CLAIMS

1. A land, air or waterborne vehicle simulator (10) for the training of at least one person, comprising a training room (20), whose inner delimiting surface is provided with a color that is suitable for chroma keying, wherein the simulator (10) comprises at least one partially transparent head-mounted display (21; 21'), which is provided with two video cameras for stereoscopic images and a head tracker, which enables determination of the viewing direction of the respective wearer, and the simulator (10) further comprises a simulation computing unit (22) with two image generators for stereoscopic illustration of virtual images on the at least one head-mounted display (21; 21'), and the virtual images to be represented can be generated by a video mixer comprising a means for simultaneous mixing of the images of the video cameras of the at least one head-mounted display (21; 21') with computed virtual images in the respective viewing direction.

2. The simulator as claimed in claim 1, **characterized in that** the simulator (10) comprises at least two partially transparent head-mounted displays (21; 21'), on which virtual images can be generated by the simulation computing unit (22) at the same time.

3. The simulator as claimed in one or both of claims 1 and 2, **characterized in that** the entire training room (20) is implemented so as to be movable in space.

4. The simulator as claimed in one or more of claims 1 through 3, **characterized in that** the floor can be decoupled from the side walls of the training room (20).

5. The simulator as claimed in one or more of claims 1 through 4, **characterized in that** the training room (20) comprises at least one real training object (30; 31).

6. The simulator as claimed in claim 5, **characterized in that** the training object is a weapon (30; 31) and/or a winch, in each case as an original or a model.

7. The simulator as claimed in claim 6, **characterized in that** a cable (32) of the winch is coupled to a motion plate (23) that is movable in two directions within a plane, wherein the motion plate (23) can be controlled by the simulation computing unit (22).

8. The simulator as claimed in claim 7, **characterized in that** the motion plate (23) comprises at least one sensor, with which the force transfer of a person to the cable (32) of the winch can be detected and can be transmitted to the simulation computing unit (22).

9. The simulator as claimed in one or more of claims 6 through 8, **characterized in that** the cable (32) of the winch runs between two reels (33; 33'), onto which the cable (32) can be reeled and from which it can be unreeled.

10. The simulator as claimed in claim 9, **characterized in that** the two reels (33; 33') are dis-posed outside the training room (20).

11. The simulator as claimed in one or more of claims 5 through 10, **characterized in that** parts of a training object (30; 31) are provided with the same color as the inner delimiting surface of the training room (20) for chroma keying.

12. The simulator as claimed in one or more of claims 6 through 11, **characterized in that** the simulation computing unit (22) for a weapon (30; 31) comprises means for the calculation and illustration of a sighting point in the virtual images represented on a head-mounted display (21; 21').

13. The simulator as claimed in one or more of claims 6 through 12, **characterized in that** the weapon (30; 31) comprises a recoil system operated with CO_2 or operated electrically for a recoil simulation.

CLAIMS

1. A land, air or waterborne vehicle group simulator (10) for the training of more than one person simultaneously, comprising a training room (20), whose inner delimiting surface is provided with a color that is suitable for chroma keying, wherein the simulator (10) comprises at least one partially transparent head-mounted display (21; 21'), which is provided with two video cameras for stereoscopic images and a head tracker, which enables determination of the viewing direction of the respective wearer, and the simulator (10) further comprises a simulation computing unit (22) with two image generators for stereoscopic illustration of virtual images on the at least one head-mounted display (21; 21'), and the virtual images to be represented can be generated by a video mixer comprising a means for the simultaneous mixing of the images of the video cameras of the at least one head-mounted display (21; 21') with computed virtual images in the respective viewing direction.

2. The simulator as claimed in claim 1, **characterized in that** the simulator (10) comprises at least two partially transparent head-mounted displays (21; 21'), on which virtual images can be generated by the simulation computing unit (22) at the same time.

3. The simulator as claimed in claim 1 or claim 2, **characterized in that** the entire training room (20) is implemented so as to be movable in space.

4. The simulator as claimed in any one of the preceding claims, **characterized in that** the floor can be decoupled from the side walls of the training room (20).

5. The simulator as claimed in any one of the preceding claims, **characterized in that** the training room (20) comprises at least one real training object (30; 31).

6. The simulator as claimed in claim 5, **characterized in that** the training object is a weapon (30; 31) and/or a winch, in each case as an original or a model.

7. The simulator as claimed in claim 6, **characterized in that** a cable (32) of the winch is coupled to a motion plate (23) that is movable in two directions within a plane, wherein the motion plate (23) can be controlled by the simulation computing unit (22).

8. The simulator as claimed in claim 7, **characterized in that** the motion plate (23) comprises at least one sensor, with which the force transfer of a person to the cable (32) of the winch can be detected and can be transmitted to the simulation computing unit (22).

9. The simulator as claimed in any one of claims 6 through 8, **characterized in that** the cable (32) of the winch runs between two reels (33; 33'), onto which the cable (32) can be reeled and from which it can be unreeled.

10. The simulator as claimed in claim 9, **characterized in that** the two reels (33; 33') are disposed outside the training room (20).

11. The simulator as claimed in any one of claims 5 through 10, **characterized in that** parts of a training object (30; 31) are provided with the same color as the inner delimiting surface of the training room (20) for chroma keying.

12. The simulator as claimed in any one of claims 6 through 11, **characterized in that** the simulation computing unit (22) for a weapon (30; 31) comprises means for the calculation and illustration of a sighting point in the virtual images represented on a head-mounted display (21; 21').

13. The simulator as claimed in any one of claims 6 through 12, **characterized in that** the weapon (30; 31) comprises a recoil system operated with CO_2 or operated electrically for a recoil simulation.

14. The simulator as claimed in any one of the preceding claims, wherein the means for the simultaneous mixing of the images of the video cameras of the at least one head-mounted display (21; 21') with computed virtual images in the respective viewing direction is provided by the so-called 'blue box technique'.