

Warfare

FEATURES

- Outputs include NTSC (AY-3-8605-1) or CCIR (AY-3-8605) compatible composite sync, color burst location and blanking
- Operation from a 3.579545 clock
- One or two player game
- Digital on-screen scoring
- Sound generation for engine, sonar, firing and explosions
- Designed for use with AY-3-8615
- Outputs and power requirements compatible with the Gimini Economy "8600" game series

DESCRIPTION

The AY-3-8605/8605-1 game circuit has been designed to provide realistic sea and space battle games using a standard television receiver. The circuit is intended for use with a 525 (AY-3-8605-1) or 625 (AY-3-8605) line receiver.

OPERATION

The AY-3-8605/8605-1 utilizes two potentiometers (one for each player) or one axis of two joysticks to produce control voltages for internal Schmitt triggers. These position the submarine, destroyer, and spaceships, via rate controllers in the horizontal axis only. The circuit displays an on-screen score for each player, processes the game logic and produces a composite sync, color burst location and blanking signals for a 525 or 625 line T.V. receiver. Sound outputs are also included to produce simulated engine, sonar, firing, and explosion sounds with a minimum of external components.

The AY-3-8605/8605-1 may be operated with the AY-3-8615 color processor circuit. The outputs are designed for compatibility within the Gimini Economy Game series. Game selection is made via a 2 strobe/3 select switch matrix with momentary contacts. Two momentary switches that ground the "fire" input pins are used to activate the torpedoes, depth charges, and missiles.

SOUND OUTPUTS

Space background noise—7 Bit Polynomial Counter clocked at 2kHz rate.

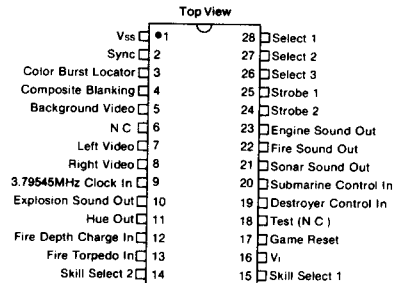
Torpedo or Depth Charge fired—1kHz signal for 2 frames then off for 4 frames.

Explosion— ~ 8kHz signal for ~ 3½ seconds.

Destroyer engine—Fast sound is a 240Hz clock into a 4 bit poly counter—Slow sound is a 120Hz clock rate.

Sonar for Submarine—Decaying 480Hz signal for ~ 2.9 seconds followed by a 2kHz signal burst for ~ 200ms. This sound repeats every 3½ seconds.

PIN CONFIGURATION 28 LEAD DUAL IN LINE



MOVEMENT

The cargo ship will traverse the screen in 16 seconds.

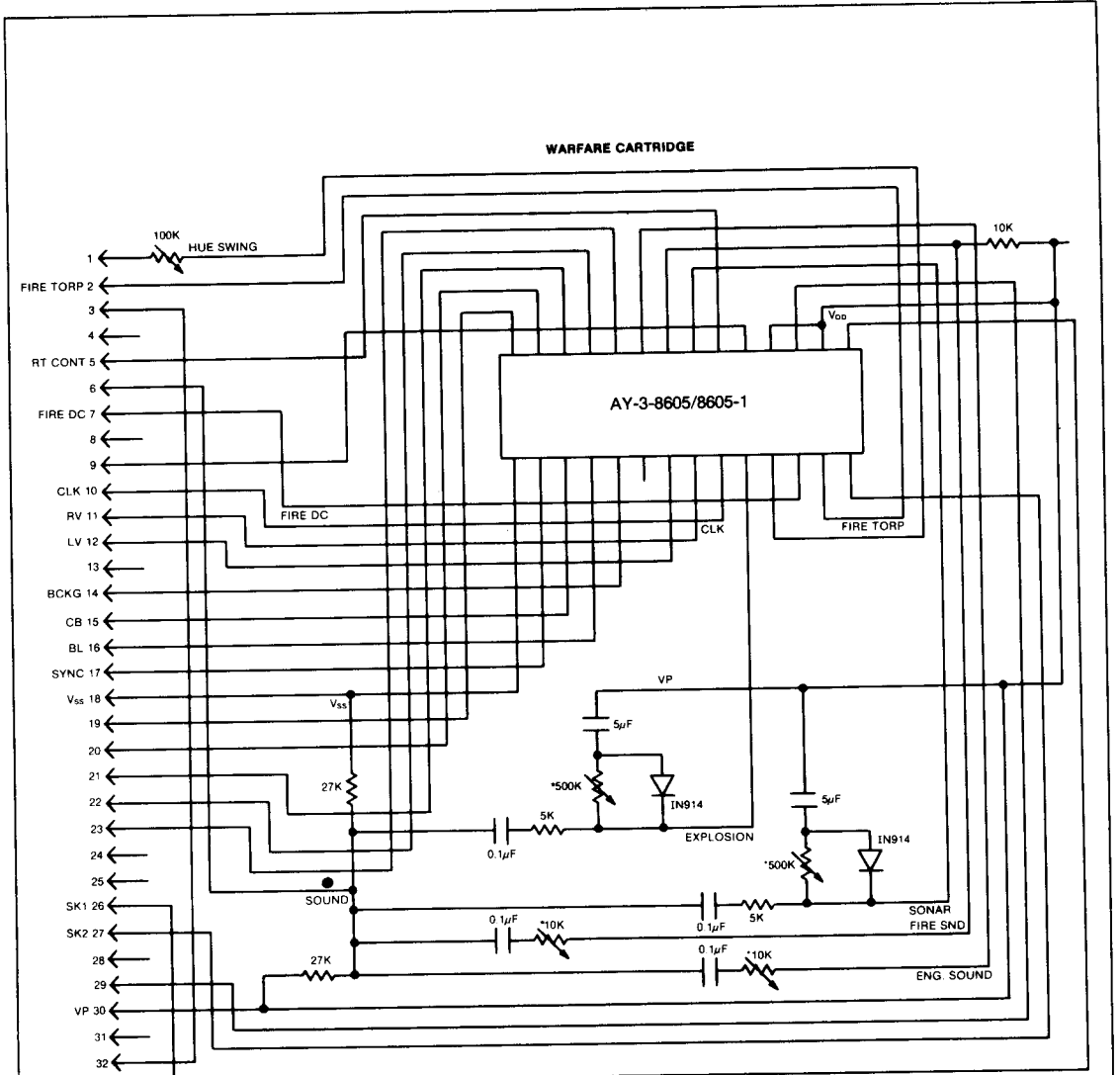
The destroyer ship will traverse the screen in 5.3 seconds.

The submarine moves across the screen in 8 seconds.

The torpedo rises at a rate of 1 line per frame. To move the 100 lines to hit the destroyer will take 1.67 seconds.

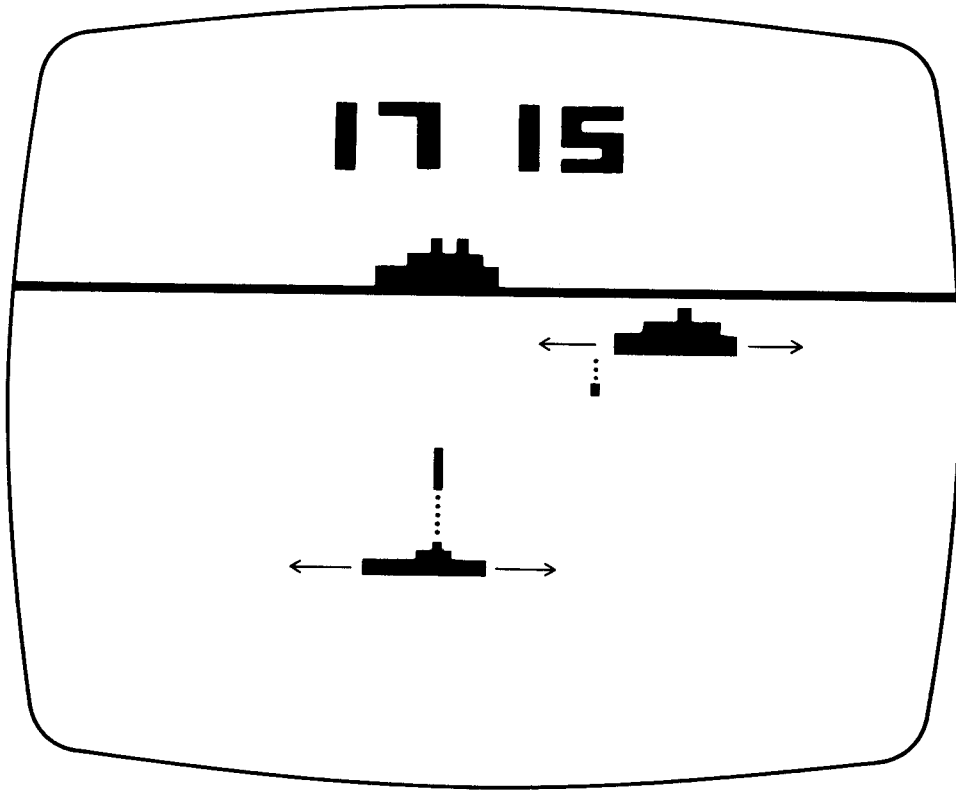
The depth charge falls at a rate of 1 line every 2 frames. To hit the submarine will take 3.34 seconds.

No Torpedo Lab



*POTENTIOMETERS MAY BE REPLACED WITH FIXED RESISTORS AFTER DETERMINING RESISTANCE USED FOR BEST SOUND EFFECTS.

www.DataSheet4U.com



Sea Battle (2 player)

One player controls the horizontal movement of the destroyer and the other player controls the horizontal movement of the submarine. The engine sound of the destroyer will be fast for either left or right movement and slow for no movement. Both the submarine and the destroyer will stop for a center position of the joystick. The cargo ship moves across the upper part of the screen at a fixed speed. The submarine player fires torpedoes to score 1 point for hitting the cargo ship and scores 2 points for hitting a restricted area of the destroyer. If the SKILL Switch #1 is off, the submarine player scores a point if the torpedo hits any area of the destroyer.

The destroyer player drops depth charges at the submarine and scores a point for hitting an area close to the submarine and scores 2 points for a direct hit if the SKILL Switch #2 is on.

A hit of the torpedo on the cargo ship or the destroyer will cause the cargo ship to disappear for the duration of the explosion and the destroyer ship will change color. A depth charge hitting the submarine will cause the submarine to change colors during the explosion.

Neither ship is allowed to go off-screen and only one torpedo will appear on the screen at any time, rising from the submarine to either strike a ship and cause an explosion or disappear. Only one depth charge will appear on the screen at any time, falling from the destroyer to explode on the submarine or disappear when hitting the sea bottom.

Sounds include a destroyer engine, submarine sonar, depth charge or torpedo firing, and explosions. The game is over when either player scores 30 points.

Counterattack I (1 player)

One player controls the horizontal movement of the submarine and fires torpedoes at the destroyer ship. There is no cargo ship in

this game. The destroyer ship moves across the screen dropping depth charges. As the depth charge falls it will either hit the submarine and cause an explosion or hit the sea bottom and drop another depth charge.

The player scores 1 point if the torpedo hits any area of the destroyer (SKILL Switch #1 is off). 2 points are scored if the torpedo hits a restricted area of the destroyer and SKILL Switch #1 is on. Points against the player are scored if the depth charges hit the submarine. 1 point is scored for a hit close to the submarine and 2 points for a direct hit if SKILL Switch #2 is on.

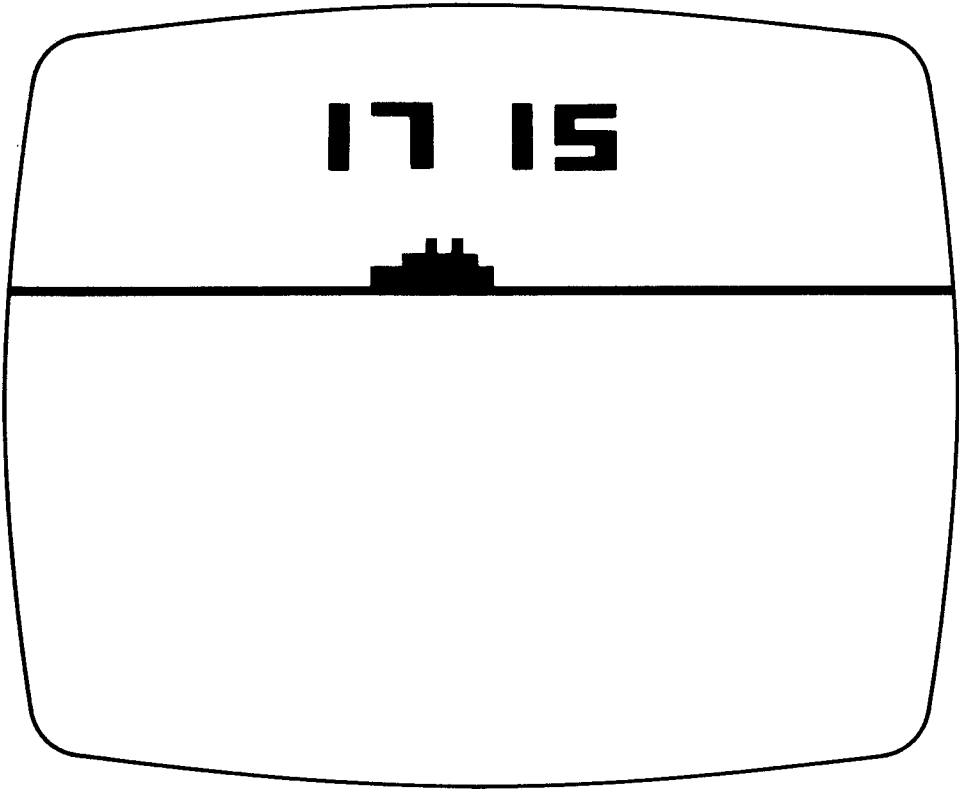
When either ship has been hit an explosion will occur and the ship that was hit will change color. It is possible that both ships have been destroyed at the same time.

The sounds include the destroyer ship engine, submarine sonar, torpedo firing, and explosions. The game is over when either the player scores 30 points or the destroyer has accumulated 30 points.

Counterattack II (1 player)

One player controls the horizontal movement of the destroyer and the firings of the depth charges. This player must protect his ship and the cargo ship from the torpedoes fired automatically from the submarine. As the submarine's torpedoes destruct from a ship impact, another torpedo is launched after the 3½ second explosion. Torpedoes that miss the destroyer ship or the cargo ship will disappear in the air and a new torpedo will be launched. The submarine moves across the screen reversing its direction at each edge of the screen.

The scoring for this game is the same as for the previous games. The sounds include the destroyer ship engine, submarine sonar, depth charge firing, and explosions. The game is over when either the player scores 30 points or the submarine has accumulated 30 points.

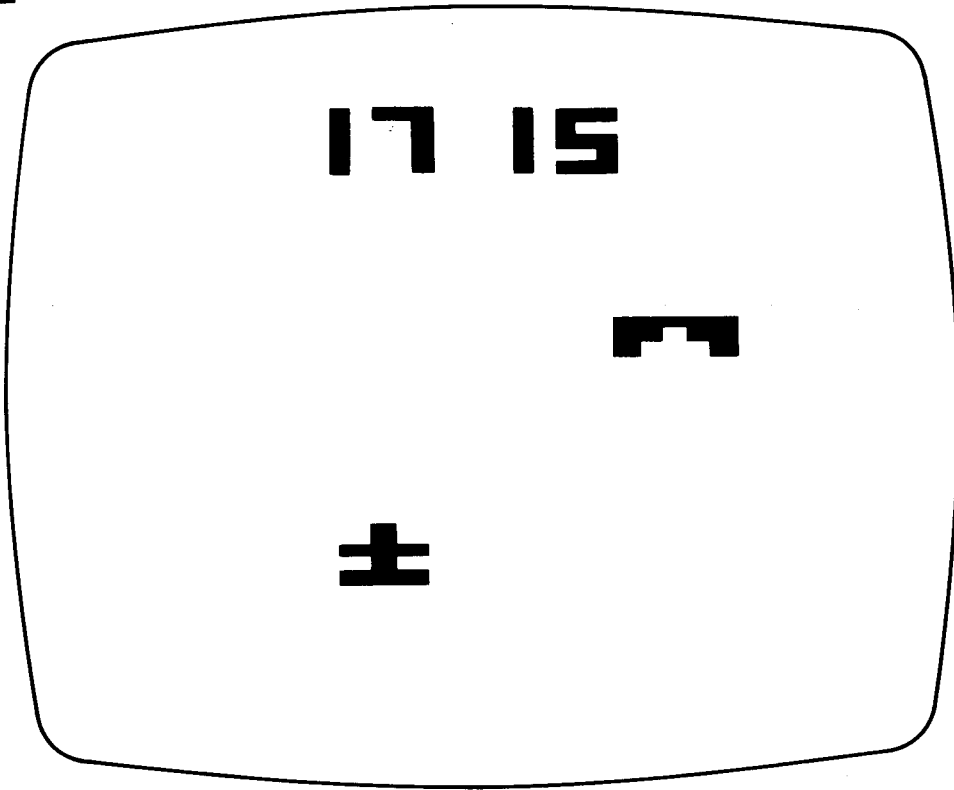


www.DataSheet4U.com

Night Battle (2 player)

One player controls the horizontal movement of the destroyer and the other player controls the horizontal movement of the submarine. The cargo ship traverses the screen, changing directions when it reaches the edge of the screen. This game plays just like the 2 player - Sea Battle - except that the only time the submarine is visible is when a torpedo has been fired. Likewise the cargo ship and the destroyer are not visible until a depth charge has been dropped. Scoring, SKILL Switch selections, and sounds are the same as described in - Sea Battle -.

CONSUMER



www.DataSheet4U.com

Space Battle I (2 player)

One player controls the Space Warp 1 vehicle and the other player controls the Space Warp 2 vehicle. Missiles are fired from one ship toward the other. There is no equivalent of a cargo ship from the sea battle games in this space game. The object is to fire your missiles at your opponent's vehicle and score either 1 or 2 points for the type of hit dependent on the SKILL Switch setting. The sounds include a space background and sounds for missile firings and explosions. The game is over when either player reaches 30 points.

Space Battle II (2 player)

This two player game is very similar to the Space Battle I game except that the space vehicle is only visible when it has fired a missile.

CONSUMER