Scenario Description

This is the first in a series of tutorials designed to teach players the fundamentals of surface operations in Command. In this tutorial, the following topics will be covered:
- Control the heading and speed of your ships
- Operate surface search radar
- Engage surface targets with guns and missiles

Pop-ups will appear with important messages during this scenario. You can find a PDF of them in the documents folder that comes with these tutorials. The default location is: C:\Program Files (x86)\Command Modern Operations\Scenarios\Tutorials\Surface Warfare Tutorials\Documents.

For Steam users, they will be located at: C:\Program Files (x86)\Steam\steamapps\common\Command - Modern Operations\Scenarios\Tutorials\Surface Warfare Tutorials.

Scenario Briefing

Welcome to Basic Surface Operations 1.1
In this scenario you will have command of a Greek patrol boat and its embarked boats and aircraft. Using pop-up messages like this, you will be guided through the following topics:
- Control the heading and speed of your ships
- Operate surface search radar
- Engage surface targets with guns and missiles

Your mission is to intercept and destroy an armed terrorist vessel operating in your area. In this tutorial as with others in this series multiple pop-ups will appear with important messages. If you need to review any of these later, you can open the message history in a second window by pressing Ctrl+M and scrolling to the appropriate message.
This tutorial is designed to stop time compression with pop-ups at important moments. Surface operations can be slow paced due to the speeds and distances involved, so feel free to use time compression in the tutorial knowing that any significant developments will be accompanied by a time-stopping pop-up.

To make use of this in your own gameplay, or fine-tune pop-up settings for this tutorial go to Game > Game Options > Message Log and select 'Raise Pop-Up' for any event that you wish. Useful pop-ups for Surface operations include 'Contact Change', 'New

Contact', 'Special Messages' (this should always be on), 'Unit Damage', 'Unit Lost' and 'New Weapon Contact'.

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Message 1

We've just received a radio call from a group of oil exploration vessels to our south reporting that they are under attack by armed pirates. We need to investigate, so let's start by setting a heading and speed that is appropriate for the mission.

Select your vessel, then press the F3 key to activate the 'Plot Course' command and click somewhere south of your ship. Once you have set a waypoint, press 'Esc' to deactivate 'Plot Course' mode.

Now set your speed by pressing the F2 key. We're responding to a distress call, so set your speed to 'Flank'. This will give us the highest speed our vessel is capable of and allow us to reach the scene as soon as possible. Once this is complete, start time by pressing Space Bar or clicking the 'Start/Resume' button.

Message 2

Now that we're underway, let's quickly examine surface ship sensors. Note that it is currently night: Visual detection with the Mk1 Eyeball will be very poor so we will be relying on our surface search radar to detect the vessels we're looking for.

Radar: Radar is a staple of surface unit operations. When operating unopposed it is typical for ships to use at least a surface search or navigation radar. Radar is an active sensor and needs to be switched on to function (F9). Your patrol boat is equipped with a navigation radar (Decca 1226), a combination air and surface-search radar (TRS 3035 Triton II MTI) and two fire-control radars (TRS 3201 Castor II and TRS 3220 Pollux).

Radar performance is affected by several factors, but in this tutorial we are most concerned by radar horizon.

The maximum range of a radar is limited by the 'radar horizon', which is a factor of the curvature of the earth, the altitude of the target, the altitude of the receiver, atmospheric factors, and the frequency of the radio waves. An approximation of the radar horizon formula that is useful for surface ships is $RNm = 1.23\ sqrt(HRf + HTf)$—the range in nautical miles (RNm) is equal to the product of 1.23 and the square root of the sum of the height of the receiver in feet (HRf) and height of the target in feet (HTf).

Thankfully, in most situations it is sufficient to know that the typical radar horizon for a surface ship detecting another surface ship is around 12 nautical miles.

There are a number of other factors that come into play, but for now we just need to be aware that the typical effective range for a ship-borne surface search radar is around 12 nautical miles, and that the range for any radar is limited by the radar horizon, which in turn is determined by the altitude of the target and receiver. Other tutorials in this series will delve deeper into the workings of radar.

Now, let's proceed south course and see if we can detect the vessels in distress using radar. Switch on your ship's radar by using the sensors window (F9) or the EMCON panel in the right-hand staus panel. If using the sensors window (F9) you will need to ensure that the 'Unit obeys EMCON' box is unchecked, while if using the right-hand status panel you will need to ensure that 'Inherit from Parent' is unchecked. These settings are used in larger scenarios to manage the EMCON of multiple units simultaneously.

Message 3

We have detected a surface contact.

Unknown surface contacts are given the brevity code SKUNK, which is derived from 'Surface Contact - UNKnown'. Most radars will only be able to detect the position, heading, and speed of a surface contact, however some newer and more advanced sets can identify surface contacts through Synthetic Aperture Radar (SAR) and other technologies.

Unfortunately, the radars carried by your patrol boat do not have this capability. In order to identify surface contacts we will need to use passive sensors such as ESM or visual sensors.

Change course if necessary (F3) and continue to close with the detected contact at Flank speed.

Message 4

We have just heard from the ships in distress that the terrorists who were attacking them are fleeing to the north-east.

We need to be sure of the true identity of a target before we fire. Plot a course to get as close as possible to the vessel that is departing the area at high speed on a north-eastern course.

Message 5

We've identified the pirate vessel and confirmed its identity. At its current speed, it is unlikely we will get in range to use guns on this target. Select your patrol boat, press F1 to order an automatic attack and then click on the pirate vessel. Your patrol boat will automatically move towards the pirate vessel and engage with missiles or guns as appropriate when it comes into weapons range.

Alternately you can handle the intercept and weapons launch manually: Plot an intercept course using the course plot tool (F3), measuring distances and angles as necessary using the measuring tool (Ctrl+D) and adjusting your speed with the speed and altitude settings window (F2). To allocate weapons, press Ctrl+F1 to manually assign weapons and click on the target vessel.

Win

Congratulations! You were able to control the course and speed of your ship and use surface search radar to find a terrorist vessel before engaging it and sinking it.