3nm/ 50ft*** | 15nm/ 78,300ft | 21nm/ 78,300ft | No Effect | Very Low |
| Perry CLS | Perry CLS | SM-1MR | 3nm/ 50ft*** | 15nm/ 78,300ft | 21nm/ 78,300ft | No Effect | Very Low |
| Supply CLS | Supply CLS | --- | 0nm/ 0ft | 0nm/ 0ft | 0nm/ 0ft | --- | --- |
| Osumi ARG | Amphibious Ready Group | | 0nm/ 0ft | 8nm/ 15,000ft | 8nm/ 26,000ft | No Effect | Low |
| Osumi LST-4001 | Osumi CLS | CIWS | 0nm/ 0ft | 2.7nm/ 10,000ft | 2.7nm/ 10,000ft | No Effect | No Effect |
| Shirane DDH-143 | Shirane CLS | RIM-7 | 0nm/ 0ft | 8nm/ 15,000ft | 8nm/ 26,000ft | No Effect | Low |
| Kuruma DDH-144 | Shirane CLS | RIM-7 | 0nm/ 0ft | 8nm/ 15,000ft | 8nm/ 26,000ft | No Effect | Low |
| SAG - Belknap CLS | Surface Action Group | | 3nm/ 50ft | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Belknap CLS | Belknap CLS | SM-2ER | 3nm/ 50ft*** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Leahy CLS | Leahy CLS | SM-2ER | 3nm/ 600ft | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Kidd CLS | Kidd CLS | SM-1ER | 3nm/ 100ft | 24nm/ 469,000ft | 90nm/ 469,000ft | No Effect | Very Low |
| SAG - California CLS | Surface Action Group | | 3nm/ 50ft | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | No Effect |
| California CLS | California CLS | SM-1MR | 3nm/ 50ft | 15nm/ 78,300ft | 21nm/ 78,300ft | No Effect | Very Low |
| Leahy CLS | Leahy CLS | SM-2ER | 3nm/ 600ft | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Kidd CLS | Kidd CLS | SM-1ER | 3nm/ 100ft | 24nm/ 469,000ft | 90nm/ 469,000ft | No Effect | Very Low |
| SAG - Chamsuri CLS | Surface Action Group | | 0nm/ 0ft | 2.7nm/ 10,000ft | 2.7nm/ 10,000ft | No Effect | No Effect |
| Chamsuri CLS x2 | Chamsuri | CIWS | 0nm/ 0ft | 2.7nm/ 10,000ft | 2.7nm/ 10,000ft | No Effect | No Effect |
| SAG - Missouri | Surface Action Group | | 0nm/ 0ft | 35nm/ 469,000ft | 73nm/ 469,000ft | No Effect | Very Low |
| USS Missouri BB-63 | Iowa CLS | CIWS | 0nm/ 0ft | 2.7nm/ 10,000ft | 2.7nm/ 10,000ft | No Effect | No Effect |
| Valley Forg CG-50 | Ticon Mk 26 | SM-2MR | 3nm/ 50ft** | 35nm/ 469,000ft | 73nm/ 469,000ft | No Effect | Very Low |
| Paul F Foster DD-964 | Spruance CLS | RIM-7 | 0nm/ 0ft | 8nm/ 15,000ft | 8nm/ 26,000ft | No Effect | Low |
| Jarrett FFG-23 | Perry CLS | SM-1MR | 3nm/ 50ft*** | 15nm/ 78,300ft | 21nm/ 78,300ft | No Effect | Very Low |
| Francis Hammond FF-1067 | Knox CLS | RIM-7 | 0nm/ 0ft | 8nm/ 15,000ft | 8nm/ 26,000ft | No Effect | Low |
| SAG - Newport CLS | Surface Action Group | | 0nm/ 0ft | 2nm/ 10,000ft | 2nm/ 10,000ft | No Effect | Very low |
| Newport CLS x2 | Newport CLS | AAA | 0nm/ 0ft | 2nm/ 10,000ft | 2nm/ 10,000ft | No Effect | Very Low |
| SAG - Perry CLS | Surface Action Group | | 3nm/ 50ft*** | 15nm/ 78,300ft | 21nm/ 78,300ft | No Effect | Very Low |
| Perry FFG-7 x2 | Perry CLS | SM-1MR | 3nm/ 50ft*** | 15nm/ 78,300ft | 21nm/ 78,300ft | No Effect | Very Low |
| SAG - Port Royal | Surface Action Group | | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Port Royal CG-73 | Ticon Mk41 VLS | SM-2MR | 3nm/ 50ft** | 35nm/ 469,000ft | 73nm/ 469,000ft | No Effect | Very Low |
| Momsen DDG-92 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| SAG - Task Force RKN | Surface Action Group | | 0nm/ 0ft | 4.5nm/ 25,000ft | 4.5nm/ 25,000ft | No Effect | No Effect |
| Ulsan CLS | Ulsan | CIWS | 0nm/ 0ft | 4.5nm/ 25,000ft | 4.5nm/ 25,000ft | No Effect | No Effect |
| | | | | | | | |
| | | | | | | | |

| SHIP THREAT GUIDE - BLUEFOR | | | | | | | |
|-----------------------------|----------------------|------------|--------------|--------------------|------------------|-----------|-----------|
| Name | Class | Weapon | Min Rng/ Alt | Typical Engagement | Max Range/ Alt | ECM | CM |
| SAG - Task Force USN | Surface Action Group | | 3nm/ 50ft | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Burke CLS FIIA | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| SAG - USS Dewey DDG-105 | Surface Action Group | | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Dewey DDG-105 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Michael Murphy DDG-112 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Sterett DDG-104 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| SAG - Virginia CLS | Surface Action Group | | 0nm/ 0ft | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Virginia CLS | Virginia CLS | SM-2MR | 0nm/ 0ft | 35nm/ 469,000ft | 73nm/ 469,000ft | No Effect | Very Low |
| Leahy CLS | Leahy CLS | SM-2ER | 3nm/ 600ft | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Kidd CLS | Kidd CLS | SM-1ER | 3nm/ 100ft | 24nm/ 469,000ft | 90nm/ 469,000ft | No Effect | Very Low |
| SAG - Wisconsin | Surface Action Group | | 0nm/ 0ft | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | No Effect |
| Wisconsin BB-64 | Iowa CLS | CIWS | 0nm/ 0ft**** | 2.7nm/ 10,000ft | 2.7nm/ 10,000ft | No Effect | No Effect |
| Nicholas FFG-47 | Perry CLS | SM-1MR | 3nm/ 50ft*** | 15nm/ 78,300ft | 21nm/ 78,300ft | No Effect | Very Low |
| MacDonough DDG-39 | Farragut CLS | SM-2ER | 3nm/ 600ft | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Marvin Shields FF-1066 | Knox CLS | RIM-7 | 0nm/ 0ft**** | 8nm/ 15,000ft | 8nm/ 26,000ft | No Effect | Low |
| Leftwich DD-984 | Spruance CLS | RIM-7 | 0nm/ 0ft**** | 8nm/ 15,000ft | 8nm/ 26,000ft | No Effect | Low |
| USS Enterprise CVN-65 | Carrier Strike Group | | 0nm/ 0ft | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| USS Enterprise CVN-65 | Nimitz CVN | RIM-7 | 0nm/ 0ft | 8nm/ 15,000ft | 8nm/ 16,000ft | No Effect | Low |
| Lake Erie CG-70 | Ticon Mk41 VLS | SM-2MR | 3nm/ 50ft** | 35nm/ 469,000ft | 73nm/ 469,000ft | No Effect | Very Low |
| Princeton CG-59 | Ticon Mk41 VLS | SM-2MR | 3nm/ 50ft** | 35nm/ 469,000ft | 73nm/ 469,000ft | No Effect | Very Low |
| Chafee DDG-90 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Gravelly DDG-107 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Nitze DDG-94 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Kidd DDG-100 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Pinckney DDG-91 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Shoup DDG-86 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| USS Carl Vinson CVN-70 | Carrier Strike Group | | 0nm/ 0ft | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| USS Carl Vinson CVN-70 | Nimitz CVN | RIM-7 | 0nm/ 0ft | 8nm/ 15,000ft | 8nm/ 16,000ft | No Effect | Low |
| Antietam CG-54 | Ticon Mk41 VLS | SM-2MR | 3nm/ 50ft** | 35nm/ 469,000ft | 73nm/ 469,000ft | No Effect | Very Low |
| Chancellorsville CG-62 | Ticon Mk41 VLS | SM-2MR | 3nm/ 50ft** | 35nm/ 469,000ft | 73nm/ 469,000ft | No Effect | Very Low |
| Shiloh CG-67 | Ticon Mk41 VLS | SM-2MR | 3nm/ 50ft** | 35nm/ 469,000ft | 73nm/ 469,000ft | No Effect | Very Low |
| Forrest Sherman DDG-98 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Truxtun DDG-103 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Farragut DDG-99 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| McCampbell DDG-85 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| Mustin DDG-89 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| William Lawrence DDG-110 | Burke CLS FIIA | SM-2ER/ MR | 3nm/ 50ft** | 39nm/ 469,000ft | 117nm/ 469,000ft | No Effect | Very Low |
| | | | | | | | |
| | | | | | | | |

| Air to Ground Missiles | | | | | | |
|-------------------------------|------------------|------------|--------------------|-----------------------|------------|------|
| Name | Guidance | Range (nm) | Warhead | Purpose | Origin | IOC |
| AGM-65A Maverick | TV | *10 | 126 lb WDU-20/B | Armor | USA | 1972 |
| AGM-65B Maverick | TV Magnify | *10 | 126 lb WDU-20/B | Armor | USA | 1975 |
| AGM-65D Maverick | IIR | *10 | 126 lb WDU-20/B | Armor | USA | 1983 |
| AGM-65E Maverick | Laser | *10 | 300 lb WDU-24/B | Bunker, Ship, Bridge | USMC | 1985 |
| AGM-65G Maverick | IIR | *10 | 300 lb WDU-24/B | Bunker, Ship, Bridge | USA | 1988 |
| AGM-84A Harpoon | ARH | 70 | 488 | Ship | USA | 1979 |
| AGM-119 Penguin | IR | 70 | 250 | Ship | RNoAF, USN | 1972 |
| AGM-154A JSOW | GPS/ INS | 30 | 145 BLU-97 A/B CEM | Cluster Armor Med. | USA | 1999 |
| AGM-154C JSOW | GPS/ INS/ IR | 30 | Broach WDU-44/45 | Penetration, Facility | USA | 2005 |
| AGM-158 JASSM | GPS/ INS/ DL/ IR | 70 | 1k lbs WDU-42/B | Facility, Armor | USA | 2009 |
| Rampage IAI | GPS/INS | 80 | 1,257 | General, Facility | IAF | 2019 |

| Anti Radiation Missiles | | | | | | |
|--------------------------------|---------------|------------|---------|---------|--------|------|
| Name | Guidance | Range (nm) | Warhead | Purpose | Origin | IOC |
| AGM-45 Shrike | Passive Radar | 10-50 | 145 | Radar | USA | 1963 |
| AGM-88 HARM | Passive Radar | 25-70 | 145 | Radar | USA | 1984 |

| Bombs | | | | | | |
|----------------------|----------------|------------|---------|--------------------------------|--|------|
| Name | 10% PI/0.1% PI | Range (nm) | Warhead | Purpose | | IOC |
| BLU-107/B Durandal | | High Drag | 330 | Runway | | 1971 |
| BLU-109/B | 1,063/ 1,640 | 5-6 | 2,000 | Bunker Penetration | | 1985 |
| MK-82 Air | 328/ 1,230 | High Drag | 500 | General, low altitude delivery | | 1973 |
| MK-82 LDGP | 820/ 1,394 | 5-6 | 500 | General | | 1950 |
| MK-82 SE (Snake Eye) | 328/ 1,230 | High Drag | 500 | General, low altitude delivery | | 1965 |
| MK-83 Air | 902/ 1,558 | High Drag | 1,000 | General, low altitude delivery | | 1973 |
| MK-83 LDGP | 902/ 1,558 | 5-6 | 1,000 | General | | 1950 |
| MK-84 Air | 1,063/ 1,640 | High Drag | 2,000 | General, low altitude delivery | | 1973 |
| MK-84 LDGP | 1,063/ 1,640 | 5-6 | 2,000 | General | | 1950 |

| Cluster Bombs Units | | | | | | |
|-----------------------------|--------------------|------------|------------------------|-------------------------------|--|------|
| Name | Lethal Radius (ft) | Range (nm) | Warhead | Purpose | | IOC |
| CBU-52B/B | 425 | 5-6 | 217 BLU-61A/B | Infantry, Light Armor, Trucks | | |
| CBU-55/B FAE | 450 | 5-6 | 460 lbs FAE | Mines, Med Armor, AC, Bunkers | | 1960 |
| CBU-58A/B | 450 | 5-6 | 650 BLU-63A/B | Infantry, Light Armor, AC | | |
| CBU-59/B APAM Rockeye II | 500 | 5-6 | 717 BLU-77/B | Infantry, Medium Armor | | 1970 |
| CBU-71/B | 500 | 5-6 | 670 BLU-86/B | Infantry, Light Armor, AC | | |
| CBU-72/B FAE | 500 | 5-6 | 500 lbs FAE | Mines, Med Armor, AC, Bunkers | | 1960 |
| CBU-87 CEM | 1150 x 1300 | 5-6 | 202 BLU-97/B CEB | Medium Armor, Trucks | | 1986 |
| CBU-94 Graphite | | 5-6 | 200 BLU-114/B-SUU-66/B | Power facility | | 1999 |
| CBU-97/B SFW | 500 x 1200 | 5-6 | 10 BLU-108/B | Heavy Armor | | 1986 |
| CBU-103 WCMD (CBU-87 CEM) | 1150 x 1300 | 5-6 | 202 BLU-97/B CEB | Medium Armor, Trucks | | 1998 |
| CBU-104 WCMD (CBU-89 GATOR) | +alt = better disp | 5-6 | 72 BLU-91/B 22 BLU-92B | Anti Armor and Infantry Mines | | 1998 |
| CBU-105 WCMD (CBU-97 SFW) | 500 x 1200 | 5-6 | 10 BLU-108/B | Heavy Armor | | 1998 |
| Mk-20D Rockeye | 450 | 5-6 | 247 MK-118 | Heavy Armor | | 1968 |

| GPS Guided Bomb Units JDAM | | | | | | |
|-----------------------------------|----------------|------------|---------------|-------------|--------|------|
| Name | 10% PI/0.1% PI | Range (nm) | Warhead | Purpose | Origin | IOC |
| GBU-31(V)1/B | 1,063/ 1,640 | 8-10 | MK-84 2,000 | General | USA | 1997 |
| GBU-31(V)3/B | 1,063/ 1,640 | 8-10 | BLU-109 2,000 | Penetration | USA | 1997 |
| GBU-32(V)1/B | 902/ 1,558 | 8-10 | MK-83 1,000 | General | USA | 1997 |
| GBU-38/B | 820/ 1,394 | 8-10 | MK-82 500 | General | USA | 1997 |
| (Continued on Next Page) | | | | | | |

First number in range is NOE loft, second number is high altitude.

PI: Probability of Incapacitation computed from intended impact point at center of stick of bombs (radius).

Blast fragmentation radius that can destroy your jet grows to a typical size of 3,700 feet over 7 seconds then fragments fall to ground for most bombs.

* Maverick seeker may not be able to lock small targets such as tanks at max range. Tanks lock at approximately 8nm.

| GPS Guided Bomb Units JDAM (continued) | | | | | | |
|--|----------------|------------|---------------|--------------|--------|------|
| Name | 10% PI/0.1% PI | Range (nm) | Warhead | Purpose | Origin | IOC |
| GBU-39/B SDB | | *30 | AFX-757 250 | Medium Armor | USA | 2006 |
| GBU-54/B Laser JDAM | 820/ 1,394 | 8-10 | MK-82 500 | General | USA | 2008 |
| SPICE 1000 | 902/ 1,558 | 30-40 | MK-83 1,000 | General | IAF | 2003 |
| SPICE 1000P | 902/ 1,558 | 30-40 | BLU-110 1,000 | Penetration | IAF | 2003 |
| SPICE 2000 | 1,063/ 1,640 | 15-20 | MK-84 2,000 | General | IAF | 2003 |
| SPICE 2000P | 1,063/ 1,640 | 15-20 | BLU-109 2,000 | Penetration | IAF | 2003 |

| Laser Guided Bomb Units | | | | | | |
|-------------------------|-----------------|------------|-----------------|-------------|--------|------|
| Name | 10% PI/ 0.1% PI | Range (nm) | Warhead | Purpose | Origin | IOC |
| GBU-10I/B Paveway II | 1,063/ 1,640 | 8 | BLU-109 2,000 | Penetration | USA | 1970 |
| GBU-10C/B Paveway II | 1,063/ 1,640 | 8 | MK-84 2,000 | General | USA | 1970 |
| GBU-10G/B Paveway II | 1,063/ 1,640 | 8 | BLU-109/B 2,000 | Penetration | USA | 1970 |
| GBU-12B/B Paveway II | 820/ 1,394 | 8 | MK-82 500 | General | USA | 1970 |
| GBU-16 Paveway II | 902/ 1,558 | 8 | MK-83 1,000 | General | USA | 1970 |
| GBU-22 Paveway III | 820/ 1,394 | 8-10 | MK-82 500 | General | USA | 1996 |
| GBU-24/B Paveway III | 1,063/ 1,640 | 8-10 | MK-84 2,000 | General | USA | 1983 |
| GBU-24A/B Paveway III | 1,063/ 1,640 | 8-10 | BLU-109 2,000 | Penetration | USA | 1983 |
| GBU-27/B Paveway III | 1,063/ 1,640 | 8-10 | BLU-109/B 2,000 | Penetration | USA | 1987 |

| Man-in-the-Loop MITL | | | | | | |
|----------------------------|------------------|------------|-------------|--------------------|----------------|------|
| Name | Guidance | Range (nm) | Warhead | Purpose | Origin | IOC |
| AGM-62A Walleye (Pod 3) | TV | 30 | 2,000 | Facility | USA | 1974 |
| AGM-62B Walleye II (Pod 3) | TV | 30 | 2,000 | Facility | USA | 1974 |
| AGM-84E SLAM (Pod 3) | GPS/ IR/ DL | 50 | 500 | Facility, Ship | USA | 1988 |
| AGM-84H SLAM ER (Pod 3) | GPS/ IR/ DL | 80 | 500 | Facility, Ship | USA | 2000 |
| AGM-130 (Pod 1) | GPS/ INS/ DL/ IR | 30 | 2000 | Facility | USA | 1994 |
| AGM-142A Popeye (Pod 2) | INS/ DL/ TV IR | 50 | 750 | Facility | IAF, TuAF, USA | 1985 |
| Delilah (Pod 2) | IR & TV options | 80 | 66 | Light armor, Radar | IAF | 1995 |
| GBU-15 (Pod 1) | IR & TV options | 16 | MK-84 2,000 | General | USA | 1975 |

First number in range is NOE loft, second number is high altitude.

SPICE first number bomb can maneuver, second number straight in at 25kft altitude.

PI: Probability of Incapacitation computed from intended impact point at center of stick of bombs (radius).

Blast fragmentation radius that can destroy your jet grows to a typical size of 3,700 feet over 7 seconds then fragments fall to ground for most bombs.

Recommended laser times Paveway II: 10 sec, Paveway III: Full Time.

* 36kft = 50nm

Pod 1: AN/AXQ-14

Pod 2: AN/ASW-55

Pod 3: AN/AWW-9 (AN/AWW-13)

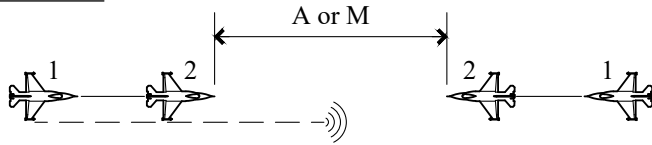
Pod 4: APK-9

AIRTAC AI Presets for Fighters

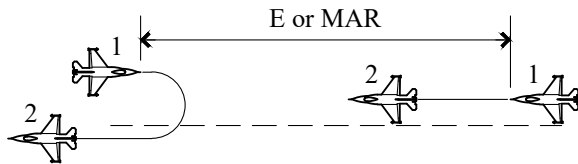
- Flight1: 12, 22, 75, 85Y
- Flight2: 13, 23, 76, 86Y
- Flight3: 14, 24, 77, 87Y
- Flight4: 15, 25, 78, 88Y

| Fuel Tanks | Target | Range |
|------------|--------|-------|
| No Tanks | 150nm | 300nm |
| Center | 200nm | 400nm |
| Wing Tanks | 250nm | 500nm |

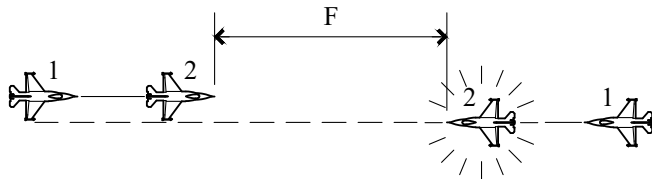
Pole Cues



A/M Pole: Distance to target when missile goes active.

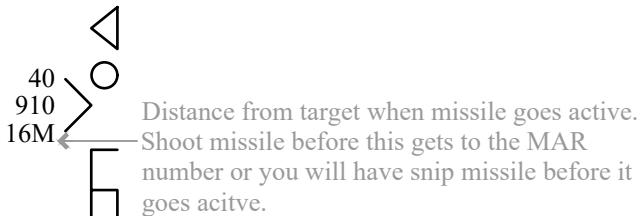


E Pole: Distance to target where you can drag and evade missile.



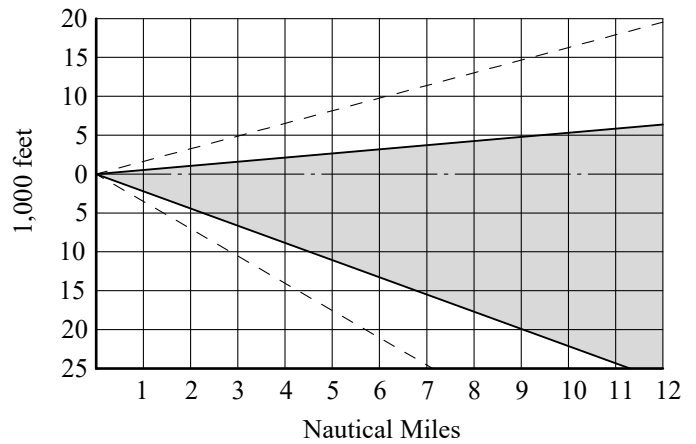
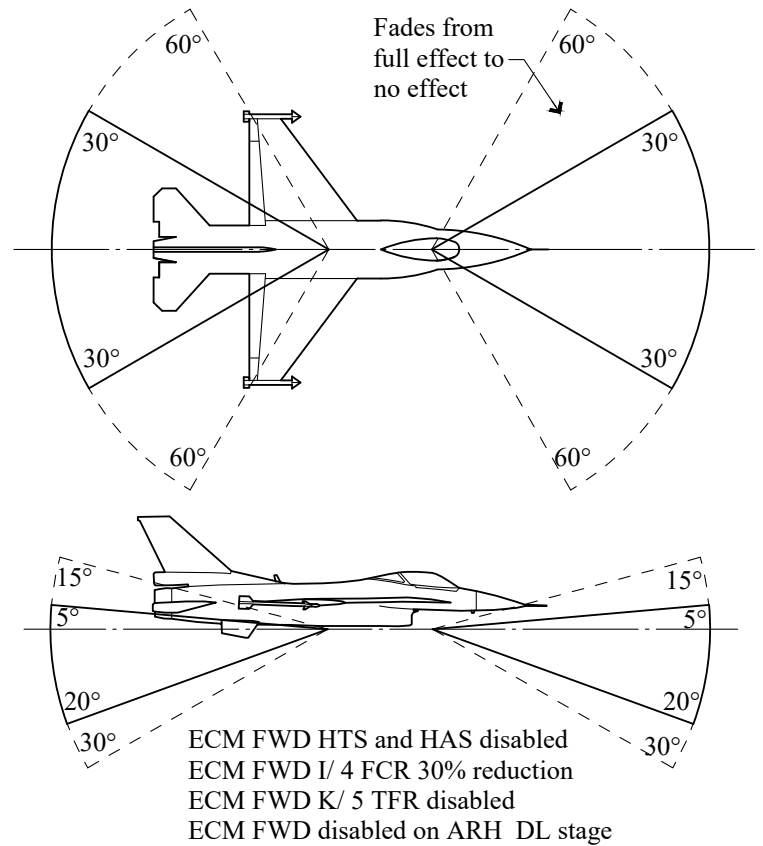
F Pole: Distance to target at missile impact.

AN/APG-68 Radar WEZ

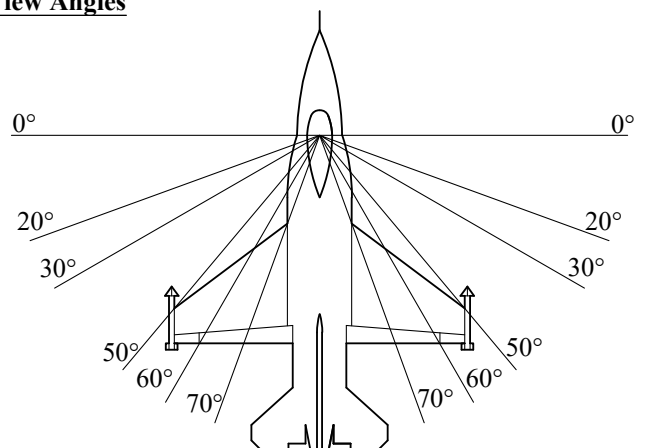


- 10A TOF (Time of Flight) for missile on rail
- M5 TOF for missile currently in air
- AR
- TA21
- F029.9 Distance to target, abort before MAR
- 100042
- 014>03

ECM Coverage



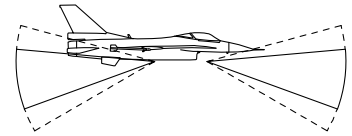
View Angles



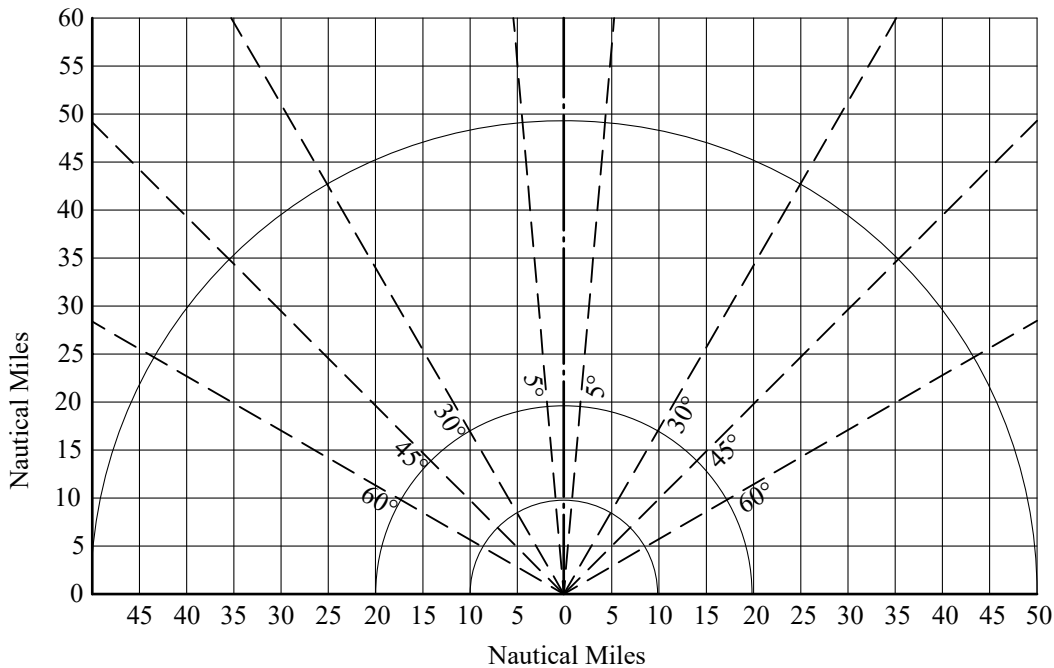
RWR Coverage

| Radar Emitters RWR Symbol | Radar Band | RWR Name | Aircraft with RWR |
|---------------------------------------|------------|--------------------|--|
| Spoon Rest | A | AN/ALR-56M | F-16C/D40 to 52, KF-16C52 |
| F, 50 | B | AN/ALR-67(V)3 | A-6E, AV-8, F/A-18 |
| H, N, 3 | C | AN/ALR-69V | A-10, F-16A/B15, F-16AM-MLU, F-16C/D25 to 32 |
| A, A/S, B, C, L, 10B, A19 | D | AN/ALR-93(V)1 | F-16C50 HAF/ 52+CFT HAF/ 52+HAF/ 52+EAF |
| B, C, D, N | E | Elisra SPS-1000V-5 | |
| O, P, 2, 6, 15 | F | Thales Carapace | F-16AM-MLU BAF |
| 4, 5, 6, 8, 11, 15 | G | | |
| A, H, N, P, 3, 6, 10F, 17, 55, Ftrs | H | | |
| A, A, C, H, 8, 10F, 15, A19, 55, Ftrs | I | | |
| 13 | J | | |
| | K | | |




| MHz | US ECM Standard | IEEE Standard | ECM Programs |
|------------------|-----------------|----------------------|--------------|
| 00 000 - 00 250 | A | I G P | 1 |
| 00 250 - 00 500 | B | L | 2 |
| 00 500 - 01 000 | C | S | 3 |
| 01 000 - 02 000 | D | C | 4 |
| 02 000 - 03 000 | E | X K | 5 |
| 03 000 - 04 000 | F | K _a Q V W | |
| 04 000 - 06 000 | G | | |
| 06 000 - 08 000 | H | | |
| 08 000 - 10 000 | I | | |
| 10 000 - 20 000 | J | | |
| 20 000 - 40 000 | K | | |
| 40 000 - 60 000 | L | | |
| 60 000 - 100 000 | M | | |



AUTO ECM ← XMT-1
 AUTO ECM ← XMT-2 → AUTO ECM
 ACTIVE ECM ← XMT-3 → ACTIVE ECM



AN/ALR-69(V), AN/ALR-56M**Symbols**

| | |
|---|--|
|  | Highest priority when in diamond float mode. |
|  | Aircraft |
|  | ARH Missile |

SAMs, AAA, SHORADs










| Symbol | Threat |
|--------|---|
| 2 | SA-2 Fan Song |
| 3 | SA-3 Low Blow |
| 4 | SA-4 Pat Hand |
| 5 | SA-5 Square Pair |
| 6 | SA-6 Straight Flush |
| 8 | SA-8 Land Roll |
| 10 | SA-10, Flap Lid, Big Bird |
| 11 | SA-11, Fire Dome |
| 15/M | SA-15, Scrum Half |
| 17 | SA-17, Chair Back |
| 50 | AN/MPQ-50 (Hawk) |
| 55 | AN/MPQ-55 (Hawk) |
| A/S | Fire Can (KS-12, KS-19, S-60) |
| À | M-1992, ZSU-23-4 |
| Ä | K263, M-163/ -167, SA-19/ 2S6 |
| B | Bar Lock, Odd Group (SA-5) |
| C | KSAM Daewoo |
| D | Snow Drift (SA-11, SA-17) |
| E | Long Track and Flat Face Overlap (SA-4, SA-3, SA-6) |
| F | Flat Face (SA-3, SA-6) |
| H | Hawk AN/ MPQ-46 |
| L | Long Track (SA-4) |
| N | Nike Hercules AN/ MPQ-43 |
| O | Dog Ear (SA-9, SA-13, ZSU-23-4) |
| P | Patriot AN/ MPQ-53 |
| P | Sky Guard |

Aircraft

| Symbol | Threat |
|--------|---|
| 4 | F-4 |
| 5 | F-5 |
| 14 | F-14 |
| 15 | F-15 |
| 16 | AJ 37, F-16, F-CK-1C, JA 37 |
| 18 | AV-8B, CF-188, EA-18G, F/A-18 |
| 20 | Mirage 2000 |
| 21 | J-7, J-8, Mig-21 |
| 22 | F-22, J-20, JSF, Rafale |
| 23 | Mig-23 |
| 25 | Mig-25, Su-39 |
| 27 | F-15C AS, J-11, Su-27, Su-27UB, Su-33 |
| 29 | F-16C32 AS, Mig-29 |
| 30 | J-15, Su-30M, Su-30MKK, Su-34, Su-35 |
| 31 | Mig-31 |
| À | Attack, A-6E, AMX, F-104DJ, F-105D, F-111, J-6B, Mig-17PF, Mig-19PM |
| Ê | Su-7BMK, Su-24, Tornado ECR/ IDS/ GR |
| Ë | Eurofighter GAF, Typhoon FGR.4 |
| Ë | A-7E, Mirage F-1CT, Mirage IIIIE, Su-15 |
| Ë | EA-6B, AWACS, MQ-9 |
| Ë | Tornado F3 |

AN/ALR-93(V)1





Symbols

-  Highest threat
-  Lethal threat
-  Flashing=launch
no flash=trk & search
beeps=dedicated track
-  Aircraft
-  SAM
-  Search radar
- 14 Unknown
-  AAA
- T Tracking
-  ARH missile
-  SAM, SA-2,
Tracking,
Launch warning,
Highest priority

SAMs

| Symbol | Threat |
|--------|---------------------------------|
| ∩2 | SA-2 Fan Song |
| ∩3 | SA-3 Low Blow |
| ∩4 | SA-4 Pat Hand |
| ∩5 | SA-5 Square Pair |
| ∩6 | SA-6 Straight Flush |
| ∩8 | SA-8 Land Roll |
| ∩10 | SA-10 Flap Lid |
| ∩11 | SA-11 Fire Dome |
| ∩15 | SA-15 Scrum Half |
| ∩17 | SA-17 Chair Back |
| ∩C | KSAM Daewoo |
| ∩MQ | Hawk AN/ MPQ-46 |
| ∩N | Nike Hercules AN/ MPQ-43 |
| ∩P | Patriot AN/ MPQ-53 |
| ∩R | Skyguard |
| ∩5 | Bar Lock, Odd Group (SA-5) |
| ∩13 | Dog Ear (SA-9, SA-13, ZSU-23-4) |
| ∩D | Snow Drift (SA-11, SA-17) |
| ∩F | Flat Face (SA-3, SA-6) |
| ∩H | AN/ MPQ-50 (Hawk) |
| ∩H | AN/ MPQ-55 (Hawk) |
| ∩L | Long Track (SA-4) |

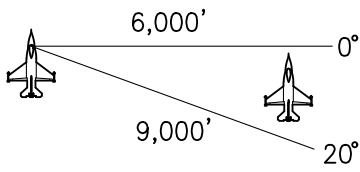
AAA, SHORADs

| | |
|--|------------------|
|  19 | SA-19 Hot Shot |
|  23 | M-1992, ZSU-23-4 |
|  63 | K263 Cheongoon |
|  K | Fire Can |

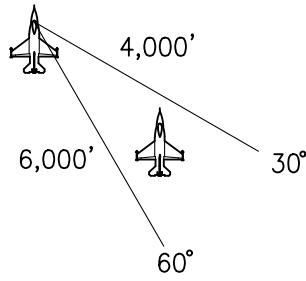
Aircraft

| Symbol | Threat |
|--------|--|
| ∩1 | J-7, J-8 |
| ∩2 | Mirage 2000 |
| ∩3 | Mirage IIIE |
| ∩4 | F-4 |
| ∩5 | F-5 |
| ∩6 | F-16 |
| ∩9 | F-16C32 AS |
| ∩4 | F-14 |
| ∩3 | F-15 |
| ∩8 | AV-8B, CF-188, EA-18G, F/A-18 |
| ∩9 | J-6, Mig-17PF, Mig-19PM |
| ∩0 | J-20 |
| ∩1 | Mig-21 |
| ∩2 | F-22 |
| ∩3 | Mig-23ML |
| ∩5 | Mig-25 |
| ∩7 | F-15C AS, J-11, Su-27, Su-27UB, Su-33 |
| ∩9 | Mig-29 |
| ∩0 | J-15, Su-30M, Su-30MKK, Su-34, Su-35 |
| ∩1 | Mig-31 |
| ∩7 | AJ 37, JA 37 |
| ∩9 | Su-39 |
| ∩E | Eurofighter GAF, Typhoon FGR.4 |
| ∩F | F-CK-1C |
| ∩R | Rafale |
| ∩T | F-104, F-111, Tornado ECR/ IDS/ F3/ GR |
| 4 | F-105 |
| 41 | A-6, A-7, EA-6B, MQ-9, Su-7, Su-24 |
| 43 | AMX, F-100D, Su-15 |
| 44 | Mirage F1CT |

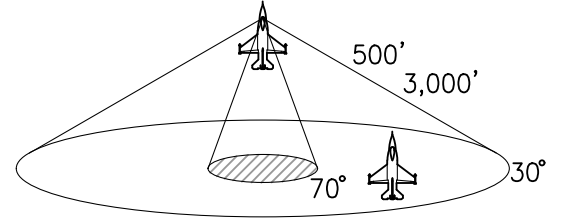
Line Abreast



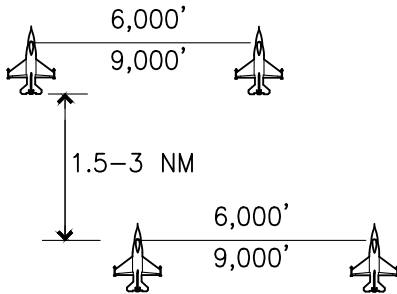
Wedge



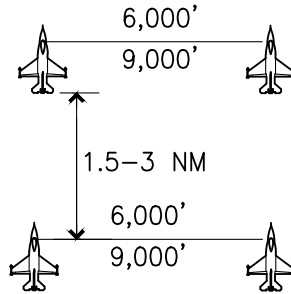
Fighting Wing



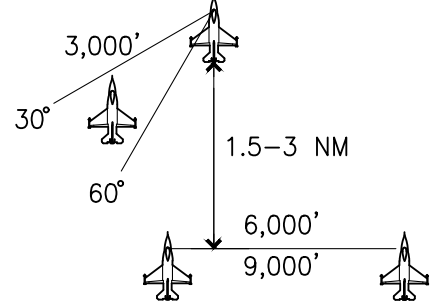
Four Ship Offset Box



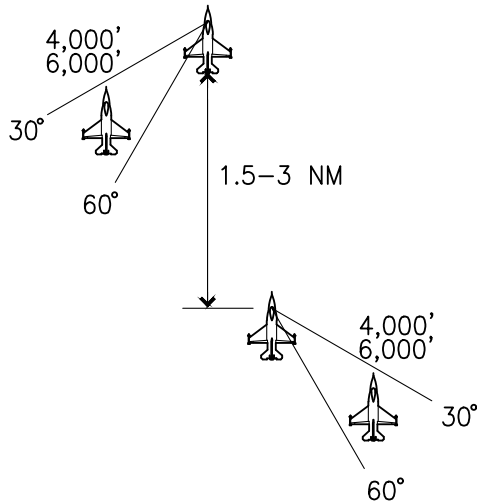
Four Ship Box



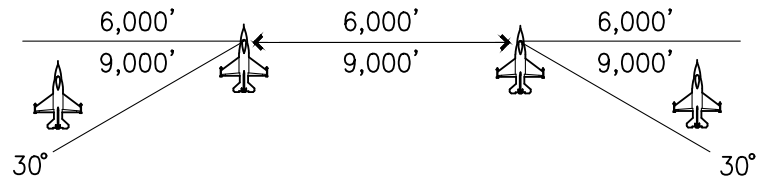
Arrowhead



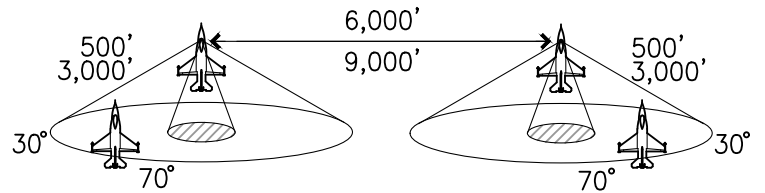
Wedge



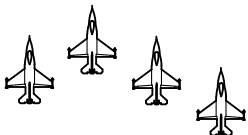
Spread Four



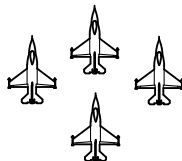
Fluid Four



Fingertip



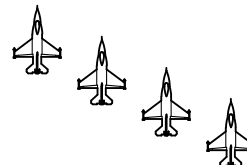
Diamond



Trail



Echelon Right



Spread

