

Lesson 17: Waves of War

Operation "Waves of war"

General Briefing, TOP SECRET.

BLUE TEAM

Congratulations my fellow scientists! After less than one year of war with the reds we have nearly won. They only control their main island. A problem has arisen however, which we must face and defeat.

The reds have invented a simple system of radio wave direction and range finding which they call RADAR. We captured a sample of the machine last month. It uses 2-3 metre wavelengths of radio waves that reflect back off solid surfaces or water giving a crude dot-like image on a display. The range of this device is huge but it suffers from several drawbacks. It is far too big to move. It gives very little detail. It only detects aircraft at altitudes over 300m. It is certain that the reds will be looking to improve this technology so don't expect these weaknesses to last.

We intend to invade the main island within one year. Your advice is needed by the leader on the following points:

- 1 Should the enemies radar stations be bombed? Such missions would be low-level raids and our losses would be high. We massively outnumber the enemy in fighters and bombers, but our bombers are easy to destroy at low altitude with anti-aircraft guns.
- 2 If the enemy is working on lower wavelength radar then it is possible that they will soon have short range but highly detailed radar systems. What advice should we give A) our battleships – how can they reduce their chance of detection by radar. B) Our submarines – should they endure the lack of clean air and spend as little time as possible on the surface of the sea?
- 3 How can we confuse the enemy radar?
- 4 Energy of electromagnetic waves increases as the wavelength gets smaller. Is it possible to make a death ray by using Gamma rays, X-rays or light rays instead of radio?
- 5 If we are to catch up with the reds in this technology it will be a major effort and would delay the end of the war while we invented things and fitted them to our weapons. Should we do this or simply use weather conditions and tactics to reduce the advantage of radar?

The leader is confident of victory, but much depends on you. Do not let him down.

Long Live the Leader