

## Radar (Flat Face B [P-19]) - SA-6, SA-8

### Iraq

Type: Building (Surface)

Commissioned: 1978

Operator: Air Force

Length: 12 m

Width: 12 m

Crew: 0



#### Sensors / EW:

- Flat Face B [P-19] - (1RL134, Danube) Radar, Radar, Air Search, 2D Medium-Range, Max range: 250 km

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**OVERVIEW:** The P-19 radar (NATO name: FLAT FACE B) is a mobile, 2-D early warning radar operating in the "C" Band.

**DETAILS:** The FLAT FACE B is a mobile early warning radar. The P-19 can likely shift between possibly three pre-set frequencies to avoid active interference, and may incorporate doppler filtering to discriminate chaff returns. It also incorporates an IFF. Weapon systems associated with the P-19 include the SA-2 GUIDELINE, SA-3 GOA, SA-6 GAINFUL and SA-8 GEKO, as well as the SA-60 57mm AAA gun.

#### Specifications:

Frequency: 825-890 Mhz (C-Band)

Power output:

PRF:

Range Resolution: 2.5 km/ 2 degrees azimuth

Runup time: up to 3.3 minutes

Set up time: up to 20 minutes

Detection Ranges (2.5 m<sup>2</sup> RCS, 14m tower height, 50% chance of detection)

100 m altitude: 32 km

1000 m altitude: 80 km

4000 m alt.: 140 km

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NOTES: IOC 1974. The P-19 system is mounted in two vehicles: an antenna mounted on a single truck and the electronic equipment contained in a second truck. The system is reportedly easy to maintain and highly reliable, with a high level of resistance to countermeasures and good low altitude detection characteristics. Because of their low power-aperture ratings this family of radars is not regarded as being very effective against low-observable aircraft and drones.

SOURCES: Jane's Radar and Electronic Warfare Systems, "P-15/P-19 series early-warning radars", 22 October 2004; W"Radar Basics." Grundlagen Der Radartechnik. Accessed March 8, 2015 ; "P-19 Radar." Wikipedia, the Free Encyclopedia. Accessed March 8, 2015. [http://en.wikipedia.org/wiki/P-19\\_radar](http://en.wikipedia.org/wiki/P-19_radar) ; "P-19MA/P-190U | Wwww.litak-tak.eu." Home | Wwww.litak-tak.eu. Accessed March 8, 2015. <http://www.litak-tak.eu/en/products/radars/p-19ma-p-190u/> ; <http://www.radartutorial.eu/19.kartei/karte910.en.html>. <http://www.radartutorial.eu/19.kartei/karte908.en.html> ; "P-15 FLAT FACE." GlobalSecurity.org - Reliable Security Information. Accessed March 8, 2015. <http://www.globalsecurity.org/military/world/russia/flat-face.htm> ; <http://pvo.guns.ru/rtv/p15.htm> ; "Russian / PLA Low Band Surveillance Radar Systems (Counter LowObservable Technology Radars)." Air Power Australia. Accessed March 8, 2015. <http://www.ausairpower.net/APA-Rus-Low-Band-Radars.html#mozTocId6430> ; Deftech Global Limited - P-19 And P-18 Radar Modernization. (n.d.). Retrieved from <http://www.deftech-ltd.com/defence-products/air-defence/radars/p-19-and-p-18-radar-modernization> ; 19R - Radar P - Radar - ?????? - ?? ??????. (n.d.). Retrieved from <http://www.kbradar.by/text/pages-view-116.html>