

China's Early Warning Capability

~~(S//NF//WN//NC)~~ China's air surveillance radar network consists of 625 deployed radar sites, of which 380 are for early warning and 245 are for early warning/ground-controlled intercept. These sites contain approximately 1,335 radars.

- o ~~(S//NF//WN//NC)~~ Radar deployment along the coastal and border areas provides overlapping coverage to a range of approximately 250 nautical miles against medium- to high-altitude aircraft.
- o ~~(S//NF//WN//NC)~~ However, radar tracking of low-level aircraft is limited and unreliable due to such factors as terrain masking, ground clutter, atmospheric conditions, and obsolete radar equipment.
- o ~~(S//NF//WN//NC)~~ Most of China's outmoded radar equipment is unsophisticated and uses vacuum tube technology. Consequently it is unable to pick up targets in heavy ground clutter, contributing to poor radar performance at low altitudes.
- o ~~(S//NF//WN//NC)~~ Additionally, China's radar equipment is lacking in electronic counter-countermeasures (ECCM) capability. Only recently have they begun producing radars incorporating such ECCM features as frequency diversity, moving target indicators, and low side-lobe antennas. This shortage of ECCM capability in individual radars is aggravated by insufficient frequency diversity among radars at single radar sites. Thus, China's air surveillance system is vulnerable to electronic countermeasures (such as jamming) and to exploitation by electronic support measures (ESM) activity.
- o ~~(S//NF//WN//NC)~~ Moreover, many of China's radar units have historically suffered from a lack of discipline, poor management, and inadequate technical performance by radar crews. Since China's air surveillance system

relies heavily on manual tracking and reporting procedures, the performance of the human operator has a significant effect on overall system efficiency and responsiveness.

- o ~~(S/NF/NN/NC)~~ As part of China's overall military modernization efforts, China has been gradually upgrading its air defenses, and apparently is acquiring and/or developing modern air defense equipment, including new radars.

~~(S/NF/NN/NC)~~ To compensate for deficiencies in low-altitude detection, and to improve border reconnaissance and long-range intercept capabilities, China has been seeking to purchase or develop an airborne early warning (AEW) capability.

- o ~~(S/NF/NN/NC)~~ Over the past several years, China has been exploring the purchase of Boeing E-3A/Sentry AWACS. This subject was broached during President Reagan's 1984 trip to China. The Chinese also have been negotiating with a number of Western firms to produce jointly an indigenous AEW aircraft. These include Westinghouse (U.S.), Marconi (UK), Thorn-EMI (UK), and Dornier GmbH (FRG). China's Harbin Aircraft Corporation has developed an AEW prototype aircraft by mating the Y-12/TURBO PANDA with Thorn-EMI's Skymaster radar.
- o ~~(S/NF/NN/NC)~~ The AWACS is preferred because it not only performs AEW functions but also has command and control communications capabilities that enable the AWACS to direct fighter aircraft towards a target. An AEW aircraft would be less efficient and less responsive than an AWACS, since it would have to communicate with a ground station which would then vector fighter aircraft to the target from the ground.
- o ~~(S/NF/NN/NC)~~ Besides the E-3A/Sentry AWACS, the Chinese have also shown interest in the Grumman E-2C/Hawkeye early warning and control aircraft. Of the two, the Chinese prefer the E-3A, which is a more capable system, both for offensive and defensive control of weapons systems.

~~(S/NF/WH/NC)~~ An AEW or AWACS capability is particularly suited to China's need for low-altitude early warning, especially on China's long border with the Soviet Union. To provide a credible air defense, China must be able to detect low-flying aircraft as early as possible and respond with defensive aircraft patrols. Early and accurate detection is especially critical in defending against Soviet bombers because of the growing range of cruise missiles carried by the bombers.

- o ~~(S/NF/WH/NC)~~ However, as a force multiplier, the AWACS, and to a lesser degree an AEW aircraft, could alter regional force balance projections, especially in the Taiwan Strait.
- o ~~(S/NF/WH/NC)~~ Recent Chinese Air Force and Navy interest in the Dornier Metro III AEW aircraft and the sense of urgency conveyed in seeking acquisition of an AEW/AWACS aircraft indicates China would probably use this aircraft in support of contingency operations. These include those which could occur near disputed territory along the Sino-India border or in the Spratly Islands.
- o ~~(S/NF/WH/NC)~~ Sale of the AWACS to China could provoke a strong response from bordering nations. The proposed sale of the E-3A/AWACS to Pakistan, for example, has prompted India to request the Soviet IL-76/MAINSTAY AWACS and the "anti-AWACS" MiG-31/FOXHOUND aircraft.