



ARMORED
FIST 2
M1A2™ ABRAMS™

USERS MANUAL

ARMORED
FIST²
M1A2[™] ABRAMS[™]

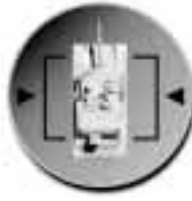


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U.S. Marines from the
Twenty-Nine Palms Marine Corps Base

Special thanks to the
United States Marine Corps
for their help and support in the
production of the live action footage.

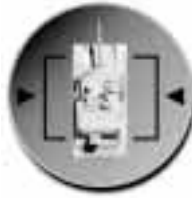
Select video footage
and photos provided by
General Dynamics Land Systems.

General MIDI timbres for Yamaha OPL-
2- and OPL-3-based sound cards were
produced by The Fat Man™ and devel-
oped by K. Weston Phelan and George
Alistair Sanger. Copyright 1993, The Fat
Man™



A marriage of steel...

67 tons of Rolling Thunder and an Angel of Death.
An unbeatable combination on the battlefield.



Introduction

This is **Armored Fist 2**, the premier M1A2 Main Battle Tank simulation. We thank you for purchasing AF2, and we hope that it gives you many hours of gaming enjoyment.

For more than 50 years the tank has dominated land warfare. Growing ever stronger, faster, and more deadly, these armored behemoths have also been the focus of a technological revolution in fighting. Of all the major changes that have characterized the evolution of the modern tank, perhaps none is more important than the integration of electronic sensing, communicating, and targeting devices into the armored weapons system.

We at Novalogic have tried very hard to simulate those changes. **Armored Fist 2** gives you access to all the electronic components that make the M1A2 the most advanced armored fighting vehicle of our time. To increase the potential interest and utility of the program, AF2 features three modes of play. One of these, the Easy Mode gives you full control over the vehicle and its systems. The Realistic and Realistic with AutoLock modes are more demanding and offers a more authentic armored fighting experience.

To make this simulation as authentic as possible, we have recreated the battlefield in great detail. Thanks to NovaLogic's patented Voxel Space™ 2 rendering technology, the terrain is highly realistic and provides unequaled masking. The vehicles and other objects in **Armored Fist 2** have been constructed using high resolution polygon-based models so they look good even at close range. Explosions have been created in great detail, and smoke is translucent, making the appearance even more true-to-life. We have also included an authentic set of tank, crew and battlefield sounds – all in Dolby SurroundSound™.

Playing against other humans is the ultimate gaming experience, so **Armored Fist 2** also offers a variety of multi-player options. Up to eight players can participate in three different types of multi-player games, and you also have the option of playing over the Internet.

In modern warfare tanks rarely operate alone, and **Armored Fist 2** faithfully recreates that aspect of the battle. Most missions give you at least four tanks to control (some as many as thirty two), and there is a complete cast of supporting arms, including Bradley fighting vehicles, artillery bombardments, and air support from Apache helicopters and A-10 ground support aircraft.

Enemies you have to face include a variety of combat vehicles from around the world, including the superb Russian T-80 tank and deadly BMP missile launchers. Most dangerous of all is the Hind helicopter, missile armed and heavily armored. When coupled with **Armored Fist 2's** new AI, these vehicles will give you all the challenge you can handle.

Armored Fist 2 also takes advantage of new MMX™ technology to make many parts of the program run faster and look better. Smoke effects, for example, not only look much more realistic but are also substantially faster when running on a CPU featuring MMX™.

Armored Fist 2 sets the new standard for armored warfare simulations. We have tried to make a product that is both accurate and playable, and we hope that you will get the same level of enjoyment playing the game that we did creating it.

3 Ways to Play AF2

Armored Fist 2 Sim Modes

Armored Fist 2 can be played in three different ways: Easy Mode, Realistic Mode and Realistic Mode with AutoLock. Each of these ways of playing the game has certain advantages. Consider which mode might be best suited to you.

The Sim Modes are selected in the Sim Modes menu. Access the Sim Modes menu from the Mission Menu during a mission or from the Settings menu in the Main Menu.

1 Easy Mode

Easy Mode automates and simplifies many aspects of tank control. It compensates for the fact that a real M1A2 would be operated by a well-trained crew of 4 and makes tank control the most consistent from one crew position to another. It is the default mode when you first play the game.

In *Easy Mode*, you can use the joystick or arrow keys to drive and steer the tank from the chase views and all crew positions. Pressing **Joystick button 2** (or **'Enter'**) will AutoLock on a target and track it with the cannon. Pressing the **joystick trigger** (or **'Spacebar'**) will fire the cannon from any view except the Tank Commander's Buttoned position, where it will hand off the current target to the Gunner for engagement.

Other tank controls are also available in *Easy Mode*. Refer to the **Easy Mode Control Matrix** on page 21 for more detailed information.

2 Realistic Mode

Realistic Mode gives you more specialized control of various parts of the tank depending upon which view or crew position you are playing in. It gives you the greatest sense of each individual crew position while still simplifying some aspects of tank control.

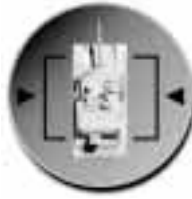
In *Realistic Mode*, you control primarily only those features of the tank which are appropriate to the crew position you are in. For example, you drive and steer the tank from the Driver's position, aim and fire the cannon and coax machine gun from the Gunner's position, designate and hand off targets from the Tank Commander's Buttoned (CITV) position and aim and fire the .50 cal machine gun from the Tank Commander's Unbuttoned (.50 cal) position.

For more detailed information regarding additional controls in *Realistic Mode*, refer to the **Realistic Mode Control Matrix** on page 22.

3 Realistic Mode with AutoLock

The third way to play Armored Fist 2 has many of the advantages of both *Easy* and *Realistic* Modes. By selecting *Realistic Mode* and turning AutoLock on, you get essentially all of the crew-position-specific controls of Realistic Mode with the added convenience of being able to AutoLock the Cannon, CITV and .50 cal machine gun on targets.

To play the game in this mode, select *Realistic Mode* from the **Sim Modes** menu. When Realistic Mode is selected, an additional option for AutoLock will be enabled. Be sure the AutoLock checkbox is turned on.



Chapter One: Game Installation and Set-Up

In order to play **Armored Fist 2**, you must first install the game files onto your computer's hard drive. After the Install program completes its tasks, it will run the Setup program, enabling you to properly configure your computer.

Installation

If your computer is using DOS, please proceed to **DOS Installation**. If your computer is running Windows®95, follow the procedure immediately below.

Windows®95 Installation

Before you begin installing the game, close all programs that your computer may be currently running. The installation program requires all your computer's resources. Then:

- 1) Place the game CD into your CD ROM drive and close the drive door. The *AutoRun* program will now take over.
- 2) Click the mouse on one of the menu choices, or press the hotkey corresponding to the underlined letter. The *AutoRun* menu gives you the following choices:



- Start Armored Fist 2.** Select this option to play the simulation. You will first have to install the program to your hard drive.
- Configure Armored Fist 2.** This option runs the *Setup* program, giving you the opportunity to configure sound, video, and graphics settings so that the game works best with your specific hardware.
- Install Armored Fist 2.** Select this option to install the simulation onto your hard drive. You must install the game before you can play.
- Install Comanche 3 Demo.** This selection installs a demo version of Novalogic's best-selling *Comanche 3* helicopter simulation on your hard drive.

- ❑ **Install *F22 Lightning II* Demo.** This selection installs a demo version of the premier air-fighting simulation *F-22 Lightning II* onto your hard drive.
- ❑ **Install *Kali*.** Make this selection to place the *Kali* program on your computer. *Kali* enables you to play ***Armored Fist 2*** over the Internet.
- ❑ **Install *Earthlink*.** Make this choice to install *Earthlink* as your Internet Service Provider. If you do not already have your own service provider, this is a painless way to get connected.
- ❑ **View *Readme*.** The *Readme* file contains the latest technical and game-related information about the program.
- ❑ **Explore CD.** The ***Armored Fist 2*** CD also contains informational files and demos of other Novalogic games, such as *Comanche 3* and *F-22 Lightning II*. Select this option to explore all the contents of the CD.
- ❑ **Exit.** Exits the *AutoRun* program.

When you are ready, select **Install *Armored Fist 2***.

DOS Installation

Place the ***Armored Fist 2*** CD into your CD ROM drive. If you are performing the installation in a Windows® 95 DOS box, you need to shut down all other programs before continuing. It is recommended that if you're running Windows® 95, you install AF2 as a Windows application instead of through a DOS box. If you still wish to install as a DOS app, you should make sure that *SmartDrive* is installed and that other services such as network support are also installed. Assuming that your CD ROM drive is your D drive:

- 1) At the C:> prompt, type: D: 'Enter'
- 2) At the D:> prompt, type: install 'Enter'

Installing *Armored Fist 2* Game Files

To choose a menu item use the up or down arrow keys on your keyboard, then press the 'Enter' key when you have made your selection, or just press the highlighted letter of your menu choice.

Press the 'Esc' key to back up to a previous screen during the installation process. Press the 'Alt' and 'X' keys simultaneously to exit the installation routine at any time.

- 1) At the beginning of the installation program you are given the opportunity to select a destination folder for the game. A default destination (C:\AF2) is typed in the window for you. Press the 'Enter' key to select the default destination. Otherwise, type in your own folder name and press 'Enter'. If the folder you specify does not already exist on your hard drive, the Install program will create it for you.



- 2) After choosing the destination folder, you are asked to select one of four levels of installation. Choose from **Minimal Installation**, **Typical Installation**, **Large Installation**, or **Multi-Player Station**. We suggest that you select the Large Installation level for maximum speed. This will take up a greater amount of space on your hard drive but you'll find the action is much faster. Select the Multi-Player Station installation level if you intend to participate in Multi-Player games and will not have access to the original CD.
- 3) If there is enough free hard drive space at the destination site for the installation level you have selected, the program will copy the files from your **Armored Fist 2** CD ROM. An on-screen progress meter displays the completion percentage as the program transfers the files.
- 4) For Windows®95 users, the install procedure automatically adds a NovaLogic folder to your Windows®95 **Start Menu** under the **Programs** heading. An **Armored Fist 2** sub-folder within the NovaLogic folder contains two application short-cut icons-**Armored Fist 2** and **Setup**.
- 5) When the installation routine has copied all necessary game files, it automatically runs the **Setup** program.

Set-Up Procedure

The main *Setup* menu gives you four major system settings to configure: *Video Setup*; *Audio Setup*; *Multiplayer Settings*; and *Performance Settings*.

When you are finished with the Setup routine, be sure to select *Exit and Save Settings*. If you select *Exit* only, you will leave without saving your selections, and you will have to repeat the Setup process.



Video Setup

This menu selection is used to configure and test your video device. Follow the on-screen instructions for testing your **VESA** driver. The preferred selection is **VESA 2.0**. If you experience problems, select **VESA 1.0** as an override.

Audio Setup

This menu selection is used to configure and test your audio devices.

Digital Sound Device: This screen contains a list of sound cards. You may allow *Setup* to autodetect the presence of a sound device, or choose a sound device from the list. Follow the on-screen instructions for selecting and testing your sound device.

Music Device: This screen contains a list of music devices. It functions in the same manner as the *Digital Sound Device* menu selection that precedes it. Select a music device and follow the on-screen instructions.

Multi-Player Settings

This menu is used to configure your system to allow you to participate in Multi-Player games.

Modem: To configure your system for multi-player **Armored Fist 2** games, you will first need to tell *Setup* which COM port your modem connection is on.

Select **Com 1** or **Com 2**, or enter a Com port number. Enter a custom COM port if your modem is not connected to either of your other two COM port selections.

Next you will need to describe your modem to the *Setup* program. Select your modem from the list provided. If your modem is not listed, try the *Hayes Compatible* menu option. If your modem still does not work properly, select the *Modem Defaults* option. If the Modem Defaults option doesn't work, describe your modem by choosing *Custom Modem Definition*. When you create a custom modem definition, you will be given the opportunity to enter your modem's initialization string. Consult your modem manual for help in making an initialization string. You should initialize your modem for NO data compression and NO error correction for best performance. *Setup* includes a modem initialization test procedure.

Serial Cable (Null Modem): If you have a serial (null modem) cable, you can connect two computers directly. Select the COM port that your serial cable is connected to. As with the modem COM port, you can enter a custom COM port if your COM port is not listed.

IPX Network: Select an IPX socket number for your game. Make sure that all players are using the same socket number. A socket is similar to a TV channel. Unless all players in your game are tuned to the same socket number, the signals you broadcast will not reach every person.

In most cases, the default socket number will work properly. Only one game can run on a given socket, so if you want to run more than one game on the same network be sure that each game is running on a separate socket. Running multiple games over the same network can slow down network performance.

Performance Settings

This menu selection is used to configure your system for faster and smoother play.



Use page flipping: Page flipping is a technique that can produce smoother animations. Some video devices do not properly support page flipping. If your video display acts erratically with page flipping selected, leave this item unchecked.



Conserve Memory: If you check this option **Armored Fist 2** will draw certain textures in lower resolution to save memory. You will be sacrificing some graphic detail, but the game will run better on less powerful systems. If your computer has 16 MB of RAM or less you should definitely check this item.



Disable Animations (Slow CD ROM): If your CD ROM is slower than a 4X speed model the *Setup* program will detect it and automatically skip the **Armored Fist 2** animations. If you don't want to see the animations you can manually check this item.



Always Mix Digital Music at 22 khz: The default for this selection is **ON**. If you are having compatibility problems with your sound card, unchecking this item will cause the program to mix digital music at the rate specified for digital sounds in the Setup program. If you are not experiencing compatibility problems, leave this selection turned on for highest quality digital music.

Altering Your Initial Setup

If you decide to alter the settings made during the initial *Setup* procedure, follow the appropriate instructions given for your operating system below.

Windows® 95 Setup Procedure

Double-click on the Setup icon from the **Novalogic/AF2** folder. If you wish to make changes to your configuration, follow the same method as for the initial Setup procedure.

DOS Setup Procedure

If the simulation is running under DOS, access the **AF2** folder (C:\AF2 for example). At the C:\AF2> prompt, type: **Setup 'Enter'**

Make changes to your *Setup* configuration using the same techniques as during the initial *Setup* procedure.

Starting the Game

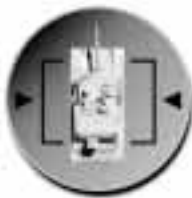
Once you have successfully installed and setup **Armored Fist 2** on your hard drive, you are ready to play. To run the game in Windows® 95 just double click on the Shortcut Icon on your desktop, or click on **Start Armored Fist 2** in the *AutoRun* menu. To play under DOS, follow these simple steps:

- 1) Make sure your CD is in the CD drive
- 2) At the DOS prompt C:\ > type the following: **cd\af2 'Enter'**
- 3) At the DOS prompt C:\AF2 > type the following: **af2 'Enter'**
- 4) The game will now run. Enjoy!



The eyes and teeth...

The M1A2's complex CITV unit helps the tank commander acquire targets independently of the gunner. The 120mm smoothbore cannon does the dirty work...



Chapter Two: Quick Start

The following section is for players who want to get right into the action, without worrying about the fine points just yet. Simply follow the step-by-step instructions to begin playing immediately. **Armored Fist 2** features two campaign sets (*29 Palms and Solo Duty*) specially designed for new players. We recommend that you start with one of these.

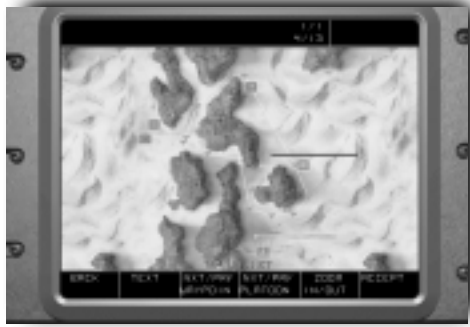
The *Quick Start* procedure outlined here uses the game's *Easy Mode* to get you into the action. It also describes the simulation mainly from the External (Chase) View (see below). When you are a little more familiar with the simulation you can begin to operate it from the various *Crew Positions*, and eventually explore the *Realistic Mode*.

Getting Started

- 1) Start the simulation. If you have just installed the program, select **Start Armored Fist 2** from the *AutoRun* menu. If you are running the simulation under Windows® 95, double click on the **Armored Fist 2** program icon or its shortcut. If you are playing in DOS, go to the directory that contains the game and type **af2** at the prompt, then press 'Enter'.
- 2) Name your Tank Commander. There is a default Commander already entered. To change the name, use the 'Del' key to remove the old name, then type in the name of your new Tank Commander and press 'Enter'. This will overwrite the old Commander.
- 3) Select a Campaign. Use the arrow keys to scroll down and highlight the **Campaigns** selection on the **Main Menu** and press 'Enter', then choose your Campaign the same way. Selecting **29 Palms** takes you to the US Marine Corps Training Ground at Twenty-Nine Palms, California, for basic or advanced instruction in the operation of the M1A2. If you select the **Solo Duty Campaign**, your missions will be combat operations involving a single M1A2.
- 4) Choose a Mission. Use the arrow keys to select a Mission from the list, then press 'Enter' to bring up the **Mission Briefing**. Missions are arranged in ascending order of difficulty, and some are follow-ups to earlier scenarios, but you may choose any mission from the list.

Read the **Mission Briefing** and check out the **Mission Map**.

Use the mouse to select MAP at the bottom of the briefing screen, and scroll by pressing the left mouse button with the cursor near the edge of the screen. Press 'Enter' or click on the **Accept** box at the lower right to start the mission, or press 'Esc' or click on the **Back** box at the left to return to the menu. After the selected mission loads you will get a panoramic look at the battlefield, then come to a position just behind and above your M1A2. You are now ready to start your mission. Good luck!



Playing Armored Fist 2

Press the 'Pause' key now to stop the simulation, so you can familiarize yourself with the M1A2 and its environment. Pressing this key again will put you back into the action. To exit any part of **Armored Fist 2**, or to access the **Mission Menu**, press 'Esc'. In the top left corner of every game screen AF2 displays the nickname of the current tank and the name of the mission you are fighting. In *Chase Views*, while in the *Easy Sim Mode*, you can press joystick button 2 or 'Enter' to get a target lock, and press the Trigger button (Button 1) on the joystick or the 'Space Bar' to fire the cannon.

The Chase View



Control Bar
Tactical Map/GPS Monitor
Information Display
Threat/Damage Display

In the Chase View you can zoom your perspective to right behind the tank with the 'F1' key or back it out for a longer view with the 'F2' through 'F4' keys.

The two decimal numbers on the terrain ahead of the tank, with vertical lines pointing to the ground, are waypoints, marking successive locations through which the tank is to travel in pursuit of the mission objectives. The numbers indicate the waypoint's distance from your tank in kilometers.

The waypoint markers may not always be visible from your viewpoint, so there is a red caret (^) on the viewscreen, indicating the direction to the next waypoint. Steer in that direction to find the next waypoint marker. It is not normally necessary for you to go through each waypoint to successfully complete a mission. You may

edit the waypoints in a mission at any time using the **Inter-Vehicular Information System (IVIS)**.

Below the camera view there are displays for the tank's current movement conditions, ammunition supply, and mission status. A pointer indicates what cannon ammunition type is currently selected. Use the < and > keys to cycle through the ammunition types. The crew will load the selected ammunition as soon as the cannon fires whatever round it has in the breach. If you have checked **Auto Round Selection** (in *Main Menu/Settings/Sim Modes*, or from *Mission Menu/Sim Modes*) the crew will select and load an appropriate ammunition type for you.

If you have an enemy target designated, the target type appears in red on this display.

The outline of the M1A2 at the lower right of the screen is a **Damage Display**. If part of your tank is damaged by enemy action it will flash red. In *Easy* mode, when the damaged component has been repaired it will no longer be red. The circle surrounding the **Damage Display** serves as a **Threat Display**. If the tank receives fire, the section of the circle in the direction from which the fire came will flash red.

On the bottom left is a small monitor showing either the Gunner's Primary Sight (GPS), the Tactical Map, or a blank screen. If you have a target selected the GPS will be up, otherwise you'll see the map. You can manually select either screen, or turn the display off. Cycle through the three display modes with the " (quotation mark) key.

The range in meters to a designated target appears in the center of the lower part of the GPS, with a small red square to indicate that a cannon round is loaded.

Tactical Map Table	
Color	Unit Type
Red	Enemy
Blue	Friendly
Grey	Neutral
Black	Dead

Yellow Outline = Mission Goal

In the **Tactical Map**, ground contours appear in green. The lighter the green, the higher the terrain. Friendly forces are blue, with your tank centered in the screen. Neutral structures and vehicles show as gray. Enemy forces you have spotted, or which have been located by other friendly forces and entered into the IVIS by higher command, appear in red. If no friendly unit has spotted an enemy force, it will not show up on the map. Objects that are Mission Goals or which must be destroyed to succeed with the mission will be outlined in yellow.

In the tactical map your hull always points to the top of the screen, so if you change facing the map will spin to maintain that orientation. Use the '+' and '-' (plus and minus) keys on the keyboard (not the keypad) to zoom in and out on the Chase View's map display.



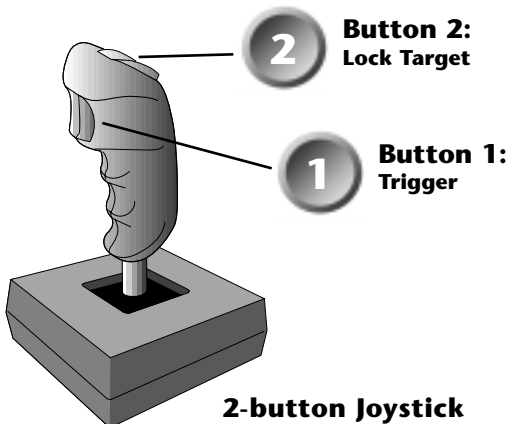
Chase View TC Buttoned TC Unbuttoned Gunner Driver IVIS Stop 1/4 Speed 1/2 Speed Full Speed

The **Control Bar**, at the bottom of every screen, gives you access to the **Chase** view, to the different crew positions, and to the main **IVIS** screen. In *Realistic* mode you can control the speed of the tank by using the **Speed Selector** buttons at the right of the **Control Bar**. Pressing one of the speed selector buttons specifies a speed for the tank (Stop; 1/4 speed; 1/2 speed; or Full speed). In *Easy* mode the **Speed Selector** buttons are not used and do not appear on the screen.

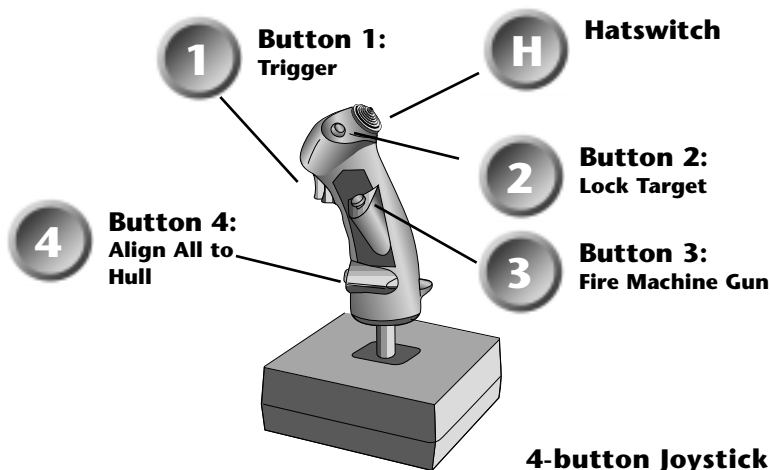
Into the Action

Press the 'Pause' key again to get things rolling. Now would be a good time to practice maneuvering the M1A2, before an enemy force shows up to spoil your day.

If you have a **joystick** connected, push the stick forward to make the tank go forward, and pull back on the stick to make the tank move in reverse. Pushing the stick right or left will turn the tank in that direction. The farther you push the **joystick**, the faster the tank moves, and when you center the stick the tank will slow to a halt.



2-button Joystick



4-button Joystick

You may also press the **up-** or **down-arrow** keys, or the '**8**' or '**2**' key on the keypad (not the keyboard), to move the tank. If you press a key and hold it down the tank's speed will continue to increase. As long as you hold a movement key down the M1A2 accelerates until it reaches the maximum speed possible for the terrain it is crossing. If you release the key the tank slows to a stop. To continue moving with keyboard commands, you have to keep a key pressed.

The **left-** and **right-arrow** keys (or the '**4**' and '**6**' keys on the keypad) turn the tank left or right. These keys work alone or in combination with other key inputs or **joystick** commands. Keep in mind that in *Easy* mode the M1A2 will come to a halt unless you are actively telling it to go somewhere. In this mode you can use the **joystick** or the **arrow** keys to control the movements of a tank from any vehicle location except the IVIS screen, including all the crew positions.

You can use the **joystick** or the **arrow** keys to rotate the turret and elevate the gun by pressing the '**Ctrl**' key at the same time as you move the **joystick** or press an **arrow** key. There are also keyboard equivalents. The '**A**' key rotates the turret left, while '**D**' rotates it right. The '**W**' key raises the gun barrel and '**S**' lowers it. In *Easy* Mode, when you autolock a target (see below) the crew will automatically bring the turret and gun to bear on the target—making it unnecessary to manually move the cannon.

The Enemy—Targeting and Shooting

The M1A2 features an autostabilizer, which will keep the gun pointed in the same direction regardless of the tank's movements. Press the '~' (tilde) key to autostabilize your gun. In *Easy* mode with Autostabilize turned on, the gun will stay locked on a target for as long as you can see it, or until you move the gun yourself. In *Realistic* mode the gunnery system will maintain the gun's deflection and elevation as long as autostabilization is enabled. Press '~' again when you are ready to disengage autostabilization.

In *Easy* mode, press **joystick** button **2** (or '**Enter**') to AutoLock the cannon onto a target. Repeatedly pressing button **2** cycles the AutoLock through available targets for the current targeting mode (see the **Targeting, Shooting and Damage** chapter for more information regarding the three targeting modes). Each time you select a target, the display in the lower left will show a GPS view of the target along with the type of target it is. Your crew will also verbally confirm the target lock.

The GPS shows the range to the target in meters near the bottom of the sight. Press the trigger button (or the '**Space Bar**') to fire the cannon, or the '**C**' key to fire the coaxial machine gun.

It is possible to be able to see an enemy without being able to target it. This happens in the *Chase* or *Tank Commander's Unbuttoned Views* because your point of view is higher than the Gunner's Primary Sight, so you may be able to see things that



the GPS cannot. You may also encounter situations where the GPS can target a vehicle but you cannot fire at it. In such situations, you will hear the Gunner tell you that the gun tube cannot be brought to bear on the target. This happens because the gun cannot elevate or depress enough to reach the target. You will have to maneuver to bring the target inside the gun's envelope.

If your shot destroys a target it will appear burnt or damaged, and its icon on the IVIS screen or the tactical map will go black. You may also see it explode and/or start to smoke. Pressing button 2 or 'Enter' again will select a new target, if there is one available to the targeting system. You can lose target lock if the M1A2's line of sight to the target becomes obstructed, and may have to maneuver to bring a target back into vision.

Assuming that you are operating with *Auto Round Selector* enabled, your Loader will automatically reload the gun with an appropriate ammunition type. If you change your mind about what ammunition type you want in the cannon after a round has been loaded, you can select a different round by cycling through the list of ammunition types with the < or > key or by using a keyboard command, but you will have to fire the gun to get the current round out of the chamber. The ammunition type currently in the gun is red on the ammunition list, and the type you want the Loader to put into the gun when it is empty will be indicated by a marker. When a round has been loaded you will hear the Loader say so ('up!' means loaded), and a small red square will show on the GPS or the tactical map.

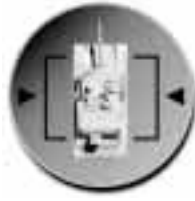


As you move through your mission, keep in mind that you do not necessarily have to destroy every enemy vehicle to win. Use the tactical map icons (yellow-circled ones have to be eliminated), the GOALS readout, and the time remaining in the mission to determine how close you are to success. Read the mission briefing to determine what the mission objectives are. Also, pay attention to the crew's conversation. They will give you important clues about the action.

The mission ends:

- when either your force or the enemy's has achieved all its mission objectives
- when time expires
- when all the tanks in your force have been destroyed
- or when you quit the mission by using the 'Esc' key and the Mission Menu.

If you have undertaken a mission with more than one M1A2 under your command, you may jump to another tank whenever you like, even if a tank you are currently in is hit and destroyed. Press the 'Tab' key to bring up a display of all the tanks you can command, then use the **arrow** keys and 'Enter' to select which tank you want to control. If your tank dies, and there are other tanks available for you to control, the Jump Display automatically comes up. Platoon leader's tanks are marked with a small arrow. The box below the list of tanks contains information about the selected tank.



Chapter Three: Simulation Modes and Game Controls

Armored Fist 2 can be played in two modes. In *Easy Mode*, controls for most functions are available from any vehicle location, the player drives the tank at all times and targeting is easily performed by pressing joystick button 2 or pressing 'Enter'. In *Realistic Mode*, the player is more involved with target acquisition and aiming while driving functions are more automatic.

Another way of playing is to select *Realistic* mode with the AutoLock feature selected in the Sim Modes menu. This gives you many of the advantages of both modes. Experiment to determine which settings are best for you.

AF2 Control Matrix - Easy Mode

	VIEWS				
	Chase View	TC Buttoned	TC Unbuttoned	Gunner	Driver
Joystick	←----- Drive Tank -----→				
Ctrl + Joystick	Control Cannon	Control CITV	Control .50 cal	Control Cannon	Control Cannon
Hatswitch	Control Cannon	Control CITV	Control .50 cal	Control Cannon	Control Cannon
Ctrl + Hatswitch	Control .50 cal	Control Cannon	Control Cannon	NA	NA
Trigger ‡	Fire Cannon	Hand-off target to Gunner	Fire the .50 cal	Fire Cannon	Fire Cannon
Ctrl + Trigger ‡	Fire the .50 cal	Fire Cannon	Fire Cannon	Fire Cannon	NA
Button 2	AutoLock Cannon	AutoLock CITV	AutoLock .50 cal	AutoLock Cannon	AutoLock Cannon
Ctrl + Button 2	AutoLock .50 cal	AutoLock Cannon	AutoLock Cannon	NA	NA

‡ Button 1

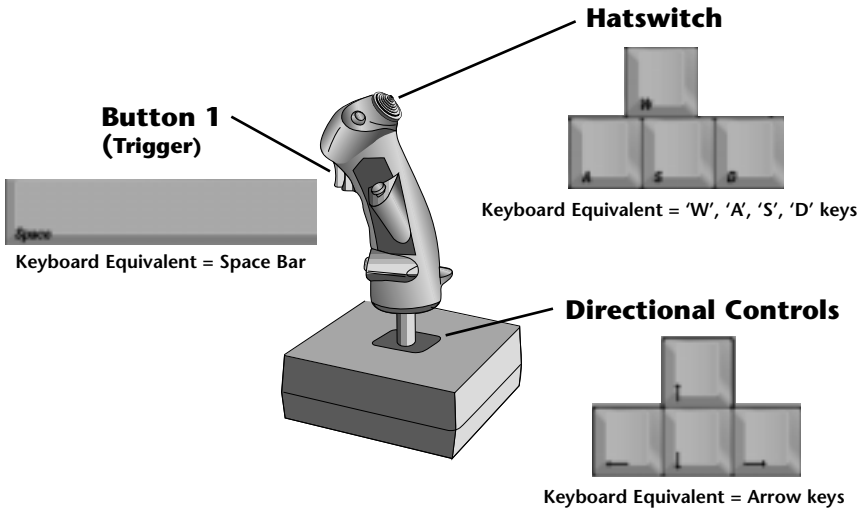
AF2 Control Matrix - Realistic Mode

	VIEWS				
	<i>Chase View</i>	<i>TC Buttoned</i>	<i>TC Unbuttoned</i>	<i>Gunner</i>	<i>Driver</i>
<i>Joystick</i>	Drive Tank	Control CITV	Control .50 cal	Control Cannon	Drive Tank
<i>Ctrl + Joystick</i>	Control Cannon	NA	Control Cannon	NA	NA
<i>Hatswitch</i>	Control Cannon	NA	Control Cannon	NA	NA
<i>Ctrl + Hatswitch</i>	Control .50 cal	NA	NA	NA	NA
<i>Trigger ‡</i>	Fire Cannon	Hand-off target to Gunner	Fire the .50 cal	Fire Cannon	Fire Cannon
<i>Ctrl + Trigger ‡</i>	Fire the .50 cal	NA	Fire Cannon	Fire Coax	Fire the .50 cal
<i>Button 2</i>	AutoLock Cannon *	Designate Target	AutoLock .50 cal *	Lase/AutoLock Cannon *	AutoLock Cannon *
<i>Ctrl + Button 2</i>	AutoLock .50 cal *	AutoLock CITV *	AutoLock Cannon *	NA	AutoLock .50 cal *

* When AutoLocking is selected in the Sim Mode Menu.

‡ Button 1

In the AF2 Control Matrix all references to the joystick apply to the arrow keys as well, and references to the Hat Switch also refer to the secondary control keys (the 'W', 'A', 'S' and 'D' keys on the keyboard). Mentions of the Fire Button (the joystick's Trigger button) also apply to the 'Space Bar'.



Game Controls

Armored Fist 2 allows you to exercise primary control in the simulation with either a **joystick** or with the keyboard. Select the method best suited to your style of play. The mouse is also an important control device, used in several critical areas. In addition, the simulation features a series of specialized displays, giving you important information in a graphical format for quick and easy viewing, and there are menus that allow control over other important game functions.

The Joystick

To use a **Joystick**, first select your joystick type from the **Joystick** section of the Main or Mission Menus. Use the 'Esc' key to call up these menus. You may also choose to enable a twisting stick or foot pedals, and you can select what part of the tank the twist or pedals will control. Once you have selected the joystick type you will be prompted to swirl the joystick and hatswitch, and calibration will be complete. If the above procedure does not work correctly, try the manual calibration setting and "calibrate" under the same menu, then follow the prompts. If neither procedure works, consult your joystick's documentation.

Joystick Control

In *Easy* mode, controlling the maneuvers of an M1A2 with a **joystick** is simple and logical—push the stick forward to make the tank go forward, and pull back to make it go in reverse. Push the stick right or left to turn the tank. The farther you push or pull the stick, the faster the tank moves. The tank will slow to a halt when you center the **joystick**. **Joystick** throttle controls are disabled in **Armored Fist 2**.

The charts on pages 21 and 22 illustrate the **Armored Fist 2** control system. You will quickly become familiar with the basic tenets of the control system, and with a little practice will have no problem controlling all aspects of the M1A2.






In the **AF2 Control Matrix** all references to the **joystick** also apply to the **arrow** keys, including those on the keypad. References to the Hat Switch also refer to the secondary control keys ('W', 'A', 'S', and 'D') on the keyboard. References to the trigger and Button 2 also refer to the 'Space Bar' and 'Enter' keys, respectively.

In *Easy Mode*, from the *Chase View*, the *Gunner's* position or the *Driver's* position you can press **Joystick** button 2 to AutoLock targets. If you prefer to manually aim the cannon from these views, hold down the 'Ctrl' key and use the **joystick** or **arrow** keys. From the Tank Commander's Unbuttoned (.50 cal) position, button 2 will AutoLock the .50 cal machine gun while in the Tank Commander's Buttoned (CITV) position button 2 AutoLocks the CITV. Holding down the 'Ctrl' key with the **joystick** or **arrow** keys can be used to manually position the CITV or .50 cal machine gun, respectively.

In *Realistic Mode* the **joystick** controls tank movement in the *Chase* view and in the *Driver's* position, the CITV in the Buttoned position, the .50 caliber machine gun in the Unbuttoned location, and the turret in the *Gunner's* position. Use 'Ctrl' plus the **joystick** to handle the .50 caliber from a *Chase* view.

Joystick Buttons

Armored Fist 2 supports joysticks with up to four buttons and a Hat Switch. If you are using a programmable joystick to operate the simulation you may select any key control to assign to your joystick buttons. See the joystick's documentation for the assignment procedure, and the enclosed list of key controls to determine the possibilities.

-  **Button 1** - Joystick button 1 (trigger) is used to fire the cannon from most of the views in **Armored Fist 2**. Refer to the charts on pages 21 and 22 for the specific function in the Simulation Mode and vehicle location you are playing in.
-  **Button 2** - Button 2 is most often used to acquire an AutoLock or Lase a target. Again, refer to the charts on pages 21 and 22 for the specific function in the Simulation Mode and vehicle location you are playing in.
-  **Button 3** - Fires the coaxial machine gun.
-  **Button 4** - Turns all the movable components of the tank (turret, CITV, .50 caliber machine gun) to the same facing as the hull.
-  **Hat Switch** - The Hat Switch can be used to control the cannon, the CITV, or the .50 caliber machine gun, depending on where you are in the simulation and on whether or not you use the 'Ctrl' key in conjunction with the hat.

Keyboard Control

All **Armored Fist 2** functions can be carried out via the keyboard. Keyboard controls are arranged in a series of functional groups, providing easy access to the simulation and allowing quick and logical control over the actions of single tanks and larger units. Refer to the enclosed **Keyboard Command Chart** for a good view of the **Armored Fist 2** keyboard arrangement. **Armored Fist 2** also includes a keyboard overlay to assist you in using the Function Keys and the number keys at the top of your keyboard.

Targeting and Shooting Keys

The 'Space Bar' and the 'Enter' key are among the most important in the game—they allow you to lock on targets and fire the cannon. These keys correspond directly to the trigger button and button 2 on the joystick.

In *Easy* mode, the 'Space Bar' fires the cannon from all simulation locations except those of the Tank Commander.

In *Realistic* mode, from the Commander's Internal Position, pressing the 'Space Bar' sends the current CITV deflection and elevation to the Gunner, who will traverse the turret to bring the gun to bear and engage any target at that location. Meanwhile you can be looking for other targets. From the Gunner's location, pressing the 'Space Bar' fires the cannon.

In *Easy* mode, from anywhere except the Commander's positions, pressing 'Enter' gets a cannon target for you automatically, based on the tank's current Targeting Mode. Pressing 'Enter' repeatedly cycles through all available targets, turning the turret and bringing the gun to bear on each target in turn.

In *Realistic* mode, from the Gunner's position, the Joystick button 2 ('Enter' key) lases the target to determine its range.



The Keypad

In *Easy Mode*, the Keypad on the right of the keyboard controls the tank's movement from all simulation locations. Use the '2' and '8' keys to move the tank backwards and forward, and the '4' and '6' keys to turn it left or right. As long as you have a movement key depressed the tank will continue to accelerate in that direction, and when you release a key the tank will slow to a stop. Keeping the left or right key down will turn the tank in circles.

The '1', '3', '7', and '9' keys on the keypad turn the tank while moving it in the specified direction. The '7' key turns the tank counterclockwise and moves it forward and the '9' key turns it clockwise while going forward. Press the keypad '1' key to change the tank's facing counterclockwise and simultaneously move in reverse, and the '3' key to turn clockwise while backing up.

In *Realistic Mode* the keypad number keys control movement as above in the *Chase* and *Driver's* views. From the *Gunner's* location these keys regulate the rotation and elevation of the turret and cannon. In the *Tank Commander's Unbuttoned* position the keypad controls the movements of the .50 caliber machine gun, while from the *Buttoned* position they manage the *Commander's Independent Thermal Viewer's (CITV's)* rotation and elevation.

The keypad can also be used with the 'Ctrl' key to control the turret, cannon, .50 caliber, and CITV while in *Easy* mode. Press the 'Ctrl' key at the same time as a keypad number key when in the appropriate crew location.

The keypad is also where you exercise control over the magnification level in the Gunner's Primary Sight (GPS) and CITV. Use the keypad '-' (minus) key to select 3x magnification in these devices, and the '+' (plus) key to choose 10x. When AutoLocked on a target, the magnification level will be automatically selected for you.

The Arrow Keys



The **Arrow Keys** act just like the '2', '4', '6' and '8' keys on the keypad, in both *Easy* and *Realistic Sim Modes*. Using 'Ctrl' with the **arrow** keys also operates the tank in the same way as using 'Ctrl' with the keypad keys.

You also use the **arrow** keys to scroll the map in the *Inter-Vehicular Information System (IVIS)*. Press a key to move the map in the direction of the arrow.

Insert, Home, Page Up

The 'Insert', 'Home', and 'Page Up' keys allow you to communicate with other players while in a Multi-Player game. Press 'Insert' to send messages to all other players, friendly or enemy. The 'Home' key lets you send a message just to the members of your own team, and pressing 'Page Up' lets you send a message to a single player.

The Esc, Pause, and Function Keys



The top row of keys on the keyboard allow you to select where you want your point of view to be in the game, to select an ammunition type, or to call for Air or Artillery support. Use the 'Esc' key to call up a menu allowing you to exit the mission or the game, or to change game settings. The 'Pause' key, at the far right, suspends the operation of the simulation until you press it again.

F1-F4 Chase Views

These keys control your perspective in *Chase View*.

- [F1] puts you right behind your tank. This is the default perspective for *Armored Fist 2*.
- [F2] situates you far enough behind the tank to show other members of the platoon.
- [F3] provides a low aerial view.
- [F4] places you far overhead, for a panoramic view of the battlefield.

F5-F8 Crew Positions

These keys let you jump to *Crew Positions*.

- [F5] puts you in the Tank Commander's Buttoned Position.
- [F6] puts you in the Tank Commander's Unbuttoned Position.
- [F7] places you in the Gunner's Position.
- [F8] puts you in the Driver's Position.

F9-F12 IVIS and Round Selection

- [F9] brings up the Primary Inter-Vehicular Information System (IVIS).
- [F10] selects a SABOT round as the next to be loaded into the cannon.
- [F11] chooses a HEAT round.
- [F12] selects STAFF as the next ammunition type.

The Keyboard Number Keys



The number row on the keyboard is used to turn the *Autostabilization* feature on and off, to select speeds for the tank to assume while the Driver has control of the tank's movements, to choose a *Targeting Mode* for the tank, to select a zoom level for the tactical map, and to bring up the Platoon Orders menu.

The ~ Key

Pressing the '~/' key toggles Autostabilization for the turret and cannon on and off. When engaged, the autostabilizer keeps the cannon pointed at the current heading and elevation, even while your tank is moving. Engaging the autostabilizer also stabilizes the CITV. The default state for the autostabilizer is **OFF**.

1-4 Speed Selectors (Realistic Mode)

Select a speed level for the Driver to assume. In *Realistic* mode, these keys correspond directly to the **Speed Selector** panel on the Control Bar. In *Easy* mode these keys are not necessary, and do not function.

- [1] stops the tank.
- [2] select quarter speed.
- [3] select half speed.
- [4] select full speed.

5-7 Targeting Modes

These keys let you select a Targeting Mode for the tank.

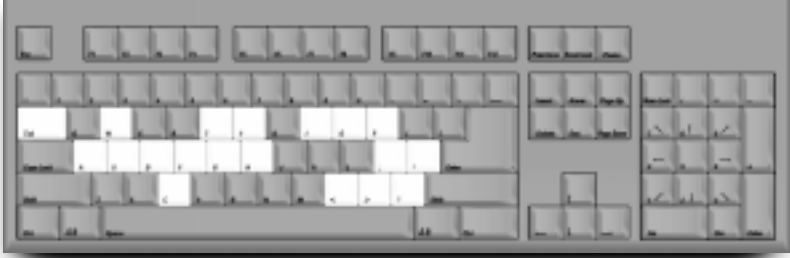
- [5] selects the Hot Threat targeting mode. The Gunner will attempt to choose the most appropriate target.
- [6] sets All Targets mode. The crew will target all objects, friendly, neutral, or enemy.
- [7] puts the tank in Last Attacker targeting mode. The Gunner will attempt to target the enemy that last shot at your tank.

Special Functions

Allow you to select a number of functions and controls.

- [8] toggles engine smoke on and off.
- [9] fires a salvo of smoke grenades.
- [0] The '0' (zero) key toggles Fine Control on and off for rotating the tank's turret, CITV, and .50 caliber machine gun, and for elevating the CITV and cannon. You may also use the 'F' key for this function.
- [+] [-] zooms the view on the tactical maps in or out.
- [backspace] brings up the Platoon Orders Menu, allowing you to send orders to your unit when you command more than one tank.

Miscellaneous Keyboard Commands



The other keyboard keys control an assortment of important **Armored Fist 2** functions, from selecting another tank to toggling various modes and overlays.

- [**tab**] - brings up the Jump Menu, allowing you to select a different tank to command.
- [**W**], [**A**], [**S**] and [**D**] - act as a secondary control mechanism. These four keys act just like the four positions on the Hat Switch (see the **Joystick Buttons** section above).
- [**I**] - toggles ID Tags on and off for various objects if enabled in the Graphics menu.
- [**O**] - brings up the Platoon Orders menu (just like the '**Back Space**' key).
- [**P**] or [**Y**] - toggle the polarity in thermal views for the CITV and GPS between normal or reversed. In normal polarity hotter objects appear lighter on the screen. In reversed polarity heat sources show as dark.
- [**T**] - toggles the view in the GPS, the CITV, and the Driver's viewscreen between visual and thermal modes.
- [**F**] - toggles Fine Control of the CITV, turret, and .50 caliber off and on. Duplicates the function of the '**0**' (zero) key.
- [**G**] - brings all the tank's movable components into line with the cannon. Press this key to orient the heavily armored front of the tank to the same direction you are shooting.
- [**H**] - directs all of the tank's components to face the same way the hull is facing. Use this to quickly bring the gun to bear on an opponent directly in front of your tank.
- [**;**] - (semicolon) will show you the current game statistics, including the number of enemy goals and units you have destroyed and the number of your tanks remaining.
- [**"**] - (quotes) cycles among the GPS, the tactical map, and a blank screen on the small monitor in Chase Views or the Tank Commander's Unbuttoned position.
- [**C**] - fires coaxial machinegun.
- [**<**] and [**>**] - cycle through cannon ammunition types in the Chase Views, the Tank Commander's Unbuttoned View, and in the Gunner's position.
- [**?**] - brings up a list of the keyboard commands for AF2.

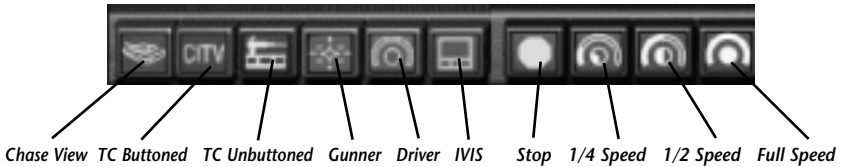
Head-Mounted Display

Armored Fist 2 supports full stereo vision and headtracking for Head-Mounted displays. Press '**Ctrl**' + '**F6**' to enter this mode.

Mouse Controls

Armored Fist 2 uses mouse control to make selections on the Control Bar, and to control some of the devices aboard the M1A2. There are keyboard equivalents for many of the mouse functions.

The Control Bar



The **Control Bar** extends across the bottom of every simulation screen. On the left of the bar are the icons allowing access to Crew Locations and to the IVIS, and on the right is a Message Box. Short reports from other units and from headquarters show up here.

In *Realistic Mode* there is also a middle section, the Speed Selector panel, giving you control over the rate of advance of the tank from positions other than the Driver's location

The Crew Locations section of the **Control Bar** has six icons:



brings up the *Chase View* ('F1' through 'F4' keys).



takes you to the *Tank Commander's Buttoned Position* ('F1').



provides access to the *Tank Commander's Unbuttoned View* ('F6').



is the *Gunner Position* icon ('F7').



brings up the *Driver's Position* ('F8').



switches you to the *IVIS* ('F9').



The Speed Selector controls let you set the tank's speed to Stop, 1/4, 1/2, or Full speed. (*Realistic mode* only).

Tank Commander's Buttoned Position

From the Tank Commander's Buttoned position you can use the mouse to control some of the functions of the CITV. There are keyboard equivalents for most of these functions.



toggles *Visual* or *Thermal* viewing modes. When viewing in thermal mode the CITV uses heat radiation rather than visual light to create its image. ('T');



toggles between *Normal* and *Reversed* polarity in thermal mode. In normal polarity hotter objects appear lighter on the screen, while in reversed polarity mode cooler objects are brighter ('P' or 'Y');



toggles between 10x and 3x magnification on the CITV screen (keypad '+' and '-' keys);



is used to identify a target in the CITV. When you have a potential target in the CITV, press this button. If the target is one that you want to shoot, press the Trigger button or the 'Space Bar'. The Gunner will then slew the turret to the CITV bearing and engage the enemy.

You can access the IVIS and its controls by clicking on the tactical map in the upper right of the Tank Commander's Buttoned screen.

Gunner's Position

In the Gunner's position you have some of the same mouse controls as in the *Tank Commander's Buttoned* position, but they apply to the Gunner's Primary Sight (GPS) rather than to the CITV. The icons for selecting a Viewing Mode and Polarity are the same as detailed above, and they function just the same.



The Gunner's Position allows you to use the mouse to select an ammunition type for the cannon or to enable use of the coax machine gun. Click on the buttons right above the magnification control.



The selector for GPS magnification is different from that used to select a magnification level in the CITV. Just to the right of the viewing mode button panel is a slider control. Click on this device to change magnification (keypad '+' and '-' keys).

Right below the magnification slider is a small red button. Click here when in *Realistic* mode to lase a target to determine its exact range and lock it into the targeting system (acts like the 'Enter' key in *Realistic* mode).

The IVIS

The mouse is the main controller for the **Inter-Vehicular Information System (IVIS)**. Click on the map border and hold the button down to scroll the map, or use the **arrow** keys. Use the mouse to make selections from the control boxes at the bottom of the IVIS screen.



Click on *Zoom In* for a closer look at the IVIS map.



Click on *Zoom Out* to pull back the view.



Left click on *Platoon* to select the next platoon. Right click to select the previous one.



Click on *Center* to center the map on the selected unit's platoon leader.

- Clicking on *Clear Waypts* deletes the waypoints for the selected platoon.
- Click on *Add Waypts* to activate that mode, then left click anywhere on the map to place a new waypoint at that location. Right click to exit *Add Waypts* mode.

Mission Briefings

In the *Mission Briefings* you use the mouse in a manner similar to that of the IVIS. Click on the control panels at the bottom of the Mission Briefing screen to select a function. In the **Mission Briefing Map** you can scroll the map by pressing the left button when the cursor is at any edge of the map.

Informational Displays

Armored Fist 2 features a series of informational displays designed to present important game information in graphical format. A glance at one of these displays can take the place of reading many lines of text.

Damage Display



The **Damage Display** shows you if any vital components of the vehicle have been hit. If the tank is damaged, the appropriate area will turn red and flash on and off. The tank may suffer damage to its Tracks, the Engine, the Thermal Viewer (CITV), or the Gunner's Primary Sight (GPS). Most damage will be repaired if you are in *Easy* mode, but in *Realistic* mode with **Realistic Damage** turned on from the Sim Modes menu, any damage you suffer in a mission will be permanent.

Threat Display

The Threat Display consists of a broken circle around the Damage Display. The circle elements flash red if enemy rounds strike the tank from that direction. This display lets you know from which direction an attack is coming so you can evade or counterattack.

Compass Graphic



The Compass Graphic is an outline of the M1A2 inside a circle, with North at the top. The orientation of the tank inside the circle shows which compass direction the tank is facing, and the position of the turret in the graphic shows you which direction the turret is pointing. The actual compass heading of the hull appears in the small box at the top of the compass circle.

In the Gunner's position the Compass has a "cone" radiating forward from the top of the turret, showing the current field of view of the Gunner's Primary Sight (GPS). The cone will be wider when the GPS is at 3x magnification and narrower when the view is 10x.

Orientation Displays

In the Tank Commander's Unbuttoned Position and in the Driver's location, **Armored Fist 2** provides a small graphic element designed to help you determine which way the turret and/or the .50 caliber machine gun are facing in relation to the hull. You can find this graphic in the lower right corner of the viewscreen.

Menus

Main Menu



The **Armored Fist 2** Main Menu lets you change settings and choose campaigns and missions to play. It also gives you access to other functions. Use the **arrow** keys to select a Main Menu item, then press **'Enter'** to launch it.

Campaigns

Use this menu item to choose which *Mission* you want to undertake. First select a Campaign, using the **arrow** keys and **'Enter'** to make a selection, then choose your mission the same way. Most players prefer to play missions in the order presented, but you are not required to do so.

Multi-Player

Choosing MultiPlayer allows you to connect the game with up to seven other players. Multiple players can access AF2 via modem, with a direct serial connection, or over an IPX network. Configuring your computer for multi-player is covered in the Setup Procedure section in **Chapter One** of this manual, and step-by-step instructions for setting up a multi-player game can be found in the *MultiPlayer Games* chapter.

Demo

Choosing the Demo item from the **Main Menu** will load and play the Demo Mission. You will not be able to take control of the tanks during the Demo unless you press **'Esc'** to bring up the Game Menu and then choose Return to Game. If you take that option the Demo will act just like a regular mission, and you will be able to control your tanks.

Each time you undertake a mission, **Armored Fist 2** creates a file called *lastgame.dat*. You can rename that file to *demodata.dat* and place it in the AF2 directory to make it the Demo mission. Then you can see your mission as the Demo, or use the **'Esc'** key and the Mission Menu to replay it from any point you select.

Settings



AF2 Settings menu allows you to control the graphic detail, set sound and music levels, and select methods of operating the simulation. You can also use Settings to control the game's realism and complexity. The Settings menus are also available from anywhere in the simulation by pressing the 'Esc' key to bring up the Mission Menu.

Graphics



Selecting *Graphics* from the *Settings* menu allows you the choice of showing or hiding some graphic elements, and lets you set detail levels for the simulation.

Tags

Use the **arrow** keys to make a selection, and 'Enter' to toggle it off and on or change its values.

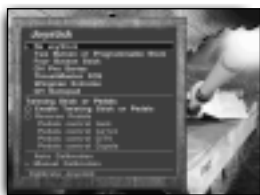
- Waypoint Tags** - Toggles the waypoint markers on and off.
- Tank Names** - Tags each tank under your command with its nickname, and friendly M3s with their vehicle type.
- Target Box** - Shows or hides the red target box over a targeted object.
- Show Enemy Tags** - Tags each enemy vehicle which can be seen by a friendly unit with its vehicle type.

Detail Settings

Gives you control over the level of external detail in the simulation.

- Level of Detail** - allows you to choose how much graphic detail is displayed. The three levels are low, medium, and high. If you are having trouble playing AF2 because of low frame rates, lower the detail level to increase the graphical speed of the simulation. Use the '+' and '-' keys to change the detail level.
- Gamma** - allows you to control the contrast of the screen. If the screen is too bright or too dim, press '+' or '-' here to change the level.
- Show Smoke and Dust** - displays or hides your defensive smoke and the debris kicked up behind your tanks. Turning this option off can increase the speed at which the simulation runs on slower machines. The smoke will still be there, and it will still hide your vehicle. You just won't be able to see it.

Joystick



Use this menu choice to select which type of **joystick**, if any, you will use to control the tank, and to enable a twisting **joystick** or foot pedal input device. You may also choose a method of calibration here, *auto* or *manual*.

Sound and Music

You can set the simulation's Sound and Music Volumes using this menu item. Use the **arrow** keys to select Sound Volume or Music Volume, then use the '+' and '-' (plus and minus) keys to change how loud the sound or music plays.

Credits

If you would like to know more about the people behind **AF2**...

Select Commander



To choose a commander you have previously played, use the arrow keys to scroll to that name in the list and press 'Enter'. To enter a new commander, use the **arrow** keys to go to the end of the list of commanders, then press 'Del' and enter the new name. To remove a commander from the list, go to that name, then press 'Del' and type in the name of your new Commander. Deleting an old commander will erase all information concerning that officer. **Armored Fist 2** keeps statistics

such as wins, losses, and kills for each commander you enter. If you create a new commander you will start over with a clean mission slate. Press 'Enter' to choose a name and return to the Main Menu. To exit back to the Main Menu without making any changes, press 'Esc'.

Exit Game

Choosing this menu option immediately shuts down the simulation and returns you to your operating system.

Simulation Modes

Armored Fist 2 features three different modes of play: *Easy*, *Realistic* and *Realistic with AutoLock*. Choose Sim Modes in the Mission Menu or the Settings Menu, or select a Sim Mode from within the simulation at any time by pressing 'Esc' and choosing *Sim Modes* from the Mission Menu.



Easy Mode

In *Easy* mode you always have control over the current tank, no matter what crew position you are in. You may maneuver the tank from any crew position with the **arrow** keys or the **joystick**, and the Gunner will automatically lase targets to determine their range and lock them into the gunnery system, whenever you press either Button 2 or the 'Enter' key.

Realistic Mode

In *Realistic* mode you control only those features of the tank that are available in the crew position you occupy. Other functions will be handled by the rest of the tank's crew. In *Realistic* mode the **joystick** and **arrow** keys control aspects of the selected crew position rather than always controlling movement.

Auto Round Select

In both Sim Modes you may choose to have the crew automatically select an ammunition type to load into the cannon, or to select the coax machine gun. They will make their choice based on the current target, or on the last target if none is currently locked.

Auto Lock

This selection allows automatic target locking while in *Realistic* mode, making that mode a little easier to play. When selected, this choice lets you lock onto targets as you would do in *Easy* mode. If you have selected *Easy* mode this feature is always on.

Realistic Damage

In *Realistic* mode, you can choose whether or not to have your tank sustain damage in a more realistic way. If the checkbox for Realistic Damage is turned on, your tank will be more likely to sustain some types of damage, and damage will not be repaired during the mission.

Mission Menu



The Mission Menu in AF2 is available from anywhere in the simulation by pressing the 'Esc' key. It allows you to control aspects of the current mission and game situation, and it gives you access to the Settings and Sim Modes Menus to change some of the characteristics of the current game. Use the **arrow** keys and 'Enter' to make your selections.

Settings

The Settings Menu. See the Main Menu Settings section above for complete details.

Sim Modes

Selects Simulation Modes.

Return to Game

Takes you right back to where you were in the current mission.

Restart Mission

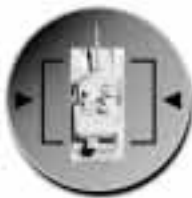
Lets you replay the current mission, without having to reload it from disk.

Quit Mission

Brings up the End of Mission statistics screen and offers you several options.

Exit Game

Returns you immediately to your operating system.



Chapter Four: Game Perspectives

Armored Fist 2 offers a variety of points of view from which to operate the tank, including a series of external (“chase”) views and perspectives from most crew locations. You can jump to these locations by using the **Control Bar** at the bottom of every screen or the ‘F1’ through ‘F8’ keys on your keyboard.

Chase Views



Some of the most interesting viewpoints from which to conduct an **Armored Fist 2** mission are the Chase Views. Every mission starts in one of these views.

Enter the Chase view from the **Control Bar** or by pressing the ‘F1’ through ‘F4’ keys. ‘F1’ puts your viewpoint right behind the tank, while ‘F4’ places you far overhead for a panoramic view of the battlefield. The default is the ‘F2’ position. Press ‘Shift’ + ‘Alt’ + ‘7’ to rotate your view counterclockwise around the tank, ‘Shift’ + ‘Alt’ + ‘9’ to rotate the view clockwise. ‘Shift’ + ‘Alt’ + ‘8’ returns your view to directly behind the tank.

Chase Views provide a great deal of information about the tank’s current situation, and have a monitor showing either a Gunner’s Primary Sight (GPS) or a tactical map. **Armored Fist 2** automatically brings up the GPS whenever you have a target locked into the gunnery system, and shows the map if you do not. You may also turn this monitor off. Cycle through the modes manually with the “ (quotation marks) key. Use the keypad ‘+’ and ‘-’ keys to change the magnification of the GPS, and the keyboard ‘+’ and ‘-’ keys to change the zoom in the map display.

The situational displays show several different categories of information, including the tank’s current speed in kilometers per hour (KPH), its compass heading in degrees (HDG), the number of GOALS left to successfully complete this mission, and the time remaining in the mission in hours, minutes, and seconds.

To the right there is a column for information about the tank’s ammunition status. Select a cannon ammunition type in this display by using the < and > keys to scroll the list, or use the keyboard shortcuts. This display also gives you the number of rounds of machine gun ammunition left. At the bottom the display shows the number of Smoke Grenade salvos left, and tells you whether your engine smoke is turned on or off.

There is an outline of the M1A2 at the lower right of the Chase view. This is the **Damage Display**. Portions of this graphic will flash red if corresponding areas on your tank become damaged. Surrounding the Damage Display is the circular Threat Display. If the tank receives fire, the circle element in the direction from which the attack came will turn red.

Chase View Controls—Easy Mode

- ☐ Drive the tank with the **joystick** or the **arrow** keys.
- ☐ Control the turret and cannon with the Hat Switch, the 'W', 'A', 'S', and 'D' keys, with 'Ctrl' + the **joystick**, or with 'Ctrl' + the **arrow** keys.
- ☐ Control the .50 caliber machine gun with 'Ctrl' + the Hat Switch or with 'Ctrl' + the 'W', 'A', 'S', and 'D' keys.
- ☐ Fire the cannon with the trigger (**joystick Button 1**) or with the 'Space Bar'.
- ☐ Fire the .50 caliber with 'Ctrl' + the trigger or 'Ctrl' + the 'Space Bar'.
- ☐ Lock a target for the cannon with **joystick Button 2** or with the 'Enter' key.
- ☐ Lock a target for the .50 caliber with 'Ctrl' + **Button 2** or 'Ctrl' + 'Enter'.

Chase Views—Realistic Mode

In the Chase View, the *Realistic* mode controls are the same as for the *Easy* mode, except that you will have to select *Easy Target Lock* from the Sim Modes menu in order to lock in a target for the cannon or .50 caliber.

Crew Positions

Armored Fist 2 allows you to take the place of most of the crew members aboard the M1A2. You can occupy two different positions as a *Tank Commander*, or you can take the place of a tank's *Gunner* or *Driver*. You will not be able to act as the *Loader*, but you will be able to hear that crew member at work. Each member of the crew has a set of specialized functions to perform and controls to operate.

Tank Commander Unbuttoned (.50 cal)



Your Tank Commander's Unbuttoned view, with the hatch open and your head outside the tank, offers a panoramic view of the terrain around the tank. Tank commanders prefer to stay unbuttoned as long as they are not under direct fire, because of the superior situational awareness offered from this perspective.

Access the Unbuttoned view via the **Control Bar**, or press 'F6'. As in the Chase View, you can perform all basic M1A2 operations from the Unbuttoned position with keyboard commands, and you have GPS and Tactical Map monitors available. There is also an Orientation Display in the bottom right corner of the screen. It will show you which way the turret and commander's cupola face in relation to the hull.

Tank Commander Unbuttoned—Easy Mode

- ☑ Drive the tank with the joystick or the arrow keys.
- ☑ Control the turret and cannon with 'Ctrl' + either the Hat Switch or the 'W', 'A', 'S', and 'D' keys.
- ☑ Control the .50 caliber with the Hat Switch or the 'W', 'A', 'S', and 'D' keys, or by using 'Ctrl' + the joystick or 'Ctrl' + the arrow keys.
- ☑ Fire the cannon with 'Ctrl' + the trigger or 'Ctrl' + the 'Space Bar'.
- ☑ Fire the .50 caliber with the trigger or the 'Space Bar'.
- ☑ Lock in a cannon target with 'Ctrl' + Button 2 or 'Ctrl' + 'Enter'.
- ☑ Lock in a .50 caliber target with Button 2 or 'Enter'.

Tank Commander Unbuttoned—Realistic Mode

- ☑ Control the turret and cannon with the Hat Switch, the 'W', 'A', 'S', and 'D' keys, with 'Ctrl' + the joystick, or with 'Ctrl' + the arrow keys.
- ☑ Control the .50 caliber with joystick or with the arrow keys.
- ☑ Fire the cannon using 'Ctrl' + the trigger or 'Ctrl' + the 'Space Bar'.
- ☑ Fire the .50 caliber with the trigger or the 'Space Bar'.
- ☑ Lock a target for the cannon with 'Ctrl' + Button 2 or 'Ctrl' + 'Enter'.
- ☑ Lock a .50 caliber target using Button 2 or 'Enter'.

Your primary job in this mode in the Tank Commander's Unbuttoned position is spotting enemy forces. You can then drop to the CITV or to the Gunner's position to target what you have spotted. You also have responsibility for attacking targets, especially aircraft, with the .50 caliber.

Tank Commander Buttoned (CITV)



In the Tank Commander's Buttoned view the perspective is from the commander's position inside the M1A2 turret. From here you have access to some powerful combat information devices, including the Commander's Independent Thermal Viewer (CITV). Enter the Commander's interior view via the **Control Bar** or by pressing 'F5'.

On the right at the top of the *Tank Commander's* Buttoned position is the IVIS map, displaying a wide variety of information about the local combat situation.

The Tank Commander's Buttoned view also has a Compass Display and a Threat/Damage Display, as well as an informational panel with the tank's current speed and heading, and the amount of time remaining in the mission. The information panel also contains an ammunition selection list. Use the < and > keys to select SABOT, HEAT, or STAFF from this list.








The CITV is at the top left of the Commander's Buttoned position screen. The CITV is a viewing and targeting device, with thermal capabilities. The thermal viewing modes use the differences in the heat levels of objects to display targets in low light conditions, such as darkness or smoke.

The icon buttons directly below the CITV screen let you select the *Viewing Mode*, *Polarity*, and *Magnification* for the CITV. Use the mouse to toggle between visible light and thermal imaging, between normal and reversed polarity thermal modes, and between 3x and 10x magnification. In a normal thermal view hotter objects appear lighter, while the reversed polarity mode displays hot items as dark and cooler objects in lighter tones. At the far right of this panel is a Target Identification Button. Use it to identify a potential target by pressing the button when you have a vehicle on the CITV screen. You may then use the **joystick** Trigger button or the '**Space Bar**' to hand off the target to the Gunner.

There is a version of the **Orientation Display** in the lower right corner of the CITV screen. The blue cone shows the field of view of the CITV. It widens or narrows with different magnification levels.

Use the CITV to search for targets, to scan the flanks of a route while moving, or to hunt for enemies sneaking up on a tank while its crew is engaged with another target.





Buttoned Position Controls—Easy Mode

-  Drive the tank with the **joystick** or with the **arrow** keys.
-  Control the CITV with the Hat Switch, with the '**W**', '**A**', '**S**', and '**D**' keys, or by using the '**Ctrl**' key + the **joystick** or the **arrow** keys.
-  Control the turret and cannon using '**Ctrl**' + the Hat Switch or '**Ctrl**' + '**W**', '**A**', '**S**', and '**D**' keys.
-  Hand a target to the Gunner with the **joystick** trigger or the '**Space Bar**'.
-  Fire the cannon with '**Ctrl**' + the trigger or '**Space Bar**'.
-  Find the next target for the CITV with **joystick** Button 2 or the '**Enter**' key.
-  Lock a target for the cannon with '**Ctrl**' + either Button 2 or '**Enter**'.

Buttoned Position Controls-Realistic Mode

In *Realistic* mode the Commander and the Gunner can act as a hunter-killer team. The Commander is the hunter, using the independent viewing capabilities of the CITV to locate targets. When the CITV shows an enemy the Commander can select and identify it by pressing Button 2 or '**Enter**', and hand it over to the Gunner by pressing the trigger or the '**Space Bar**'.

The Gunner is the killer, traversing the turret to the deflection specified by the CITV and engaging the enemy force in that direction. The Gunner will immediately engage a target handed over by the Tank Commander. You may want to wait until the current target is destroyed before handing a new one off, unless you consider the new target to be a more immediate threat. Once you have handed a target off you can go searching for a new threat.

-  Control the CITV with the **joystick** or **arrow** keys.
-  Hand off a target to the Gunner by using the **joystick** trigger (Button 1) or the '**Space Bar**'.
-  Lose a target to determine its range with Button 2 or the '**Enter**' key.
-  Find the next target for the CITV with **joystick** Button 2 or the '**Enter**' key.

Gunner



The *Gunner's Primary Sight* (GPS) in the M1A2 is a technological marvel, and is the Gunner's main viewing and targeting tool. It is mounted on top of the turret, at the right front. This crew position also has a *Gunner's Auxiliary Sight* (GAS). The auxiliary sight is a boresight, a look straight along the barrel of the cannon, which can be a very useful device (see below). The Gunner can also choose ammunition for the cannon or select the coaxial machine gun.

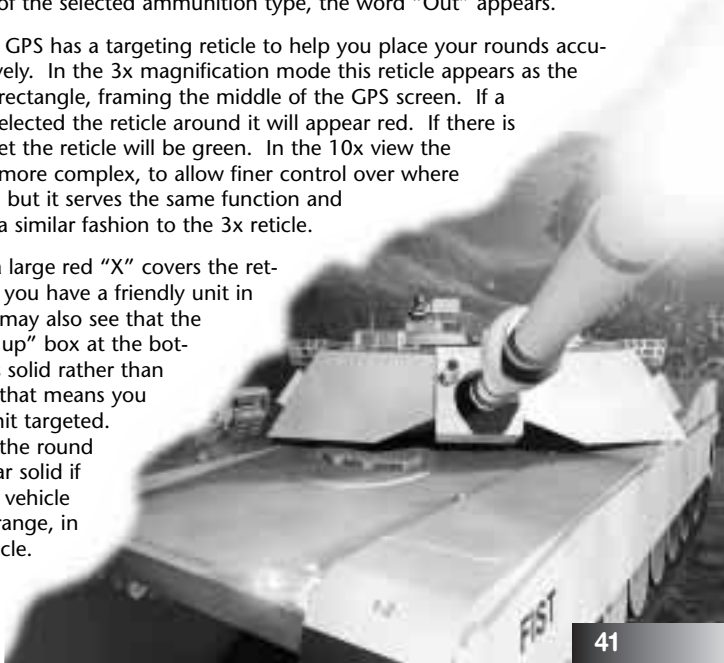
Though visibility from the Gunner's position is limited to what can be seen in the gunsights, this is a good location to access information about your weapons, their ammunition status, and the current target. Access the Gunner's Position from the Control Bar or via the 'F7' key.

The Gunner's Primary Sight (GPS) dominates the Gunner's Position screen. Like the *CITV*, the GPS has two thermal viewing modes (one normal and one reversed polarity), and provides either a 3x or 10x magnification. A pair of icon buttons in a panel just below and to the right of the gunsight screen allow you to toggle between visible light and thermal imaging, and between normal and reversed thermal polarity. A sliding bar to the right of the icons allows you to select a 3x or 10x image magnification. There are keystroke equivalents for each of these choices.

The GPS also has a number of digital enhancements to the sight, which provide important information about the gun, its ammunition status, and the current target. At the top of the sight the GPS provides information about the cannon's ammunition status. If a round is loaded, the type will be displayed in red. If the loader has not yet finished getting a round into the gun, the word "Loading" shows instead. If the tank is out of the selected ammunition type, the word "Out" appears.

The center of the GPS has a targeting reticle to help you place your rounds accurately and effectively. In the 3x magnification mode this reticle appears as the four corners of a rectangle, framing the middle of the GPS screen. If a target has been selected the reticle around it will appear red. If there is no lock on a target the reticle will be green. In the 10x view the graphic is a little more complex, to allow finer control over where the gun is aimed, but it serves the same function and changes color in a similar fashion to the 3x reticle.

In *Easy* mode, if a large red "X" covers the reticle it means that you have a friendly unit in your sights. You may also see that the small red "round up" box at the bottom of the GPS is solid rather than outlined. Again, that means you have a friendly unit targeted. In *Realistic* mode the round up box will appear solid if there is a friendly vehicle anywhere in range, in front of your vehicle.



The Gunner's location lets you take precise control over where the gun's rounds will strike. Place the targeting reticle in the GPS over the place you want the round to hit. If your round misses, use the reticle to determine how far and in what direction you will need to adjust your aim.

If you have selected a target, its range in meters appears in red numbers at the bottom of the GPS screen. The GPS also places a small red square in this area when the cannon has a round in the chamber. You will spend many anxious moments waiting for this square to appear! The GPS also displays a red "F" here on occasion. This indicates a "barrel fault." Nothing is wrong with the gun, but physical movement limitations prevent it from bearing on the targeted object. This most often occurs because the GPS has targeted something that is either too high or too low for the cannon's elevation system to reach. You may have to maneuver to bring the gun on to the target. Barrel faults will be reported by the crew, so you will have an audio clue that something is amiss.

At the top right of the Gunner's Position is a display panel providing the time remaining in the current mission, along with the barrel deflection (DEF) and elevation (ELEV) of the cannon in mils. If a target has been selected its identity will also show here. To the right are the number and type of 120mm rounds and machine gun ammunition left, and the number of smoke grenade salvos available. Cycle through the cannon ammunition types with the < and > keys.

Below the display panel, on the left, is the *Ammunition Selection Panel*, with buttons to choose a cannon ammunition type or select the coaxial machine gun. Just below the *Ammunition Selection Panel* is a slide selector for the level of magnification in the GPS. Click here to change the magnification. Right below the magnification control there is a small red button. In *Realistic* mode you can click here to manually lase a target and determine its exact range. This button is functionally identical to pressing joystick Button 2 or the 'Enter' key.

The Gunner's position also has a **Compass** graphic. From the center of the turret in this display you will notice a red cone. This is the field of view of the GPS. The cone will widen or narrow depending on the GPS magnification you have selected.

The Gunner's Auxiliary Sight (GAS) is the small circle at the bottom right of the screen. It displays a view directly along the barrel of the gun, so you can see exactly where the gun points. The boresight always shows a 3x view. The boresight can be a very useful tool for sharpshooting, when the target is partially obscured by terrain or other vehicles. Use the fine controls (toggle with the '0' (zero) or 'F' key) on the turret traverse and gun elevation to get the gun pointed just where you need it.

The boresight is also useful for positioning your tank in a hull-down position behind a hill, with just the armored front of your turret showing over the top. Depress the gun as far as you can, then slowly go straight up the side of the ridge. When you see sky in the boresight, you know that the gun barrel is pointing over the crest of the hill.

The GAS can be handy for times when the GPS is damaged. It may become the only method you have of aiming your cannon and coax machine gun.

Press the '5', '6', or '7' keys to select the desired Targeting Mode. See the **Targeting, Shooting and Damage** chapter for more information regarding Targeting Modes.

Gunner's Controls-Easy Mode

- ☐ Drive the tank with the **joystick** or **arrow** keys.
- ☐ Control the turret and cannon by using the Hat Switch, the 'W', 'A', 'S', and 'D' keys, or with 'Ctrl' + either the **joystick** or the **arrow** keys.
- ☐ Fire the cannon with the trigger (Button 1) or the 'Space Bar', or by using 'Ctrl' + the trigger or 'Space Bar'.
- ☐ Lock a target for the cannon with Button 2 or the 'Enter' key.

Gunner's Controls—Realistic Mode

In *Realistic* mode the Gunner has to manually operate the laser target designation and ranging system with the **joystick** or keyboard before the gun will fire accurately. The Gunner can also lase targets by using the mouse to press the small red laser button on top of the gun handles (known as "Cadillacs," after their manufacturer) at the bottom of the Gunner's screen.



- ☐ Control the cannon using the **joystick** or the **arrow** keys.
- ☐ Fire the cannon with the trigger or the 'Space Bar'.
- ☐ Fire the coaxial machine gun with 'Ctrl' + either the trigger or the 'Space Bar'.
- ☐ Lase targets with **joystick** Button 2 or the 'Enter' key.
- ☐ Lock a target for the cannon with the 'Ctrl' key + either Button 2 or the 'Enter' key.

Driver



Access the Driver's position via the *Control Bar* or the 'F8' key. The top of this screen is the view from the Driver's periscope. The Driver has the standard Threat/Damage Display and a Compass. In the middle of the panel is a Speed Indicator, showing the tank's rate of advance in kilometers per hour. Below these panels there is an informational display with the tank's map grid location and the time remaining in the mission, and at the far right is a tactical map screen. Clicking on the small toggle switch in the lower left corner of the driver's screen will turn Engine Smoke on and off.

Driver's Controls-Easy Mode

- ☐ Drive the tank with the **joystick** or the **arrow** keys.
- ☐ Control the turret and cannon with the Hat Switch, the 'W', 'A', 'S', and 'D' keys, or by using 'Ctrl' + the **joystick** or **arrow** keys.

- ☐ Fire the cannon with the trigger button or with the 'Space Bar'.
- ☐ Lock a target for the cannon by using joystick Button 2 or the 'Enter' key.

Driver—Realistic Mode

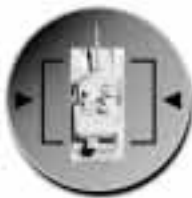
If you switch to the Driver's position from any other location the Speed Selector setting will not change. However, any manual speed input from the joystick or the arrow keys will override the Speed Selector setting. The tank will remain in direct input mode until you make a new choice on the Speed Selector, either by pressing the '1' through '4' keys or by using the mouse to select a new speed on the Control Bar.

- ☐ Drive the tank with the joystick or the arrow keys.
- ☐ Fire the cannon with the joystick trigger (Button 1) or the 'Space Bar'.
- ☐ Fire the .50 caliber with 'Ctrl' + the trigger or 'Space Bar'.
- ☐ Lock a target for the cannon with Button 2 on the stick or with the 'Enter' key.
- ☐ Lock a target for the .50 caliber with the 'Ctrl' key + Button 2 or 'Enter'.



A word to the wise...

Stay on the move. Make it hard for your opponents to lock onto your tank. A stationary target is a dead target...



Chapter Five: Targeting, Shooting and Damage

Armored Fist 2 offers a variety of techniques for locating and destroying enemy targets. It has all the latest computerized targeting systems, and features a variety of weapons and ammunition types, each designed to engage specific types of targets. **Armored Fist 2** also provides access to firepower from external sources, in the form of Air and Artillery support, and features a detailed Damage model.

Locating the Enemy

The first step in destroying an enemy force is finding it, and the M1A2 tank and its associated digital systems give you some wonderful tools with which to do so. The most important target location system in your tank, however, is the crew. As has been the case for more than 80 years, the best target location device in any tank is the human eye.

The effectiveness of visual target location depends on where the observer is in the tank. A commander in the Unbuttoned position, for example, has a much better view of the battlefield than someone buried in the turret watching screens. In **Armored Fist 2**, as in real life, your best chance of spotting an enemy is to get your head outside and look. You can do this by selecting either the Tank Commander's Unbuttoned view 'F6' or a Chase View 'F1' through 'F4'.

Because of the ranges at which modern tank combat can take place, and because modern combat vehicles are usually camouflaged, your first visual clue that an enemy force is in the neighborhood will probably be motion. Keep your eyes on the horizon and on the terrain around your tank to spot the small movements that can give away the location of an enemy.

Headquarters constantly feeds combat information, from many sources, into the tank's *Inter-Vehicular Information System (IVIS)*. The IVIS can give advance warning of the presence of an enemy, but only if another friendly unit has spotted the enemy force. When your tank has located an enemy it will appear on the IVIS screen and tactical maps.

The *Commander's Independent Thermal Viewer (CITV)* is also a good target location device. It offers a magnified view of the situation around the tank, either 3x or 10x. This feature can be helpful, especially when trying to identify a target at longer ranges. The CITV also has a thermal mode, allowing you to pick out an enemy vehicle by its heat signature, which is useful in low-visibility conditions. A tank commander can also use the CITV to locate an enemy, then pass it to the Gunner to target and engage.

Locking On a Target

Once you have spotted an enemy, you will need to lock the M1A2's weapons systems onto that target. In *Easy Mode*, to lock the cannon onto a target simply press Button 2 on the joystick or the 'Enter' key. The crew will find the next appropriate target, based on the targeting conditions you have set (see below). A red box around an object indicates a target lock. Pressing Button 2 repeatedly cycles through all visible targets. Even if you personally do not see an enemy, pressing the button will often reveal an object that some other member of the crew has spotted. Do this a few times whenever you are in a suspicious situation.



In *Realistic mode* the Gunner can enter an enemy into the targeting system, and the Tank Commander can hand off a target in the CITV to the Gunner. Before the gunnery system can get an accurate shot at a target the Gunner must first use the targeting laser system to determine the target's exact range. The tank's target computer then calculates the proper bearing and elevation for the cannon and brings the tube to bear. The Gunner can then fire, with an excellent chance of a first-round kill.

In *Realistic mode*, pressing the 'Enter' key sends a laser beam from the Gunner's Primary Sight (GPS). The range to whatever is in the GPS reticle is then passed to the targeting computer. Note that the laser will bounce off anything in its path. You can determine the range to a tree just as easily as to a T-80!

Target Lock Problems

There may be times in *Easy mode* when you have an enemy clearly in sight, but pressing 'Enter' fails to lock that target into your system. This is probably because, though you can see the enemy, the Gunner's Primary Sight (GPS) cannot, because it is somewhat lower on the turret than the tank commander's head in the unbuttoned position. This is even more likely if you are running the simulation from a *Chase view*. You will have to maneuver to bring the enemy object into the gunsight.

Obstructions, even temporary ones, can also interfere with your ability to lock onto a target. It may, for example, be quite difficult to acquire or maintain a target lock on a vehicle that is moving in and out of cover, or in situations where other vehicles come between you and the object you want to target. Engine smoke or smoke grenades, including your own, can also break a target lock or prevent you from getting one. Your crew will give you an intercom message if the target becomes obscured.

There are also situations where the gunsight proclaims a target lock, but you cannot fire at the target. In this circumstance you will see the word "Fault" in red, or a small red "F" (depending on where you are in the simulation), and your Gunner will tell you that he cannot bring the tube to bear on the target. "Fault" refers to a

Barrell Fault. The barrel of the cannon is unable to bear on the target, even though the gunsight can see it, probably because the vertical angle to the target is higher or lower than the cannon can reach. Again, you may have to maneuver to bring the target into the kill envelope. Note that, if conditions are right, a STAFF round may be able to get you a kill even if the tube cannot bear directly on the target.

Maintaining Target Lock

In *Easy* mode, once you have a target selected and locked, the M1A2 will maintain that lock as long as the enemy is visible. The turret rotates and the cannon elevates automatically to keep the target in the gunsight. However, if the tank you are in or its target moves behind an obstacle or terrain feature, or if another object comes between the tank and its target, the lock will be broken.

The M1A2's cannon can be automatically stabilized in both the horizontal and vertical planes, so it shoots accurately while the tank is moving, even at high speeds. The default mode for your tank is with autostabilization not engaged. Press the '~' (tilde) key to toggle autostabilization on and off. In *Easy* mode the cannon is automatically stabilized whenever you have a target locked.

In *Realistic* mode, however, you will have to engage autostabilization to have the cannon remain pointed at a target while your tank is moving. You can tell that the stabilizer is engaged because the target view in the Gunner's Primary Sight remains stable while your tank is moving.

From the Gunner's Position you have access to specialized tools that give you greater control over the exact point at which your cannon will fire. The M1A2's targeting system normally will lay the cannon very accurately, but against dug-in or partially obscured targets it may be necessary to take fine control of the process yourself in order to ensure a hit. See the Gunner section of the **Game Perspectives** chapter of this manual for some hints and techniques.

Targeting Modes

There are three different targeting modes. Use the '5', '6', and '7' keys on the keyboard to set the selection that is best for your combat situation. In Normal targeting mode, when cycling through a target set the crew will target first those objects closest to where the cannon is pointing, so if you want to target a specific set of objects quickly, turn the turret to face their direction before beginning the targeting process.



Hot Threat Targeting Mode (5). The default targeting mode. The crew evaluates all potential targets and engages the one that is believed to be the most dangerous. Pressing Button 2 or 'Enter' repeatedly will cycle you through progressively less threatening targets. If you do not agree with the selected target you can continue to press the button to cycle through available targets.



All Targets Mode (6). In this mode the crew will target all objects, including friendlies. When you press Button 2 or 'Enter' you cycle through all friendly, enemy, and neutral objects.



Target Last Attacker Mode (7). The crew will engage the last enemy that attacked the tank. When you press Button 2 or 'Enter' the crew will automatically lock on to that enemy. If the last enemy that attacked the tank is dead or no longer visible the tank will choose targets the same way it would in the Hot Threat Targeting mode.

Loading the Cannon

You can select the ammunition for the 120mm cannon from a Chase View or from the Tank Commander's Unbuttoned position by using the < and > keys to cycle through the ammunition types. In the Gunner's location you have a set of buttons to make this choice, and there are keyboard shortcuts as well ('F10' - 'F12').



When a tank crew in combat loads a round into the cannon, the only way they remove that round is by firing it. During battle, removing an unfired round from the breech is considered too dangerous and too time-consuming. If you decide that the type of round you have ordered to be loaded is inappropriate, you can change your mind up to the point where the round is actually chambered. Once an ammunition type has been loaded you will have to fire the cannon to load another type.

Your Loader will automatically load the weapon with the previous ammunition type unless ordered otherwise, or unless there is no more of that type. If you have chosen *Auto Round Select* mode from the *Sim Modes* section of the *Settings* menu, the loader will choose an appropriate ammunition type based on the current target, or the last target if no target is currently selected. If *Auto Round Select* is not selected the gunner will not load anything if there is no more of the selected ammo type available. You will have to specify what type of round you want in the cannon. When the cannon is ready you'll hear the Loader tell you what kind of round is "up" (loaded), and a small red square will appear at the bottom of the GPS.

Firing the Guns

Fire the cannon by pressing the Trigger button (Button 1) on your joystick or the 'Space Bar'. Fire the Coaxial machine gun by pressing the 'C' key or joystick button 3.

You do not need to have a target to fire a weapon, so be careful with that trigger! A friendly or neutral vehicle could come between you and your target just as you fire. It is possible to destroy friendly objects in AF2, even members of your own platoon.

Ammunition Selection

The M1A2 has three different ammunition types for its 120mm cannon, a commander's and a gunner's machine gun, and two ways of creating smoke. Selecting the appropriate weapon and ammunition for a given target is a critical combat decision. Choosing the wrong ammunition for a target means that you have wasted a round that could have been used to eliminate another, more appropriate, target. It also means that you have wasted time, and while your crew is desperately trying to get the proper ammo loaded, the target you failed to destroy with the first round is probably drawing a bead on you.

The 120mm Cannon

The M1A2's primary weapon is a 120mm smoothbore cannon. Use this weapon against armored vehicles, bunkers, and other hard targets. In *Easy* mode use the Hat Switch to control the turret and cannon, and lock in a target with joystick Button 2 or the 'Enter' key. Fire by hitting the joystick's Trigger button or the 'Space Bar'.

In *Realistic* mode the joystick, the **arrow** keys, or the Hat Switch control the turret and cannon, depending on where you are in the simulation.

The 120mm cannon can fire a variety of ammunition types:



SABOT Cannon Round 'F10' — Officially known as APFSDS ammunition (Armor Piercing Fin Stabilized Discarding Sabot), the SABOT round features a very hard, very dense long rod penetrator, composed of depleted uranium, and has a very high muzzle velocity. It is capable of defeating any current armor. Known as the "Silver Bullet," SABOT is the standard ammunition for use against enemy tanks.



HEAT Cannon Round 'F11' — The HEAT round (High Explosive Anti-Tank) has a shaped-charge warhead that can blast through even the thickest metal armor. It is not as effective against the latest composite armors, such as that installed on the Russian T-80 tank. Use a HEAT round against armored vehicles (especially BMPs), and against bunkers, guard towers, and other structures. It may take a couple of rounds to destroy some installations.



STAFF Cannon Round 'F12' — The STAFF round (Smart Target-Activated Fire-and-Forget) is designed to defeat enemy vehicles in defilade (hidden behind a terrain feature), and to **attack aircraft**. When used against vehicles, the STAFF round flies over the target and fires an explosively-formed penetrator downward, into its vulnerable top. A STAFF round is also an excellent weapon for use against helicopters, since its explosive penetrator can attack them without the round itself having to actually strike the body of the aircraft.

Machine Guns

The Machine Guns mounted on the M1A2 provide an inexpensive and effective form of firepower, useful against unarmored or lightly armored targets. Machine-guns can also fire while the cannon is being reloaded. Save your Cannon rounds by using the machine guns against any target they can destroy.



Tank Commander's .50 Caliber Machine Gun — This heavy machine gun is mounted on the Tank Commander's hatch atop the turret. It is the selected machine gun when you are in the Tank Commander's Unbuttoned view,

or in Chase views when the commander is exposed. The .50 caliber is effective against buildings and trucks, but its most important use is as an anti-aircraft weapon.

In the *Easy* simulation mode take control of this weapon with the joystick or with the Hat Switch. Lock in a target for the .50 caliber with Button 2 or the 'Enter' key from the Unbuttoned position or with 'Ctrl' + the button from a Chase view. Fire with the Trigger button or the 'Space Bar' from the Unbuttoned position, and with 'Ctrl' + the trigger in Chase views.

In *Realistic* mode you control the .50 caliber weapon with 'Ctrl' + the Hat Switch from the Chase view and with the joystick alone from the Tank Commander's Unbuttoned view. If you have selected AutoLock from the Sim Modes menu you can lock a target for the .50 caliber machine gun with Button 2 or 'Enter' when in the Unbuttoned position, and with 'Ctrl' + the button from Chase Views. Fire the gun with the Trigger button or the 'Space Bar' in the Unbuttoned location and 'Ctrl' + the trigger in Chase views.



Coaxial 7.62mm Machine Gun — The coaxial machine gun is mounted in the front of the turret, next to the 120mm cannon, and always points to the same place as the primary weapon. Fire it with the 'C' key, or select it on the Ammunition Selection Panel in the Gunner's station and use the trigger button or the 'Space Bar'. The 7.62mm is a lighter weapon than the .50 caliber, but it is useful against most of the same targets.

Smoke



The M1A2 can generate a defensive smoke screen, which will interfere with your target's target acquisition capabilities (and yours). There are twelve smoke grenade launchers, six on each side of the turret. The launchers place smoke in a 120-180 degree arc in front of the turret. Press '9' on the keyboard to launch smoke grenades. You have two salvos available at the start of each mission. The tank can also inject raw fuel into its engine exhaust manifold,

creating a dense cloud of smoke at the rear of the vehicle. Press '8' to toggle this source of smoke on and off.

Air and Artillery Support

Armored Fist 2 provides your tank force with additional firepower in the form of *Air Support* and *Artillery*. They can soften up an enemy position in preparation for your assault, and can be of significant help in defeating large enemy forces. If the mission you are fighting offers air or artillery support, use it.



Call in Air Support with the 'Print Screen' key, and Artillery Bombardments with 'Scroll Lock'. You will receive radio messages in response to support requests. Check the Mission Briefing at the beginning of each battle to see if air or artillery support is available.

Supporting artillery targets the location at which your cannon is pointed, so you can use the *AutoLock* feature by pressing Button 2 or 'Enter', or use the Gunner's Primary or Auxiliary Sight to select the place you want the rounds to fall. If you have a target locked, that will be the aim point for the artillery strike. Be careful! Artillery, friendly or enemy, is perfectly capable of destroying your tank, so when you make an artillery request, first be sure that the 120mm cannon is pointing to where you want the rounds to strike. If you call in artillery to a spot too near your own location the other members of your platoon will clear the area in preparation for the strike. Once requested, an artillery strike cannot be recalled.



Successful requests for air support will bring either an A-10 "Warthog" ground-support aircraft or Apache helicopters to your aid. The aircraft patrol around your unit, searching for enemy targets. If you move, the aircraft move with you, giving you continuous air cover. One of the most useful features of air support is that an aircraft high in the air can see much further than a tank down on the ground. Aircraft that spot enemy units will report them to headquarters, which will immediately download the data to your IVIS.

Artillery strikes are best used against targets that are not moving, or against areas that an enemy force will have to move through. Air strikes are best for seeking out fast-moving enemy vehicles, or for providing all-around security for your force. Air and artillery support are available in multi-player Cooperative or Red on Blue Exercises missions, but not in Deathmatch scenarios.

Damage



When your M1A2 is hit by an enemy weapon or runs over a mine there is a good chance that it will be damaged rather than destroyed. Damaged systems will no longer operate, or will operate less effectively. In *Easy* mode most damage will be repaired fairly quickly, but in *Realistic* mode damage is permanent.

To see what parts of the M1A2 have been hurt, check the **Damage Display**, available in both Tank Commander's positions, from the Driver's perspective, and in Chase views. Damaged systems flash red. The following M1A2 components can suffer damage:



Engine - If the engine is damaged you will be unable to move until the damage is repaired.



Tracks - Damage to one of your tracks will keep you from being able to move except in a circle. Damage to both tracks will immobilize the tank.



CITV - If your CITV suffers damage it will no longer operate.

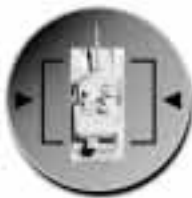


GPS - Damage to the GPS renders it useless until repaired.

Mines

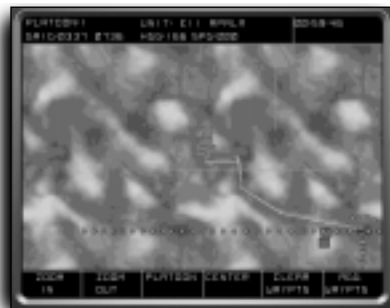
The enemy may have scattered Mines around many of the sites you will be ordered to seize, so you will need to stay alert for their presence. You may also find mines laid on the avenues of approach to a target location. Once detected by a friendly unit they will show up as clusters of small red squares in your IVIS map. However, until they are spotted and entered into the IVIS, mines are invisible. You may on occasion get warning messages about mines, indicating the general areas to watch out for. Mines damage the tank's tracks. You can use an artillery bombardment to take out a minefield, if you know where it is.





Chapter Six: The Inter-Vehicular Information System (IVIS)

It has been said that, while the M1A1 tank was ten percent digital and ninety percent analog, the M1A2 is ninety percent digital and only ten percent analog. A large part of the digital addition to the capabilities of the M1A2 comes from the *IVIS*, one of the most sophisticated digital location and communications devices ever installed in a combat vehicle.



The *IVIS* is the tank's primary battlefield monitor, giving the crew a detailed overview of the terrain and showing the locations of all friendly forces. It also allows headquarters to download to the tank the locations of all enemy and neutral forces that have been spotted by any other friendly source, including other units, air reconnaissance, or even satellites.

The *IVIS* gives the tank commander important mission planning and control tools. A tank commander can examine the terrain in which the tank must operate, and then set a route for the unit to follow in pursuit of its mission objectives. Unlike in the tactical maps, in the main *IVIS* North is always at the top of the screen.

Enter the *IVIS* via the **Control Bar** at the bottom of every game screen, with the 'F9' key, or by clicking on the *IVIS* map in the Tank Commander's Internal view. When you are operating the *IVIS* you no longer have control over the M1A2's movement or combat, though in *Realistic* mode the tank will continue to move.

An *IVIS* tactical map is available in both Tank Commander's viewpoints, from a *Chase* view, or in the Driver's position. In *Chase* views and from the Commander's Unbuttoned position you can have the monitor show the Gunner's Primary Sight (GPS), the map, or nothing at all (use the " (quote) key to cycle through these choices).

Tactical Map Table

Color	Unit Type
Red	Enemy
Blue	Friendly
Grey	Neutral
Black	Dead

Yellow Outline = Mission Goal

In the IVIS Map, higher elevations appear in progressively lighter shades of green. Friendly objects and vehicles are blue, neutral objects appear gray, and enemies show up as red. Destroyed vehicles and structures are black. Yellow outlined objects are mission goals.

Waypoints



Waypoints mark locations through which your force can move in pursuit of its mission objectives. Most missions in **AF2** start with waypoints already set. Waypoints appear as a pair of colored decimal numbers, one yellow and one green, with a line extending to the ground below. The number is the distance to the waypoint in kilometers. The yellow element is the next destination, and the green element the one after that. When you get close enough to a yellow waypoint, it will disappear,

and the next waypoint will turn yellow. If there is a waypoint after that, it will now appear, colored green. At the top of all the view screens there is a red ^ (caret) marker, pointing to the location of the next waypoint, in case it is not visible from the direction you are facing.

Sometimes it will appear that a green waypoint element is closer to the tank than the yellow one. This could be the case, if your force was going to turn around at the next waypoint and come back the way it came, but it is more likely that the line that extends from a waypoint is actually pointing to a ground location behind a hill or other terrain feature. If you climb the hill you will be able to see the waypoint marker pointing to its proper location.

IVIS Controls

The IVIS provides a set of common data elements at the top of each screen, including the current platoon number, the tank ID and commander, the map grid coordinates, and the tank's present heading and speed. To the right it displays the time remaining in the mission.

At the bottom of the IVIS there is a set of control boxes. Use the mouse to make your selections. The IVIS controls give you access to all the IVIS functions, including setting Waypoints and selecting the platoon to which they will apply.

- Zoom Out** - Use this selection to see more of the map.
- Zoom In** - Click here to see a smaller area of the map in more detail.

- **Platoon** - Click on Platoon to select the next platoon when you command more than one.
- **Center** - Click here to Center the current platoon on the map.
- **Clear Waypts** - This control box will clear all the waypoints for the currently selected platoon.
- **Add Waypts** - Clicking on this control box lets you set new waypoints for the current platoon. Once you have selected this control, left-click anywhere on the map to place a new waypoint. Right-click to end setting waypoints.

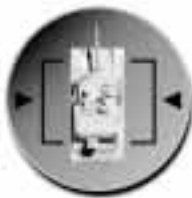
You can scroll the IVIS display with either the mouse or the **arrow** keys. Press the **left** mouse button when the cursor is at the edge of the map display and the map will scroll in that direction, or press an **arrow** key to have the map scroll in the direction of the arrow.





Line formation...

A platoon of M1A2s deployed in a line. This is the best way to bring the most firepower to bear against the enemy.



Chapter Seven: Controlling Multiple Tanks

Most **Armored Fist 2** missions require you to take command of a force of from four to thirty-two M1A2 Main Battle Tanks. Coordinating the activities of multiple vehicles can be a complex task, but it is vital for the success of many of the missions. You will have to learn how a tank force is organized, and how to get the most out of that organization. You exercise control of your platoons the same way in both *Easy* and *Realistic Sim Modes*.

In **Armored Fist 2** you may jump from tank to tank, as well as from position to position within that tank, at will. To change tanks, press the 'Tab' key. This brings up a list of all the tanks available in a mission, arranged by platoons. Use the **arrow** keys to select the tank you wish to be in and 'Enter' to select it. The leader's tank in each platoon is marked with an arrow, and below the list a panel shows the ID and Type of the currently selected vehicle, its Map Coordinates, and its Damage status. The panel also provides the tank's Spacing and Formation, as well as a list of the Ammunition left on board.



The Tank Platoon

The basic unit in **Armored Fist 2** is the Tank Platoon, consisting of four M1A2s. One of these tanks belongs to the platoon leader. The other tanks in the platoon match their movements to conform to those of the leader's tank, assuming different formations as ordered. If the platoon leader's tank is destroyed, another tank in the platoon assumes that role. Any tank may be operated individually, but if it is not a platoon leader its movement will not affect other units.

If the force in your mission consists of more than four M1A2s, they will be organized as platoons, in groups of four tanks. Once you learn how to command a single platoon you will find it relatively easy to jump from platoon leader to platoon leader in a larger force, ordering each unit to take appropriate action. If you are playing a multi-player Cooperative or Red on Blue Exercises mission you will be in command of one tank platoon.

Giving Platoon Orders

Press the 'O' key or 'Backspace' to bring up the *Platoon Orders* menu. From here you can set a platoon's Movement Mode, Formation and Spacing, and give the tanks different Engagement Orders. Setting a Movement Mode lets you give your tanks general movement orders. When you order the platoon to assume different Formations, the individual tanks place themselves in the appropriate relationship with the platoon leader's vehicle, and you can have them spaced either close together or further apart, as you select. The Engagement Orders you select for the platoon let you determine whether all your tanks will engage the same targets as the tank you are currently in or whether they will choose their own targets.



In the *Platoon Orders* menu use the **arrow** keys to scroll through the choices and 'Enter' to make selections. Your choices will have a small solid triangle pointing to them. When you have made your selections, use 'Esc' to exit the menu and send the message. Your orders will be transmitted to the platoon, and they will assume the Movement Mode, Formation, Spacing, and Engagement Orders you have specified.

Movement Modes

You have three different Movement Modes you can assign a tank platoon:



Normal Movement - Normal is the default movement type. Platoon leaders not under human control will follow waypoints, and the other tanks in the platoon will follow their leader, taking up whatever Formation and Spacing they have been ordered to assume, and picking targets according to their current Engagement Orders.



Halt - Units ordered to Halt will no longer move unless you take manual control of a tank and move it yourself, or unless you have called in an artillery strike too close to the unit. Once you leave a halted tank it will stay where you have placed it. Units given Halt orders will continue to target enemy vehicles and fire on them, based on their current Engagement Orders.

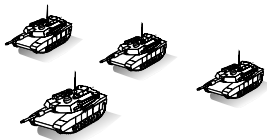


Retreat - Units ordered to Retreat will try to break contact with the last enemy unit that fired on them. Members of a platoon assigned the Retreat movement mode move directly away from the area of combat as quickly as possible. If the platoon leader's tank is nearby they will reform on it. Retreating units will continue to target and engage enemy forces.

Formations and Spacing

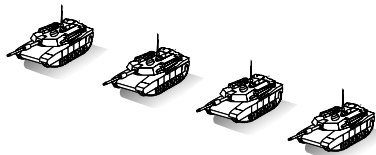
The tanks in an **Armored Fist 2** platoon can assume a variety of *Formations*. Your goal in choosing a formation should be to bring the maximum number of tank guns to bear on the enemy, while preserving the platoon's ability to react to a fluid tactical environment.

• Wedge



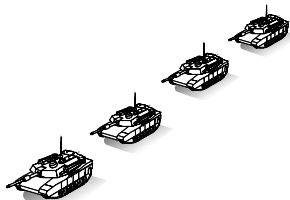
The *Wedge* formation puts the platoon leader's tank in front, with the remaining members of the platoon directly behind and to the flanks of the leader. A *Wedge* is good for meeting threats that could come from any part of the front of the formation, but is less useful against attacks from a flank.

• Line



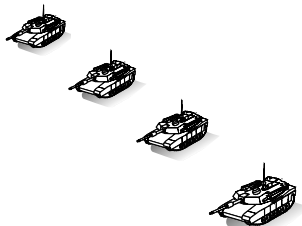
The *Line* formation puts all the tanks in the platoon side by side. A *Line* is an excellent formation for bringing fire to bear to the front, but it is very vulnerable to attacks from either side.

• Column



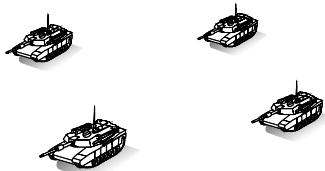
Tanks in *Column* formation line up one behind the other. This formation is most often adopted for road movement or for traveling through narrow defiles, but usually only the lead tank can engage an enemy straight ahead.

• Refuse Left/Right



Essentially a *Line* formation, but staggered back to left or right. Also termed an *Echelon*, this is a good formation to adopt when you expect an attack from one side of a line of advance. You will often adopt this formation to protect a convoy. *Refuse* the side of the formation from which you expect the enemy to approach.

• Diamond



Just what it says. Put the platoon in a *Diamond* formation when threats could come from any direction.

Spacing

You can also select the distance between the tanks in a given formation. Choose *Close Up Spacing* if you want your tanks tightly bunched, so all the vehicles are more likely to be able to see and shoot at the same targets. Choose *Normal Spacing* to have the tanks spread out a little more, giving the unit the ability to cover more terrain and reducing its vulnerability to air and artillery strikes.

Engagement Orders

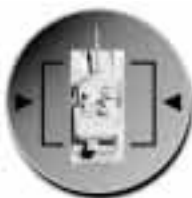
By setting a unit's *Engagement Orders* you can direct their fire to a common target or allow each vehicle to individually select and engage targets.

• Fire At Will

Tanks in platoons ordered to *Fire at Will* choose their own targets, based on the criteria contained in the individual *Targeting Modes* they have been given. This is the default *Engagement Order*.

• Fire on My Target

Tanks ordered to *Fire on My Target* will attempt to engage whatever the human player has targeted. This applies to all tanks in the company. Tanks without a line of sight to the player's target will select and engage their own targets. *Fire on My Target* can be an effective way to make sure that whatever you target is killed quickly. The other tanks in the platoon will engage your target as soon as they have taken care of their own current target (if any), so hopefully you will spend less time staring down the barrel of an enemy tank's gun while waiting for your crew to get a round up!



Chapter Eight: Campaigns and Missions

In **Armored Fist 2** you are offered four ‘real world’ campaigns, each of which represents the deployment of a force of M1A2 Main Battle Tanks to a trouble spot somewhere overseas. To complete the military tasks you have been assigned, you will have to finish a linked series of missions in each campaign.

AF2 also includes a *29 Palms Campaign*, designed to familiarize you with the basic operation of the M1A2, and a *Solo Duty* campaign, featuring missions for a single tank, to introduce you to combat without the complication of having to command a larger force. In addition, **Armored Fist 2** provides a special campaign for each of its three multiplayer modes.

The Campaigns

Each campaign features a different predominant terrain type, a different set of tactical goals to accomplish, and a different set of enemies to fight. Within each campaign the missions are generally arranged in ascending order of difficulty. Each mission begins with an individualized briefing, to acquaint you with the tasks you must accomplish to complete that mission. The four main campaigns are:



Operation Provide Relief— Central Africa is once again in chaos. Well-armed and equipped forces from several sides are roaming the area, killing and looting. The UN is doing what it can to protect refugee camps and provide some sort of stability, but without an armed force to ensure the safety of refugees and UN workers, there is no hope for peace in this region. You are that armed force.

The terrain in this part of Africa consists mainly of rolling hills and grassy plains. Your enemies are equipped with a variety of weapons, primarily of ex-Soviet manufacture, including modern armor and air support.



Operation Siberian Fist— The breakup of the former Soviet Union is still causing problems. This time it’s a fascist-style breakaway regime in the Russian far east that’s making waves. The Japanese are nervous, and the Russian government is almost helpless this far from Moscow. Your mission, whether or not you decide to accept it, is to reestablish the authority of the Russian government in Eastern Siberia.

It’s winter in Siberia, and that means snow. The right-wing rebels have a full complement of up-to-date Russian gear, including air support.



Operation Secure Peace— Belarus is the problem this time. Civil war is raging, and the UN has sent a peacekeeping force to separate the two sides and reestablish the legitimate government. Unfortunately, neither side seems to appreciate the UN's efforts. Your primary task is to protect the UN forces, and end the fighting here. Belarus is a land of green rolling hills. Both sides in the civil conflict have plenty of modern weapons, mainly Russian.



Operation Thunder Road— Iranian forces have moved into Turkey and Iraq. You are part of a NATO force sent in at the request of the Turkish government. It is possible that your mission may include intervention in Iraq as well as Turkey, and there is no guarantee that the Iraqis will welcome you, even against their hereditary enemies from Iran. This conflict takes place in desert terrain. Both Iran and Iraq have modern weaponry, from a variety of sources.

Mission Briefings



Each mission begins with a Briefing, detailing what it is you are to accomplish. The briefing will normally include your weapons loadout, an appreciation of the overall situation, and details on your mission. It may also include specific objectives you are to move to, an estimate of enemy forces, and a listing of any supporting forces available to you for this mission. Click on the **Back** box to leave this mission and go back to the list of missions for this campaign. Click on **Accept** or press 'Enter' to begin the mission.

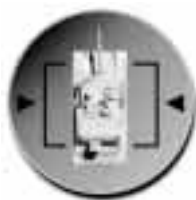


Mission briefings also include a map of the battlefield, with your movement route and phase lines displayed. Click on the *Map* box to bring up this screen. At the bottom of the map display are a number of control boxes. Use the *Nxt/Prv Waypoint* box to center the *Next* (left mouse button) or *Previous* (right mouse button) waypoint for this platoon on the map. The left and right mouse buttons also allow you to select the *Nxt/Prv Platoon's* waypoints to display. The *Zoom In/Out* box lets you control the area shown on the screen. Use the left mouse button to zoom in on the map and the right button to zoom out. The *Text* box brings back the briefing text.

Mission Evaluations

Each time a mission ends, **Armored Fist 2** evaluates it and declares a winner, or, if the player has ended the mission before completing it, declares the mission canceled. Your Commander will receive a Mission Score, which becomes a part of that officer's permanent record. The statistics regarding kills, rounds fired, etc. are lifetime statistics for that Commander.

The Mission Evaluation screen gives you several options in regard to the mission just ended. You may Reset the mission to start over from from the beginning, or watch a Playback of it. You may also choose to have the simulation take you to a point in the mission a few seconds before it ended so you can Playback the End, and you can go back to the campaign's mission menu by hitting 'Esc'.



Chapter Nine: Multi-Player Games

Armored Fist 2 offers several multi-player options, including three different multi-player mission types and three connection modes. Up to eight players can participate. Check the *Multi-Player Settings* section of the **Game Installation and Setup** chapter of this manual for instructions on preparing for a multi-player game.

Playing with or against other humans is one of the most interesting and intense modes of AF2 play, and offers challenges not found in solo gaming. We encourage you to seek other players with whom to experience **Armored Fist 2**. It will be fun, we promise!

Multi-Player Missions

The three types of multi-player missions available in **Armored Fist 2** include *Cooperative*, *Red on Blue Exercises*, and *Deathmatch*. Each mission type can be played over a network, with a serial connection, or by modem.

In *Cooperative* missions all the participants are on the same side, acting together to accomplish the Mission goals, with each player commanding a platoon of M1A2 tanks. In this mode the players take the Blue side, fighting the computer playing the Red forces. Air and artillery support are normally available. AF2 features a special campaign for Cooperative mode, with six missions to undertake.

The *Red on Blue Exercises* multi-player mode divides the participating players into two sides, each member of which has a platoon of tanks. A participant is eliminated from the game when all of that player's tanks have been destroyed. If there is an odd number of players in a Red on Blue match, the side ordered to attack gets the extra player and tank platoon, and Air Support and Artillery Strikes are usually available to both sides. **Armored Fist 2** provides a special campaign for Red on Blue Exercises, with five missions designed just for this play mode.

Deathmatch scenarios are "all-against-all," with each player fighting every other player. In a Deathmatch game each player starts with a single M1A2, at a random location, and has a limited time to destroy as many of the other tanks in the scenario as possible. In Deathmatch mode if a player's tank is destroyed it will reappear at a new random location. There is no air or artillery support in this mode. AF2 has a Campaign, with five missions, designed specifically for multiplayer Deathmatch mode.

Connection Options

Armored Fist 2 allows players to connect for multi-player games in three different ways—over an *IPX Network*, via a *Serial Direct Connection*, or with a *Modem*. Playing over a network allows up to eight players to join in, while connecting via serial cable or modem allows two players to participate. Refer to the *Multi-Player Setup* section of this manual for more information.

IPX Network Play

An *IPX Network* connection allows eight Tank Commanders (including yourself) to experience the simulation simultaneously. All participants need to be on the same network, and all players have to be using the same socket. You may run more than one copy of *AF2* on a network at the same time, but each game running has to use a separate socket number. Socket numbers can be specified and changed with the *Setup* program. See the **Installation** chapter of this manual for instructions on how to use *Setup*. Users having difficulty connecting should check their network connection and socket number.

Before you begin an *IPX Network* multi-player game, one of the participants should be named the *Moderator*. The *Moderator* is responsible for making game choices that affect the entire group, and for handling the housekeeping details necessary to get the game up and running in multi-player mode. In general, any player in a multi-player game could make these decisions. Naming a *Moderator* simplifies game startup, and helps keep multiple players from trying to make the same decision. It is always a good idea to discuss the game before you begin, so that all players agree on what mission they will be fighting, and have an opportunity to plan cooperative strategies.

Follow these step-by-step instructions to conduct a multi-player **AF2** Mission over an *IPX Network*:

- 1) To begin a network game, each player should select the *IPX Network* option from the *Multiple Player Setup* menu (one of the *Main Menu* selections). A *Multiplayer List* box will appear, listing the names of all the players.
- 2) When the names of all players wishing to participate are in the *Multiplayer List* box, the *Moderator* should press 'Enter'. No more players will be able to join this game. The **Armored Fist 2** *Battlefield Options* screen will now appear.
- 3) The *Moderator* selects play options from this menu sequence. The first choice is what type of game to play. Select a *Cooperative*, *Deathmatch*, or *Red on Blue Exercises* campaign. Once a campaign is chosen the *Moderator* picks a mission from that campaign's mission set. Once a mission has been selected it begins loading to all the players.

Internet Play Using KALI

Armored Fist 2 can be played multiplayer vs. other players over the internet using a third party system such as KALI™. KALI allows you to use *AF2*'s *IPX Network Play* features to chat with and play against other players over the internet. If a KALI promotional offer was provided with your copy of **Armored Fist 2**, install it to your hard drive by clicking on the "Install Kali" button from the *AutoRun* screen. After installation, read the instructions for connecting and playing using in the *KALI95.TXT* file installed onto your hard drive.

Serial Direct Connection

Connecting via serial cable allows two players to undertake an **AF2** Mission from one of the three *Multi-player Campaigns*. Make sure the cable between the two computers is properly connected. As in an *IPX Network* game, one of the players should be designated the *Moderator*. That player will be the one to select the campaign and mission.

- 1) Each player selects *Serial Direct Connect* from the *Multiple Player Setup* menu (one of the *Main Menu* selections). A Multiplayer List box will appear, listing the name of each player.
- 2) Once both players names appear, the *Moderator* should press 'Enter', which will bring up the **Armored Fist 2** Battlefield Options screen.
- 3) The Moderator now selects play options from this menu sequence. First choose a campaign (Cooperative, Red on Blue Exercises, or Deathmatch), then select a mission. Once a mission has been selected it will begin loading to each player's computer.

Modem Play

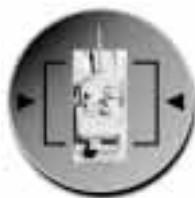
Connecting via *Modem* allows two players to conduct an **AF2** Mission. Before you begin a modem multi-player game, one of the participants should be named the *Moderator*. The Moderator is responsible for making game choices that affect both players, and for handling the tasks necessary to get the game up and running in this multi-player mode. Follow these directions to establish the connection and begin play:

- 1) Each player should select **Modem** from the *Multiple Player* choice in the Main Menu with the **arrow** keys and 'Enter', then scroll down to *Start Multiplayer Game* and press 'Enter' again. Both players now get the Dial Phone Number screen.
- 2) One player has to make the call, and the other receive it. If you are the player designated to make the call, use the arrow keys to select Dial Modem and press 'Enter'. Then enter the number to dial.
- 3) If you are the call recipient, scroll down to the Answer Modem line and press 'Enter'.
- 4) Once you make the connection, the Multiplayer List screen appears, listing both your names. The Moderator should now press the 'Enter' key, bringing up the **Armored Fist 2** Battlefield Options screen.
- 5) The Moderator now selects play options from this menu sequence. Choose a campaign, then a mission. Campaigns can be Cooperative, Red on Blue Exercises, or Deathmatch, each of which has its own special mission set. Once a mission has been selected it will begin loading.



Teamwork...

Use your teammates wisely. Set them up to fire on your target or to scan for hot threats. Teamwork wins the fight.



Chapter Ten: The Modern Battlefield

As demonstrated in the Gulf War, firepower and mobility are the two most important tactical considerations on the modern battlefield, and the M1A2 Main Battle Tank embodies these principles. As the commander of an armored force, it is up to you to employ these concepts.

The Tank Platoon

According to the United States Army's Field Manual FM 17-15, the mission of the M1A2 tank platoon is to *"close with and destroy the enemy. The platoon's ability to move, shoot, communicate, and provide armored protection is a decisive factor on the modern battlefield. ...The tank platoon can survive and win in battle, however, only if it is well trained, effectively led, and highly motivated."*

An **Armored Fist 2** tank platoon consists of four M1A2 Abrams tanks, each with a crew of four: a driver, gunner, loader, and tank commander. This gives the tank platoon a strength of 16: fifteen enlisted personnel and one officer. The officer, normally a 1st or 2nd lieutenant, is responsible for the safety, security, and battlefield effectiveness of the entire platoon.

The tank platoon is the basic building block of higher echelon armored units; therefore, the majority of your early **Armored Fist 2** missions will cast you in the role of platoon leader. However, once you are comfortable with this level of command authority, more advanced **Armored Fist 2** missions make it possible for you to command multiple platoons.

The *company* is the next level of military organization up from the platoon. A tank company consists of three tank platoons and a company headquarters (for a grand total of 14 M1A2s, 57 soldiers, and 5 officers). Although the tank company is organized and trained to fight as a separate, self-contained entity, it is not uncommon for it to be paired up with a company of mechanized infantry. This resultant combination accentuates the strengths of both formations.

The highest level of command authority in **Armored Fist 2** is the *battalion*. A tank battalion typically consists of three tank companies, a headquarters platoon, plus assorted support platoons such as engineers, air defense, and self-propelled mortars.

Most battalion commanders prefer to organize their units into combined arms teams by cross-attaching units with other battalions. For example, a mechanized infantry battalion might exchange one of its infantry companies for a tank company

from a neighboring armor battalion. This way, battalion sized task forces can be tailored to perform a specific mission. (In **Armored Fist 2**, the mission designers have already optimized your forces for the task at hand.)

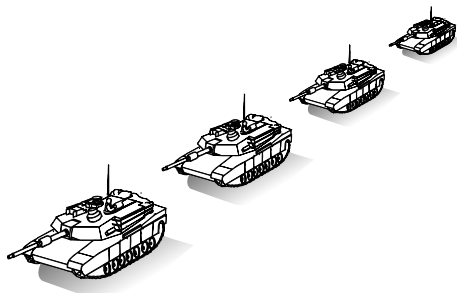
Tactical Platoon Formations

Tank platoons use standardized formations during tactical operations to regulate the movement and actions of their individual vehicles. This allows the platoon to operate more efficiently as a unit. As the platoon leader, you are able to order your platoon to assume one of five different types of tactical formations: *Column*, *Line*, *Diamond*, *Wedge*, and *Echelon*.

Column

The Column formation is a travel configuration. A tank platoon normally assumes a column formation when speed is important and security is not a concern. Command and control problems in this type of formation are minimal, since all four of the platoon's tanks line up one behind another.

A tank platoon routinely travels in column in order to take advantage of a local road network. Not only does this increase the speed of the move, it reduces the wear and tear associated with off-road movement. A platoon will also use this formation when it must negotiate restrictive terrain, like forests, fording sites, or mountain passes.



The column is not a combat formation. The platoon's orientation limits its frontal visibility and firepower. In a column formation, only the lead tank has a completely unobstructed view of the battlefield ahead. The remaining tanks are masked by those in front. By entering combat in column formation, you effectively reduce your frontal firepower by 75%.

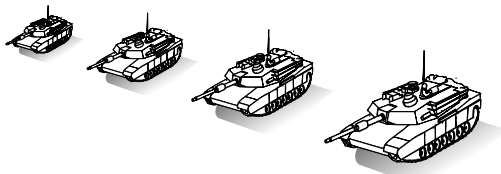
The Column formation is a trade-off; security for speed. Your platoon should only travel in column when you are certain there are no enemy forces nearby. Should enemy contact occur, your primary job will be to extricate your tanks and immediately assume a more viable combat configuration.

Line

A platoon will typically adopt a *Line* formation in situations that require the full firepower of the platoon be brought to bear on a common target area. To assume a line formation, the platoon assembles its vehicles side by side in a line. The spacing interval between vehicles depends upon the nature of the terrain and frontage the platoon is required to cover.

The line formation affords the platoon excellent visibility to the front but leaves the flanks vulnerable. For this reason, the platoon leader should make every effort to determine the general location of enemy forces before assuming this formation.

No other formation can bring more firepower to bear than a tank platoon in line, so this is the best formation to select when conducting a deliberate assault. Though difficult to maintain for long distances, the line formation is excellent for short rushes. The M1A2's ability to shoot on the move allows the platoon to charge while keeping the enemy under fire.



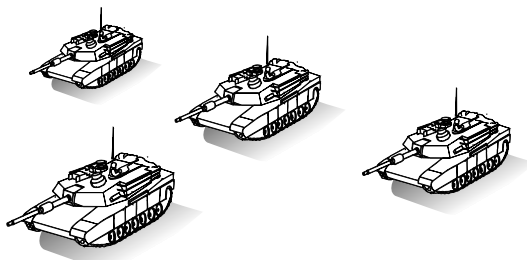
A line formation is also very handy for dealing with enemy attacks. When properly oriented, a line of Abrams tanks can stop an enemy advance like a brick wall. In addition to the platoon's four 120 mm cannons, the enemy must also contend with its multiple machine guns. This is more than enough firepower to deal with enemy armored vehicles as well as the lighter personnel carriers that accompany them.

One negative aspect of the line formation is the fact that all four of the platoon's vehicles are exposed to enemy view. A platoon in this formation has no reserve element to call upon since all elements are in immediate contact with the enemy.

Diamond and Wedge Formations

A tank platoon assumes the *diamond* formation when traversing unfamiliar territory and when a 360-degree field of fire is required. The diamond provides the platoon with greater security than most other formations, while enabling it to continue moving at a high rate of speed.

Essentially, the diamond formation is a three-tank wedge with one tank held back in reserve. When deployed in a diamond formation, the platoon advances with a single tank acting as a "point" vehicle. Two tanks take drop-back positions on both sides of the leader, while the fourth tank is in reserve, bringing up the rear. This provides the platoon leader with a measure of flexibility. The commander can move the reserve tank to either side of the formation, depending upon the tactical circumstances.

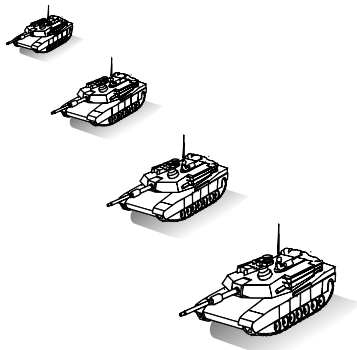


Platoons use the *Wedge* formation like the diamond, to cross unfamiliar territory or when the location of enemy forces is unknown. Unlike the diamond, the wedge formation contains no ready reserve. It commits all four of its vehicles to specific positions within the formation. Typically, the platoon leader occupies one of the front positions of the wedge. As the formation advances, the commander is in a good position to issue tactical orders to the outer vehicles in the formation.

The wedge is a cross between the diamond and line formations. The only difference between the wedge and the line is the fact the wings of the formation are bent back toward the middle. Both formations offer good visibility and clear fields of fire to the front, but the wedge exposes only the lead vehicle to initial enemy fire.

Refuse Right or Left

A platoon will normally “refuse” (bend back) one flank of a Line formation when it must provide a security screen for a larger organization. A refused flank gives a platoon most of the movement benefits of the column while allowing vehicles in the



rear of the formation a limited forward field of fire. Also called an Echelon, a formation with one flank refused maximizes firepower to the sides. The spacing between tanks depends on the terrain and on the requirements of the mission.

The platoon leader occupies the lead position in the formation. The remaining three tanks deploy behind and on an angle from the platoon leader’s “8 o’clock” or “4 o’clock” position. The formation is then said to have refused its left or right.

The Refused formations should be used to screen a larger organization when contact with enemy forces is expected. It can be a difficult formation to maintain, especially in close terrain with limited line of sight.

Movement Techniques

The *Movement Techniques* described in this section are based on actual battle tactics practiced by US tank platoon leaders. Because **Armored Fist 2** is an accurate simulation of modern armored warfare, the same tactics that work in the real world also work here.

Movement techniques are specific “shoot and move” tactics that a platoon leader uses to move his forces from point to point on the battlefield. In the Army’s FM 17-15, there are three elements to take into consideration when choosing a

movement technique: “the likelihood of enemy contact, the availability of other elements to provide overwatch, and the terrain over which the platoons are moving.”

Essentially, movement techniques are variations on the “fire and movement” concept every soldier learns in basic training. The difference is that in this case they apply to platoons of vehicles rather than individual soldiers.

Travel

Travel is a movement technique used when the risk of enemy contact is unlikely and speed is important. You will probably not use this method of movement very often in **Armored Fist 2** because your forces usually start each mission in relative proximity to the enemy. Travel moves are normally administrative in nature and not associated with combat operations. Of the three movement techniques, travel is the fastest.

Because enemy forces are not expected to interfere, security is considered irrelevant during a travel movement. All elements are kept continuously on the march (i.e., no elements are deployed to overwatch the move.) Speed is a primary concern, so platoons stay in column and move using the local road network wherever possible.

Traveling Overwatch

Traveling Overwatch is a movement technique used when enemy contact is unlikely but possible. Basically, one platoon has the responsibility of providing security for the rest of a formation on the move. The designated platoon is referred to as the “overwatch” platoon because it must *watch over* friendly forces.

When using this technique, the main body of the formation moves normally. The overwatching platoon, however, has a difficult task to perform. Its mission is to prevent the enemy from surprising the main formation of troops. To do this, it must move so that it keeps up, but it must also position itself so that it can provide suppressive fires if enemy forces appear.

In most cases vehicles belonging to the overwatch platoon act as outriders to the main body of troops. By stationing themselves on the flanks or in front of the formation, these vehicles can screen the larger unit and provide advance warning if they discover enemy forces nearby. This gives the main body time to disperse or assume a more combat ready configuration.

Traveling overwatch combines the two basic principles of armored warfare: firepower and mobility. The main formation can continue moving, thus preserving its mobility. At the same time, the overwatching platoon retains its ability to provide direct fire on enemy positions at all times.

Bounding Overwatch

Bounding overwatch is a movement technique used when the formation expects enemy contact. Although it is the slowest of the three types of movement, it is the technique you are most likely to use in **Armored Fist 2**. Bounding overwatch allows the formation to continue moving forward even when expecting enemy contact.

There are two types of bounding overwatch: advance by *alternate* bounds or advance by *successive* bounds. You should base your selection of alternate or succes-

side bounding on the predominate terrain in the area and the required speed of the advance. In both instances, the movement requires that the forces on hand be broken down into two separate sections or “teams.” (A force of two platoons is ideal for employing bounding overwatch tactics.)

Alternate Bounds— When advancing by *alternate bounds*, the two elements are, in effect, playing a game of “leap frog.” The lead element bounds forward until it reaches a point of good cover and concealment. It takes up an overwatch position at this location where it can direct fire into the battlespace ahead. The trailing element now bounds *past* the leader, until it reaches its own cover and concealment. Once the trailing element (now in the lead) assumes an overwatch position, the former leading element now bounds forward.

Notice that while the two elements are bounding, only one is moving at any given time. The halted element is responsible for providing cover for the exposed moving element. Repeat the process as often as is necessary to get the formation to where it’s going. It’s tedious, but it’s a safe method of advancing into hostile territory. At no time are both elements exposed to potential enemy fire.

Successive Bounds— When advancing by *successive bounds*, the trailing element moves up and stops at a position abreast of the leading element. Unlike the alternate bounds method, the trailing element never advances past the leader. The lead element always initiates the movement by making the first bound and overwatches the trailing element as it moves up.

This method of advance is slower than alternate bounding but it is more secure. The bounds are generally shorter so both elements spend less time moving and exposed to enemy fire. Successive bounding is also easier to control. The lead element remains in command throughout the movement.

General Combat Tactics

Your success as a platoon leader in **Armored Fist 2** depends on your ability to get the most from your vehicles. This means maximizing both their inherent mobility and their devastating firepower. When used properly, the M1A2 tank platoon is perhaps the most destructive conventional piece of equipment in the Army inventory, and it is unsurpassed in its ability to survive on the battlefield.

Even so, the tank is not invincible. It has limitations, so this portion of your manual concludes with a summary of useful combat tactics designed to keep you and your crews alive and effective on the battlefield.

Use of Terrain

The single most important piece of advice any young platoon leader needs to remember is to always use your surrounding terrain features. Take care when advancing out into the open and always use terrain to mask your movements where possible. Never crest a ridge; go around. Move quickly through open areas.

Try to Get in the First Shot

Studies show that the side that shoots first normally wins an engagement even if outnumbered. By shooting first, you eliminate a portion of the opposition before it has a chance to fire.

Ammo Selection

You do not have unlimited ammunition, so choose your weapons wisely. Never waste an anti-tank round when a burst of machine-gun fire will do. Never fire a specialized shell like a STAFF round when a target can be just as easily destroyed by sabot.

Situational Awareness

Be aware of what is going on around you at all times. Access the situation from as many vantage points as possible, and expect the unexpected.

Shoot, Move, Communicate

The M1A2 is the ultimate digitized fighting machine. Use its firepower and mobility to “shoot and move.” Use its radio to communicate. Call in air strikes and artillery on hard to reach targets.

Mass & Maneuver

Never take the opposition head-on. Always seek to concentrate your strength against the enemy’s weakness. Attack the enemy on his flanks or rear and use the element of surprise.

Target Selection

When confronted by an enemy combined arms force, shoot the tanks first. Target infantry fighting vehicles and armored personnel carriers only after you eliminate the tanks.



Get out more often...
Sometimes the best way to assess the battlefield is to
pop out and take a look.

NovaLogic Technical Support

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Email Support Address: support@novalogic.com

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Internet Website: <http://www.novalogic.com>

You may also visit the NovaLogic website for frequently asked questions about the products, up-to-the minute product information, game updates and screen shots. In addition, our website offers previews of coming attractions, as well as an on-line store.

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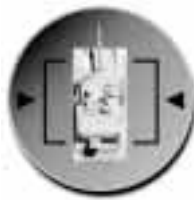
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