Nonstandard Solutions are Needed!

Main terms:

- **Constantly being on Duty Early Warning Helicopters, Defended itself by the Ground Based C-RAM Systems**
- **Other Distributed Passive Sensors Combined in an Entire Net**
- **Distributed Weapon Systems Using a so called "Ambush Tactics"**

Due to the small territorial extent of Georgia and therefore due to ability of prospective foe to shoot through the country's entire territory with e.g. tactical ballistic missiles, there is no any capability for Georgia to use fix wing aviation neither in air defense nor in ground attack role.
While potential foe for reaching victory widely uses his overwhelming air superiority and therefore air defense issue is very vital for entire defense capability of Georgia.

As solely solution of mentioned problem it seems to us to create the multilayer integrated air defense system with obligatory inclusion there of Heliborne Early Warning System (Heliborne AEW).
Commonly, Airborne Early Warning System allows to ground air defense units to use the so called "ambush tactics" and to switch-on their radars only when target has already entered into destruction zone. And after each engagement then ground based air defense unit quickly changes its position.

Usage of helicopter as a platform for AEW radar is caused by mentioned above reason (due to ability of potential foe to shoot through the country's entire territory with the purpose of destruction of aerodromes and also due to his overwhelming superiority in air).

Quote:
Helicopter AEW systems

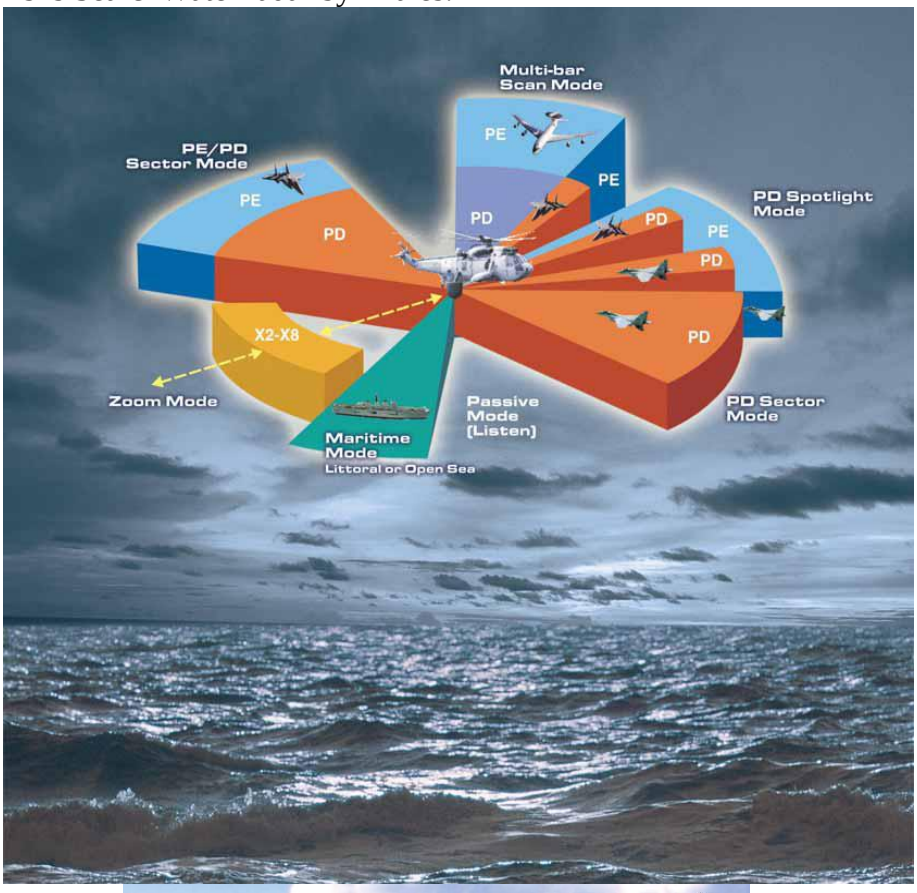
Sea King AEW.2A
The Royal Navy Sea King ASaC7 naval helicopter is operated from Invincible-class aircraft carriers. The creation of Sea King ASaC7, and earlier AEW.2 and AEW.5 is the consequence of lessons learnt by the Royal Navy in the 1982 Falklands War when the

lack of AEW coverage for the task force was a major tactical shortcoming. The Spanish Navy fields the SH-3 Sea King in the same role, operated from the carriers Principe de Asturias and Juan Carlos I

The Russian-built Kamov Ka-31 is deployed by the Indian Navy on Krivak-III frigates and reportedly used by the Russian Navy on its sole Kuznetsov aircraft carrier. It is fitted with E-801M Oko (Eye) airborne electronic warfare radar that can track up to 20 targets simultaneously with aerial detection range 90 mi (150 km) and surface warships up to 160 mi (250 km).

The newest helicopter-based AEW is the AgustaWestland EH101 AEW of the Italian Navy.

At this moment we know only one very mature radar system suitable for Helicopter AEW (and not only) role.
This is SearchWater radar by Thales.



Quote:
Long range warning against high and low level attack <u>over land</u>, sea & air
● *Long range intercept direction of fighter aircraft using a high resolution INS/GPS* ***Navigation System***
● *An autonomous secure air defence C2 unit*

● *Air-to-Air (Look Up & Look Down)*

● *Ground Moving Target Indicator (GMTI)*

● *Etc.*

But during its operation AEW Helicopter as such is vulnerable too in face of long range air-to-air (e.g. R-33 with claimed range 120 km) and Russian high performance S-300 and S-400 air defense systems with claimed range 400 km and ability of destruction of AEW aircrafts.

And for defending of AEW Helicopter from mentioned threats Ground Based Counter RAM (rocket-artillery-missiles) Self Propelled Anti Air Guns (SPAAG) are needed.

Preferable SPAAGs


76mm Draco (Oto Melara)


40mm RAPIDFire (Thales)


35mm AHEAD (Rheinmetall Defence)

We are sure that proposed solution of using for air surveillance of AEW Helicopters would make the Georgian Integrated Air Defence System much more survivable in comparison of solution chosen e.g. by Finland, where recently for the same purpose 12 Thales "Ground Master 403" radars have been acquired for 265 millions USD (so, about 22.1 mln $ per each unit).

Thales Ground Master 403 Radar

Also we should recall that Finland has very similar to Georgia potential threats.