

MUNITIONS

SELECT MUNITIONS TYPE

If the player is currently using the cannon or rocket launcher, this command allows selection of shell type or rocket type, respectively. It does not appear in the menu if the current weapon is the sonic blast or if there are no munitions left.

PUMP

PUMP SONIC COMPRESSOR

Activates the sonic compressor which raises the number of available sonic blasts to 9. Only appears on the menu if the count is less than 9 and the tank is NOT moving.

WEAPON

SELECT ACTIVE WEAPON

Selects either the cannon, rocket launcher, or sonic blast for use by the gunner.

9 - ALARM CONDITIONS

The battle computer is constantly monitoring the tank and the environment for conditions which are potentially dangerous and probably require some form of intervention. These conditions are called "alarm conditions". If an alarm condition is detected, the battle computer responds by raising an alarm.

Alarms are visible on all three screens. On the gunner's screen and commander's screen they are signalled by the appearance of "ALARM!" blinking in the message area near the upper right-hand corner of the screen. On the loader's screen, the alarm number and a brief description appears on the bottom line of the screen. It overrides any error messages that would otherwise appear there (e.g. "INVALID KEY", "IN PROGRESS", etc.).

The alarm can be cleared from the message line by using the CLEAR(Alarm) command on the loader's screen.

ALARM 1: ARRAY PROCESSOR FAILING

ALARM 2: SIGNAL PROCESSOR GLITCH

ALARM 3: STEALTH PLATE EXPIRING

These alarms all indicate that a previously installed kit or piece of equipment will become inoperable in about 60 seconds.

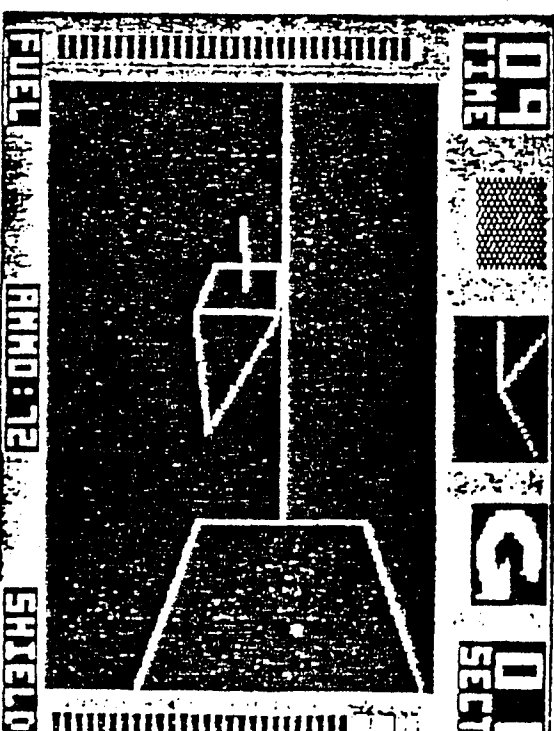
ALARM 4: NO FUEL - USING SHIELD

The tank's fuel has just been exhausted, and the battle computer was forced to convert shield energy into fuel, at a ratio of 4 to 1.

ALARM 5: CRUISE LAUNCH DETECTED!

The battle computer has determined that one or more cruise missiles has been launched by the surveillance aircraft. This alarm is automatically cleared once the last Cruise Missile is destroyed.

Cybertank



COMMANDER'S REFERENCE MANUAL

The internal systems monitored in the left column are the engine booster, sensors, movement, and the smokescreen generator. The engine status can be "ON", "O.K.", or "OFF". The sensor status can be "O.K." or "OUT". If they are out then the graphic indicators around the gunner's screen and commander's screen are temporarily blanked due to enemy-inflicted damage. The movement status is "MOVEMENT O.K." if the tank is motionless or is moving freely. Otherwise, it will be one of the following three messages depending on what is blocking the tank's movement:

-- BORDER -- sector boundary
-- VEHICLE -- ALV
-- BLOCK -- bunker

The right-hand column displays the number of launchable scanners, array processors, signal processors, and B-1 stealth plating kits.

Launchable scanners are used to obtain a complete radar map of the bunkers in the current sector (they do not pick up ALVs). This entry is in inverse video if a scanner has already been launched.

Array processors and signal processors can be interfaced to the main battle computer to extend its capabilities. Array processors provide unlimited-range detection of ALVs on the commander's radar map. Signal processors double the effective range of all images generated by the battle computer. This includes the gunner's cockpit view, the main radar map on the commander's screen, and the radar sweep display.

B-1 stealth plating makes the tank so that it is harder to detect by ALVs. It has no effect on surveillance aircraft. The name is somewhat historical - the first use of this technology was in the B-1 bomber, in the 28th century.

Launchable scanners and array processors provide a strategic advantage, since more information is available for long-term planning. Signal processors and stealth plating provide more of a tactical advantage; both allow firing upon an ALV while outside its radar range.

COMMAND MENU

The command menu is the working area used to enter commands. It consists of a command line, a menu area, and a message line. The command line displays prompts and partially-entered commands. The menu area provides a list of all currently-available commands, in alphabetical order. The message line usually contains status and error messages but they may be overwritten by alarm messages.

Commands are selected by typing the first letter of the command. For example, to launch a scanner press 'L' and then the prompt "LAUNCH SCANNER ?" will appear on the command line. At this point command can be cancelled by pressing the CLEAR key, or confirmed by pressing the spacebar. If the command is confirmed then the "?" disappear and "IN PROGRESS" will flash on the message line for a second, eventually replaced by "DONE". While a command is in progress, only the BREAK key and the movement control keys can be used.

Some commands have a submenu. One example is the WEAPON command. 'W' is pressed then the prompt "WEAPON ?" will appear and the three sub-menu choices ("CANNON", "ROCKET LAUNCHER", and "SONIC BLAST" appear in the menu. The selection is made by pressing the first letter (in this case C, R, or S) and then pressing the spacebar confirms the command.

The error message "INVALID KEY" indicates that the letter typed does not correspond to any of the selections displayed in the menu. The response to a keystroke may sometimes be slow, especially during a battle. The key should always be kept pressed down until an audible beep is heard.

B - LAUNCH COMMANDS

The following commands may appear in the command menu. A command selected by typing in its first letter.

ACCESS ACCESS HEADQUARTERS

Access the munitions depot, stockroom, or teleport station. If the tank is motionless and is near the headquarters' geometric center.

CLEAR (ALARM) CLEAR CURRENTLY-DISPLAYED ALARM

This command erases alarms from the message line thereby allowing other messages such as "IN PROGRESS" and "DONE" to be visible.

EMIT EMIT SMOKESCREEN

Causes the tank to emit chaff and smoke for about 30 seconds, reducing all sensor ranges by 50%. In conjunction with REV ENGINE, it can be useful for escaping tight situations.

INSTALL INSTALL OPTIONAL EQUIPMENT

Install an array processor, signal processor, or B-1 stealth plating. Only appears on the menu if the player has at least one of these.

LAUNCH LAUNCH SCANNER

Release a launchable scanner which will then radio down a radar map of the complete sector. Only appears on the menu if there is at least one, and none has been launched in the current sector.

The instantaneous direction of movement is displayed as a flashing arrow. It can be straight, curving, or circular depending on the tank's current direction of movement.

The rightmost indicator is the current sector number, expressed as two digits.

The gunner's screen and commander's screen share a message area near the upper right-hand corner. It shows the number of experience points gained when an ALV is destroyed, or the number of shield units lost when hit by an ALV. It may also display an alarm indicator (ALARM) and a ready-to-access indicator (ACCESS) or clear indicator (ALBRM) (CLEAR). The clear-to-turn indicator is set when the tank is positioned to corner around a bunker without scraping against it. The ready-to-access indicator is set when the tank is positioned near the sector's headquarters, so that the ACCESS command can be used. Note that the tank must be stopped before an access can be done.

The gunner's screen is used during combat and close-in maneuvers around bunkers. It is a cockpit view out the front of the tank, with a 90-degree scope of vision. Since the battlefield environment is quite harsh, the view is not a real one but is synthesized by the battle computer. The normal range of vision is about 200 yards. This can be temporarily doubled to 400 yards by installing a signal processor, and is helved to 100 yards by emitting a smoke screen.

The gunights appear near the center of the screen, as four blue dots. They are only visible if the weapon is ready to fire and is loaded with ammunition. The munitions count is displayed as two digits on the bottom of the screen. The player can fire once by pressing the spacebar or repeatedly by keeping it depressed.

The main feature of the commander's screen is the cumulative radar map of the current sector. It displays explored and unexplored areas of the sector as well as bunkers, ALVs, and the tank. It is useful for planning movements when searching for headquarters, tracking out-of-sight ALVs, and avoiding enemy patrol routes. The enemy patrol routes can be seen by pressing the spacebar, which causes them to be superimposed on the radar map.

To the right of the radar map is a display that depicts the number of each type of ALV in the sector (except for cruise missiles). This information is picked up by the battle computer, which monitors enemy broadcasts.

The current score is shown at the bottom of the commander's screen, as four digits.

7 -- LOADER'S SCREEN

The loader's screen is used to examine or change the tank's configuration. It is horizontally divided into three windows. From top to bottom, they are:

- munitions window
- status window
- command menu

The color of the windows' borders are used to signal danger. Rich saturated colors indicate the enemy is in full alert (i.e., the player is being tracked by an ALV or an aircraft). Lighter colors indicate that his coordinates are NOT known to the enemy.

MUNITIONS WINDOW

The munitions window summarizes the status of the weapons systems. It is organized as three separate columns. The leftmost column lists three weapons available: cannon, rocket launcher, and sonic blast. The currently selected weapon is displayed in inverse video. Note that the number of blasts remaining is shown as a single digit at extreme right of the sonic blast entry.

The middle column summarizes the number of cannon shells available. If the active weapon is the cannon then the current shell type is displayed in inverse video. The three shell types are: regular shells, armor-piercing shells, and fast-loading shells. Armor-piercing shells are the hardest-hitting munitions.

The rightmost column summarizes the number of rockets available. The active weapon is the rocket launcher then the current rocket is displayed in inverse video. The three rocket types are: standard rockets, heat-seeking rockets, and quick-launch rockets. Heat-seeking rockets need not be aimed - they can hit any target visible on the screen.

The rocket launcher and sonic blast will hit any target that is within the gunsights. The cannon is not as accurate - it is only guaranteed to hit if the gunsights are totally covered by the tank. Rockets are more powerful than cannon shells, except for armor-piercing shells. The sonic blast is the weakest of all three weapons but its munitions supply is renewable via the "Pump SONIC COMPRESSOR" command on the loader's screen.

STATUS WINDOW

The status window has two columns. The left one summarizes the status of the tank's internal systems and the right one provides an inventory of auxiliary intelligence-gathering equipment.

is the player penetrates into deeper sectors the ALVs become more powerful and hit harder, but his tank regenerates its shield more quickly. At sector 5 and again at sector 10, the ALVs become 25x faster (both movement and rotational speed).

4 - AIRCRAFT

There are two types of aircraft: surveillance aircraft and transport aircraft. They are never actually visible but they have a strong impact on the course of the game.

At a prescheduled time, a surveillance aircraft arrives to perform an electronic sweep of the entire sector. As soon as it detects an intruder, it radios for a transport aircraft to provide reinforcements. In the meantime it continues to circle the sector and constantly broadcasts the intruder's coordinates to all ALVs in the sector.

Surveillance aircraft are quite small, but they can nevertheless stow a limited number of Cruise Missiles. If there are no ALVs left to defend the sector then the surveillance aircraft will launch batches of Cruise Missiles at one-minute intervals (10 timer units). This is just a temporary measure while waiting for the transport aircraft.

Once the transport aircraft arrives, it begins beaming down reinforcements at the rate of one ALV every twelve seconds (2 timer units).

The exploration of a single sector can therefore be broken down into three increasingly dangerous phases, according to the presence of aircraft:

1. No aircraft present (first 4 minutes)
2. Surveillance aircraft present (next 4 minutes)
3. Transport aircraft present

5 - CONTROL OF MOVEMENT

All three screens, movement is controlled via the four arrow keys, the 'e' key, and the SHIFT key. The four arrow keys are continuously scanned, so that sustained movement can be effected by simply keeping them down rather than repeatedly pressing them.

The tank moves forwards while the UP-ARROW key is pressed and backwards while the DOWN-ARROW key is pressed. The SHIFT key is used to engage "cruise control". This is done by first pressing the UP-ARROW or DOWN-ARROW key to start the movement, and then releasing the arrow key WHILE THE SHIFT KEY IS HELD DOWN. The SHIFT key can then be released, and the tank will continue moving in the selected direction. This feature is convenient for long trips from one corner of the sector to another, or when keying a series of commands on the Commander's screen. Once engaged, cruise control can only be disabled by pressing the UP-ARROW or DOWN-ARROW keys, even if the tank has encountered an obstacle.

The LEFT-ARROW key, RIGHT-ARROW key, and 'e' key are used to rotate the tank's orientation. It will rotate left (counter-clockwise) if the LEFT-ARROW key is pressed (this will cause objects on the gunner's screen to appear to slide to the RIGHT). It rotates right (counter-clockwise) while the RIGHT-ARROW key is pressed. The controls the speed of rotation. If the 'e' key is pressed then rotations are performed at high speed. High-speed rotation is for cornering around a bunker, or rapidly moving the gunsight to one target to another. Slow-speed rotation is useful for adjusting the gunsights on a target or to make minor adjustments to the bearing.

Simultaneous movement and rotation are possible, although the amount of movement will be reduced by about 1/3. For example, the tank will follow a curving path to the right while the UP-ARROW key (for forwards movement) and the RIGHT-ARROW key (for clockwise rotation) are held down together. This is possible even if high-speed rotation and/or cruise control are engaged.

Backwards movement with cruise control engaged provides an effective means of counterattacking while retreating from an engagement.

6 - GRAPHIC SCREENS

The gunner's screen and commander's screen both share a set of graphic indicators along the top and sides of the display. A different set of colors is used in each screen but the displayed information is the same.

The current fuel level and shield strength are displayed as double bar graphs on the left and right sides of the screen, respectively.

The top of the screen has five indicators. They are (from left to right) the countdown timer, radar sweep target indicator, radar sweep/scope of vision indicator, instantaneous direction of a target, and the current sector number.

The countdown timer measures the time remaining until the next surveillance or transport aircraft is due to arrive. Each unit of time is six seconds, or one tenth of a minute. The leftmost digit therefore the number of full minutes remaining.

The radar sweep target indicator shows the type of ALV currently targeted by the radar sweep. If the enemy is in patrol state a short beep is sounded at the same time to provide an audible warning of the ALV's proximity so that countermeasures can be taken.

The radar sweep/scope of vision indicator is actually two displays superimposed on one rectangle. The gunner's scope of vision is represented by two lines at right angles to each other. The commander's this 90 degree angle represents the tank's current bearing. The radar sweep indicator is a single line that is constantly moving clockwise. Any ALVs that it picks up are shown to the left of the radar sweep target indicator and as small boxes on the display itself. Since the radar sweep and scope of vision are displayed together, it is quite easy for the gunner to line up the gunsight on a target before it is even visible.

1 - OVERVIEW

Cybertank is a real-time simulation of a tank sortie into enemy territory. The player must act out three distinct roles, via separate display screens: the commander, the gunner, and the loader. The commander's screen is used to make strategic decisions. It includes a high-resolution radar map of the current sector as well as a summary of enemy strength. The gunner's screen is a three-dimensional view out the front of the tank, is primarily used for firing upon enemy vehicles and performing close-in maneuvers around bunkers. The loader's screen is used to configure the tank's weapons systems based on both tactical and strategic criteria.

Cybertank is a fairly complete simulation: the player's survival depends upon careful and effective management of resources as well as lightning-fast tactical decisions. The major resources are the tank's munitions, shield, fuel, and support devices.

An important aspect of Cybertank's design is the evolution of both the player and the dangers that he must face. At the start of a game the player is in control of a lightly-armed tank with only a couple of cannon shells and rockets at his disposal. As he progresses to explore sectors that are deeper in enemy territory, he can accumulate more sophisticated armaments (such as heat-seeking rockets) and more powerful intelligence-gathering devices. However, these extra capabilities are a must for survival in the deeper sectors. The net result is that the longer a game lasts, the more interesting it gets.

2 - THE PLAYFIELD

The playfield consists of a series of numbered sectors. Each sector is a large open area roughly two miles square, populated by enemy vehicles and concrete bunkers.

The bunkers are all either square or rectangular. Their length and width range from 100 to 400 yards. They are totally impervious to any available weapons.

Each sector includes a special bunker that is used as headquarters. It contains a munitions depot, a stockroom, and a teleport station. The munitions depot contains rockets and shells that can be used with the tank's weapons systems. The stockroom contains smoke emitters and special devices that can be installed to increase the battle computer's capabilities. The teleport station is used to move to the next deeper sector in enemy territory and at the same time replenish the fuel supply.

The munitions depot, stockroom, and teleport station can all be accessed from the loader's screen, via the "ACCESS" command. To do this, the tank must be stationary and close to the headquarters' geometric center. Headquarters are always composed of a large stationary block and a smaller moving one, so that getting to the geometric center quickly can sometimes be a matter of timing and careful maneuvering.

3 - ENEMY VEHICLES

Each sector is guarded by several Autonomous Land Vehicles (ALVs). They are equipped with the necessary sensors and computing equipment to operate without external guidance or instructions.

There are five different types of ALV: Flamethrowers, Mobile Pillboxes, Battle Tanks, Tank Destroyers, and Cruise Missiles. Each type of ALV has a different combination of weapons system, armor thickness, speed of movement, and rotational speed.

Flamethrowers are the least dangerous type of ALV. They are used as scouting vehicles, since they are very lightly armored and move very fast. They attack with a stream of burning fuel that doesn't inflict very much immediate damage but can be sustained up to 30 seconds.

Mobile Pillboxes are primarily defensive vehicles. They are heavily armored than all other ALVs but they move and rotate. They are equipped with a medium-size cannon.

Battle Tanks are wedge-shaped with a protruding cannon. They are general-purpose fighting vehicles fairly heavily armored yet as fast as Flamethrowers. Their medium cannons are not quite as powerful as those in Mobile Pillboxes but they are actually dangerous because they can sustain a higher rate of fire.

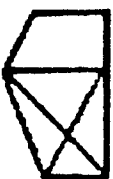
Tank Destroyers are the ultimate defensive vehicle. They are heavily armored and are equipped with a massive cannon that can rotate the entire chassis. They can rotate faster than any other type (except Cruise Missiles) so it is difficult to attack them by surprise.

Cruise Missiles are lightly armored and only contain enough armor for a single powerful blast. Because of this, they are blindfolded. They are detonated by a proximity fuse in front whenever they are within close range. Without the aid of a signal processor, they are within close range. Without the aid of a signal processor, they are within close range (if it is very difficult to get them one shot at an incoming Cruise Missile. For this reason, and armor-piercing shells are a good defense. The ultimate danger against them is heat-seeking rockets, which can be fired with aiming.

When ALVs are on patrol, their battle computers and tracking operate on standby power. Under these circumstances their radar is about 3/4 of the player's range of vision which in turn is his radar range. As soon as the tank is detected by an ALV or aircraft then all ALVs go into full alert, extending their radar range to be equal to the player's range of vision. The tank's coordinates can also be given away by heat radiated by its weapons systems. Every time they are used the tank can be tracked from distance for up to thirty seconds.

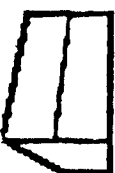
When the enemy is in full alert, the increased radio activity detected by the battle computer which changes the screen color darker to provide a visual cue of the potential danger.

FLAMETHROWER



OFFENSIVE VEHICLE
FASTER THAN OTHERS
VERY LIGHT ARMOR
WIDE SCOPE OF FIRE

MOBILE PILLBOX



DEFENSIVE VEHICLE
VERY HEAVILY ARMORED
MOVES/ROTATES SLOWLY
MEDIUM-SIZE CANNON

BATTLE TANK



OFFENSIVE VEHICLE
MEDIUM-SIZE CANNON
MOVES QUICKLY
HEAVILY ARMORED

TANK DESTROYER



DEFENSIVE VEHICLE
MOVES VERY SLOWLY
ROTATES QUICKLY
CANNON OCCUPIES
ENTIRE CHASSIS

CONTROL KEYS



FORWARDS/BACKWARDS



CRUISE CONTROL



ROTATE LEFT / RIGHT



HIGH-SPEED ROTATION



SWITCH SCREENS



CANCEL COMMAND
(LOADER'S SCREEN)



SUSPEND GAME



GUMMER: FIRE WEAPON
LOADER: EXECUTE CMD
COMMANDER: PATROLS