Starfleet Operations Manual

Model MB-X84.3 Phaser Control Bank

This manual describes how to operate the top-secret prototype MB-X84.3 Starfleet standard phaser control bank, the primary weapon on current Starfleet vessels. Understanding how to operate this system is critical for any Starfleet officer.

Figure 1 below shows the phaser control bank interface. Note that control names have been changed to protect the secrecy of the phaser prototype project. However, the basic tasks involved in operating the phaser have remained the same from the previous model, and so those task names are not protected.

There are four essential steps involved in operating the phaser:

1. Charging the phaser.
2. Setting the focus of the phaser beam.
3. Tracking the target.
4. Firing the phaser.

Each step will be further described in the following pages of the manual.
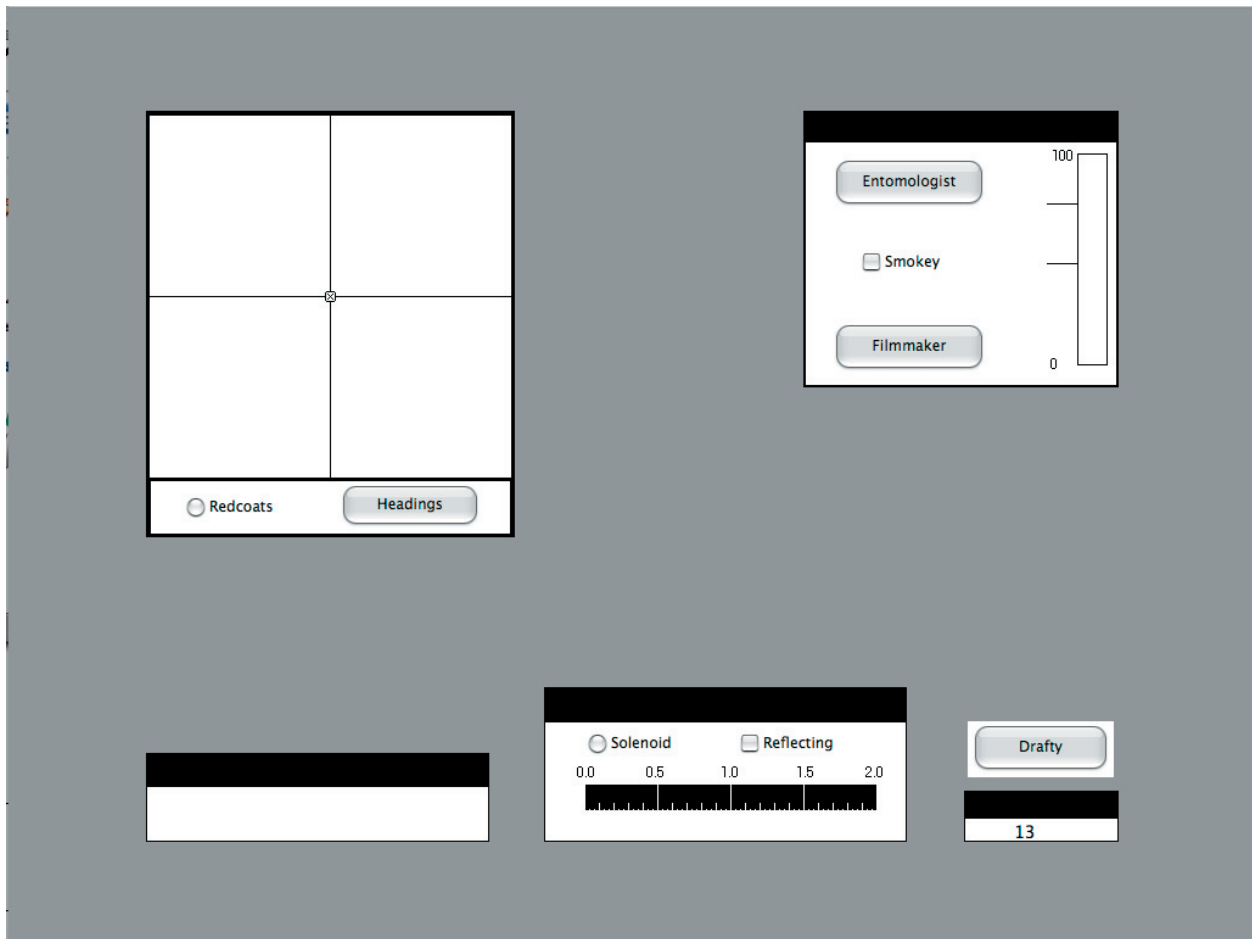

Figure 1. The Phaser interface.

Step 1. Charging the Phaser

Overview of steps:

       1. Click 'Smokey'
       2. Click 'Entomologist'
       3. Wait until phaser charges within range lines
       4. Click 'Filmmaker'
       5. Click 'Smokey'

The X84 class phaser requires more energy than can be generated by a standard power plant. This problem is solved by using an additional power source. Several steps are involved in powering up the phaser. First, the phaser's prototype power system must be engaged by clicking 'Smokey' on the control panel, as shown in Figure 2.

Once the power system is engaged, activate it by clicking the 'Entomologist' button. The power meter will begin to rise. Wait for the meter to rise to within the safe range marked by the horizontal lines. At this point, 'Filmmaker' should be clicked to indicate that the desired amount of power has been generated.

Warning: It is crucial that the phaser charge falls within the allowable range, as overcharging can damage the unit and undercharging will make firing fail altogether.

Once the phaser has charged, it is necessary to disengage the power source by unchecking the 'Smokey' box (Figure 2). Unless the power has been disconnected, it will not be possible to operate other phaser controls.
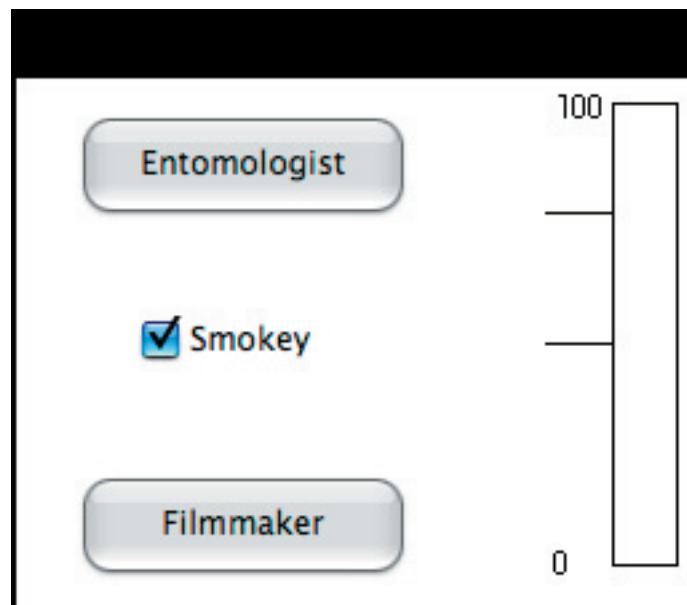

Figure 2. 'Smokey'

Step 2. Setting Phaser Beam Focus

Overview of steps:

     1. Click 'Solenoid'

     2. Set Phaser Index to desired value

     3. Click 'Reflecting'

The X84 class phaser beam must be focused in order to be effective against a target. Higher focus index translates to a larger perpendicular cross-section of the beam, making it easier to hit a target. However, the beam also becomes less damaging at higher settings, so proper adjustment must be learned. The first step in setting the focus index is to enable the alteration of current settings. This is done by clicking 'Solenoid', as shown in Figure 3.
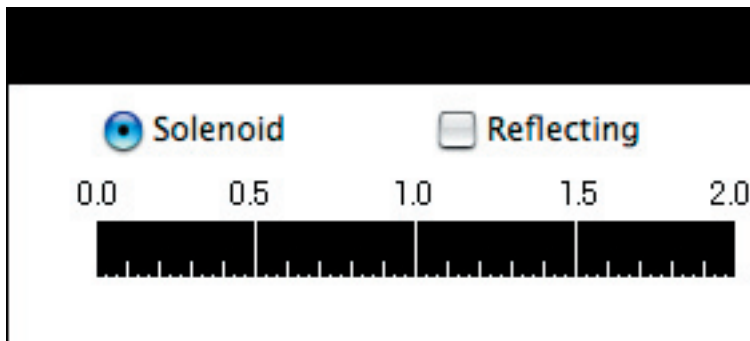

Figure 3. 'Lens'

The focus index must be set using the phaser focus scale. Click on the scale at the desired value. A black triangle will appear under the selected index (Figure 4). To change the selected index, simply click the new desired value. Setting the focus to approximately 2/3 level is acceptable for most targets. As you progress through training you will get a better feel.

Once the phaser focus index has been set, the system must be locked. This is done by clicking the 'Reflecting' button. As with charging the phaser, it will be impossible to operate the other controls until this has been done.

Figure 4. Phaser index indicator

Step 3. Tracking the Target

Overview of steps:

      1. Click 'Redcoats'

      2. Click 'Headings'

      3. Use the number keys to adjust the location of the target indicator

The X84 class phaser contains a sophisticated tracking and shooting system that is capable of bringing a target into firing range. Once the system has done its job, however, it is up to the operator to manually operate the phaser and shoot. The first step involved in the manual portion of tracking the target is to enable the phaser tracking and shooting system. This is done by clicking the 'Redcoats' button, as shown in Figure 5.

Figure 5. 'Redcoats' button engaged

Next, the tracking and shooting system is turned on by clicking on the 'Headings' button. It is possible to tell that the tracking and shooting system is active by noting the presence of the target indicator.

Adjustments are made using the four keys on the numeric pad of the keyboard. These keys will bring the crosshairs closer to the target in the direction you press. Hence, if you press up, the target will move downward towards the crosshairs. For the target in Figure 6 (right) you would press the right direction key and the down direction key to move the center crosshairs toward the black dot. Use moderation in the rate of keypresses. Since the system works in bursts, holding a key down will not work.

Moving the crosshairs closer to the target will produce better results. However, due to the difficulty of tracking high-speed objects such as incoming enemy vessels, it is not guaranteed that the target will be hit, no matter how well the tracking is adjusted. *It is thus optimal to aim quickly and fire as soon as you are within close range rather than waiting until you are dead on.*
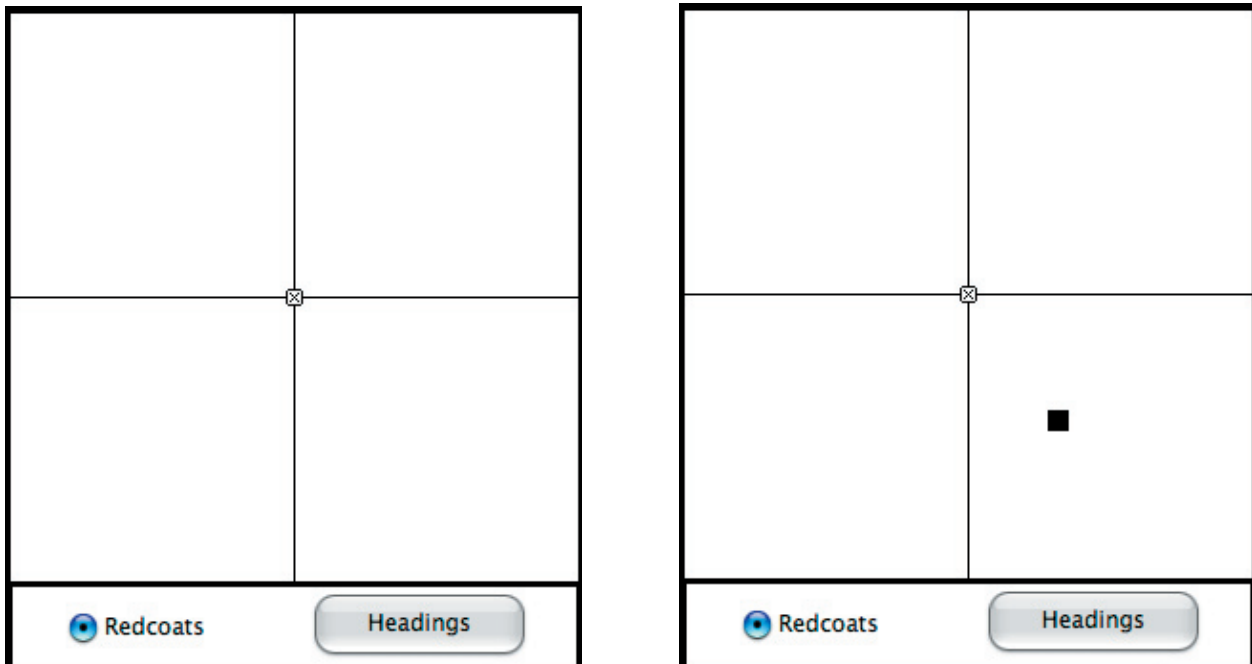

Figure 6. Tracking and shooting system in off (left) and on (right) states

Step 4. Fire the Phaser

Overview of steps:

      1. Press the space bar

      2. Determine if the target has been destroyed

      3. If so, click 'Headings'

      4. If not, return to Step 1, Charging

Once the tracking has been adjusted and the crosshairs are within range of the target blip, the phaser should be fired immediately by pressing the space bar.

This will have several effects. First, you will hear the sound of the power discharge. You will also notice that several things on the control panel will have returned to their "rest" state. The status of the panel will indicate the results of the firing. There are three possibilities:

      1. The phaser will miss the target

      2. The phaser will hit the target, but will not destroy it

      3. The phaser will destroy the target.

In either of the first two cases, it will be necessary to *return to Step 1* (charging the phaser) in order to fire the phaser again.

In the third case, the task is complete and you must turn off the tracking and shooting system, which will still be in the 'on' state. This is imperative, as the tracking and shooting system will automatically lock onto targets by itself if left on. Several accidents in the recent past with ships firing on friendly ships have been attributed to a failure to shut off the tracking and shooting system. Once you have done this by again clicking the 'Headings' button, click 'Drafty', at the bottom, to return to Main Control and move on to the next task.

Review. Summary of Steps

Overview of steps:

Step 1. Charge the Phaser
        1. Click 'Smokey'
        2. Click 'Entomologist'
        3. Wait until phaser charges the appropriate amount
        4. Click 'Filmmaker'
        5. Click 'Smokey'

Step 2. Set Phaser Beam Focus
        1. Click 'Solenoid'
        2. Adjust location of slider to desired focus
        3. Click 'Reflecting'

Step 3. Track the Target
        1. Click 'Redcoats'
        2. Click 'Headings'
        3. Use arrow keys to adjust location of the target indicator

Step 4. Fire the Phaser
        1. Press the space bar
        2. Determine if the target has been destroyed
        3. If not, return to Step 1, Charging
        4. If so, click 'Headings'

Then click 'Drafty' to move on to the next task.