# NASA Moonbase Alpha Manual

![Moonbase Alpha Game](image)

## Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TECHNICAL SPECIFICATIONS</td>
<td>3</td>
</tr>
<tr>
<td>OVERVIEW</td>
<td>4</td>
</tr>
<tr>
<td>INSTALLING &amp; LAUNCHING THE GAME</td>
<td>5</td>
</tr>
<tr>
<td>MAIN MENU</td>
<td>8</td>
</tr>
<tr>
<td>CREATING A GAME</td>
<td>9</td>
</tr>
<tr>
<td>JOINING A GAME</td>
<td>11</td>
</tr>
<tr>
<td>PLAYER LOBBY</td>
<td>14</td>
</tr>
<tr>
<td>LEADERBOARDS</td>
<td>16</td>
</tr>
<tr>
<td>GAME OPTIONS</td>
<td>18</td>
</tr>
<tr>
<td>GAME SCREEN</td>
<td>20</td>
</tr>
<tr>
<td>MAP MODES</td>
<td>22</td>
</tr>
<tr>
<td>PLAYING MOONBASE ALPHA</td>
<td>25</td>
</tr>
<tr>
<td>GAME CONTROLS</td>
<td>25</td>
</tr>
<tr>
<td>CONTEXT MENUS</td>
<td>28</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>SETTLEMENT LAYOUT</td>
<td>30</td>
</tr>
<tr>
<td>EQUIPMENT SHED</td>
<td>33</td>
</tr>
<tr>
<td>HEAVY EQUIPMENT</td>
<td></td>
</tr>
<tr>
<td>LIGHT EQUIPMENT</td>
<td></td>
</tr>
<tr>
<td>TOOLS</td>
<td>34</td>
</tr>
<tr>
<td>CONSTRUCTING ROBOTS</td>
<td></td>
</tr>
<tr>
<td>ROVER</td>
<td>36</td>
</tr>
<tr>
<td>DRIVING</td>
<td></td>
</tr>
<tr>
<td>LOADING EQUIPMENT</td>
<td></td>
</tr>
<tr>
<td>ROBOTS</td>
<td>37</td>
</tr>
<tr>
<td>CONTROLLING ROBOTS</td>
<td></td>
</tr>
<tr>
<td>ROBOT ATTACHMENTS</td>
<td></td>
</tr>
<tr>
<td>REPAIRING</td>
<td>38</td>
</tr>
<tr>
<td>DAMAGE STATES</td>
<td></td>
</tr>
<tr>
<td>FIXING EQUIPMENT</td>
<td></td>
</tr>
<tr>
<td>CRITICAL DISASTERS</td>
<td></td>
</tr>
<tr>
<td>REPAIR GAMES</td>
<td></td>
</tr>
<tr>
<td>MULTIPLAYER</td>
<td>40</td>
</tr>
<tr>
<td>GAME SCORING</td>
<td></td>
</tr>
<tr>
<td>TEAM COMMUNICATION</td>
<td></td>
</tr>
<tr>
<td>CREDITS</td>
<td>41</td>
</tr>
</tbody>
</table>
TECHNICAL SPECIFICATIONS

Minimum System Requirements
- Win XP SP3
- 2.0+ GHz Single Core Processor
- 2 GB of System RAM
- NVIDIA 7000-series or ATI Radeon X1900 Video Card
- 2 GB of Free Hard Drive Space
- DirectX 9.0c

Recommended System Requirements
- Win XP SP3 / Vista / Windows 7
- 2.4+ GHz Dual Core Processor
- 4+ GB of System RAM
- NVIDIA 9000+ or ATI Radeon 3600+ Video Card
- 5 GB of Free Hard Drive Space
- DirectX 9.0c for XP/Vista, DirectX 10 for Windows 7
OVERVIEW

NASA has once again landed on the lunar surface with the goal of colonization, research, and further exploration. Shortly after the return to the Moon, NASA has established a small outpost on the south pole of the moon called Moonbase Alpha. Utilizing solar energy and regolith processing, the moonbase has become self-sufficient and plans for further expansion are underway.

In Moonbase Alpha, you assume the exciting role of an astronaut working to further human expansion and research. Returning from a research expedition, you witness a meteorite impact that cripples the life support capability of the settlement. With precious minutes ticking away, you and your team must repair and replace equipment in order to restore the oxygen production to the settlement.

Team coordination along with the proper use and allocation of your available resources (player controlled robots, rovers, repair tools, etc.) are key to your overall success. There are several ways in which you can successfully restore the life support system of the lunar base, but since you are scored on the time spent to complete the task, you have to work effectively as a team, learn from decisions made in previous gaming sessions, and make intelligence decisions in order to top the leaderboards.
1. **Start Steam**
   - You must have Steam installed to play this game.
   - If you do not have Steam installed, go here: [http://store.steampowered.com/about/](http://store.steampowered.com/about/)
   - Click the bright green box labeled “Install Steam Now.”

   - Save SteamInstall.msi to your desktop. When it is finished downloading, double click to install Steam.
   - Launch Steam and follow the instructions to create a new account.
2. Search for “MOONBASE ALPHA”
3. Click “INSTALL.”

4. Go to “LIBRARY” tab, click on “GAMES” tab, select “MOONBASE ALPHA” and click “PLAY.”
MAIN MENU

After launching Moonbase Alpha you are brought to the main menu screen. On this screen you can create a new game, join an existing game, modify game options, access the help menu, or quit the game.

1. CREATE
Create your own game with customized settings.

2. JOIN GAME
View and join games hosted by other players.

3. OPTIONS
Modify game options to increase visual quality, computer performance, and adjust volume settings.

4. HELP
Access the in-game Help menu.

5. QUIT
Exit Moonbase Alpha.
CREATING A GAME

Clicking on the ‘Create’ button allows you to create (host) your own customized Moonbase Alpha Game. On the ‘Create Game’ screen you will be able to select from a number of game settings, including game map and mode, which allow you to tailor your gaming session to fit your specific play style.

1. GAME MAP
Select the game map you would like to play. NOTE: Each map has a maximum number of players: 2, 4 or 6. Maps that support more players have larger lunar bases, and therefore have more damaged equipment to repair.

2. GAME MAP DESCRIPTION
View a description of the size of the lunar base along with the ideal number of players for each game map.

3. GAME MODE

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**Diagram Illustration:**
- **1. GAME MAP**
  - Select the game map.
  - NOTE: Each map supports 2, 4, or 6 players.
  - Maps with more players have larger lunar bases and more damaged equipment.

- **2. GAME MAP DESCRIPTION**
  - View the description of the lunar base size and ideal player count.

- **3. GAME MODE**
  - Choose game modes.
  - Password protected, play opening cinematic, play in offline mode.
  - Password field.
  - Server name field.
  - Create and back buttons.
Select the desired gameplay mode. **NOTE:** In *Competitive Mode*, your team has 25 minutes to completely restore oxygen. If you win, your time is submitted to the leaderboards. In *Freeplay Mode*, your team has no time limit, but your time will not be submitted to the leaderboards.

4. **GAME MODE DESCRIPTION**
View a description of the selected game mode.

5. **ADDITIONAL GAME OPTIONS**
PASSWORD PROTECTED: Set your game to require a password to join. Create a password and remember to give it to your desired players.

PLAY OPENING CINEMATIC: Select to turn on or off the introductory cinematic at the beginning of the game.

PLAY IN OFFLINE MODE: Select to play your game offline. **NOTE:** Other players will not be able to see or join your game when this option is selected.

6. **PASSWORD**
If you have selected “Password Protected” under additional game options, enter your game password here.

7. **SERVER NAME**
Enter a name for your game to allow for other players to search for it.
After you have made your selections click on the "Create" button to setup the game and enter the Player Lobby.

8. **SERVER PORTS**
You can have Moon Base Alpha attempt to automatically configure your router in the Create Game menu by clicking “Server Ports”, then checking the box for “Use Universal Plug-and-Play to configure router”. This is compatible with most modern routers. Check with your router manufacturer for further details.
JOINING A GAME

Clicking on the ‘Join Game’ button allows you to browse through all the current game sessions and join any available session. The ‘Join Game’ screen displays relevant game information and uses a powerful filter system that makes finding the right game fast and easy.

1. GAME TYPES
Filter your games list to only show the selected game type.

INTERNET: View games hosted through the Internet.

LAN: View games hosted on your Local Area Network.

FRIENDS: View games that your friends are currently playing.

2. GAME INFORMATION
View game-specific information.
NAME: The server name created by the host.

IP: The IP address of the game host.

PING: Measures the server speed; a lower number indicates a faster response time.

MAP: Displays the selected map.

PLAYERS: Displays the number of players currently in the game.

PASSWORD: Indicates whether the game is password protected or not.

3. LEADERS
View the Leaderboards page.

4. REFRESH
Update all game information.

5. ENTER IP
Directly enter the IP address of the desired game.

6. GAME STATE / STAT TRACKING
View the current state of the game. Game states are listed below.

  LOBBY: Players are currently in the player lobby and game has not started.

  CINEMATIC: Players are currently watching the introductory cinematic.

  PLAYING: Game is currently in-progress.

  ENDGAME: Players are at the end of game screen.

  POSTGAME: Oxygen to the base has been completely restored and players are continuing to play.

Stat Tracking indicates whether or not the game is tracking statistics.

7. GAME FILTERS
Filter the game list to only show selected options.

NAME: Filters game list by a specific game name.
MAP: Filters game list by a specific map name.

NOT FULL: If selected, will only show games that are not at maximum capacity.

NOT EMPTY: If selected, will only show games that have one or more players.

NO PASSWORD: If selected, will only show games that are not restricted by a password.

SECURE: If selected, will only show games that have Valve Anti-Cheat (VAC) protection enabled.

DEDICATED: If selected, will only show games hosted on a dedicated server.

Select a game and click the "Join" button to play.

If the game is already in progress, you will immediately join gameplay.

If the game has not yet started, you will join the player lobby.
PLAYER LOBBY

If you create a game or join a game that has not begun, you will be placed in a ‘Player Lobby.’ While in the player lobby, you can use voice chat and text chat to talk to other players, as well as change your astronaut color. When you are ready to play, click on the ‘Ready’ button to let the host know that you are ready for action.

1. PLAYER COLOR
Click on the color box next to your name to change the color of the markings that appear on your spacesuit.

2. PLAYER NAME
Click on your name to edit it. This list displays the names of all the players in the lobby.

3. READY INDICATOR BOX
Click the box next to your name to indicate you are ready to play. Keep in mind that the host can begin the game at any time, whether all players are ready or not.
4. **START (Host option only)**  
Start the game. The host may begin the game at anytime.

5. **LEADERS**  
View the Leaderboards page.
LEADERBOARDS

Do you have what takes to be number one? When you play in Competitive Mode your score will automatically be posted to the leaderboards when you win. Each map has its own leaderboards, so to stay on top you’ll want to take a turn playing each one.

1. LEADERBOARD FILTERS
   TOP SCORES: Shows highest scores.
   YOUR RANK: Shows your ranking and players directly above and below you.
   FRIENDS: Shows your friends rankings.

2. PREVIOUS LEADERBOARD/NEXT LEADERBOARD
   Cycles between the available leaderboards including the following:
   • 1-2 Map Completion Time
   • 3-4 Map Completion Time
   • 5-6 Map Completion Time
   • Total Online Games Won
3. REFRESH
Update the leaderboard entries.

4. PLAYER LIST
View the player name, rank, and score.

5. SCROLL UP/SCROLL DOWN
Scroll the player list up and down.
GAME OPTIONS

Numerous game settings in Moonbase Alpha can be modified to allow a gaming experience that fits your specific needs. Adjustments made in the video settings can greatly improve your computer’s performance.

1. VIDEO OPTIONS
   RESOLUTION: Changes your game resolution.
   
   VIDEO QUALITY: Changes your video quality.
   
   BRIGHTNESS: Changes the game brightness.
   
   FULLSCREEN: When this box is checked the game will display in fullscreen mode. When unchecked, the game will display in windowed mode.
2. AUDIO OPTIONS
MUSIC VOLUME: Adjusts the volume of the game music.

SOUND VOLUME: Adjusts the volume of game sound effects.

VOICE VOLUME: Adjusts the volume of Text To Speech (if turned on) and game dialogue. **NOTE:** this does not affect the VOIP volume of other players.

3. EXTRA OPTIONS
TUTORIAL MESSAGES: When this box is checked the in-game tutorial messages will play.

STARS: When this box is checked, stars will appear in the game world.

TEXT TO SPEECH: When this box is checked, all chat box text will be voiced by a robotic voice.

REALISTIC SOUNDS: When this box is checked, only realistic environmental sounds will play.

PLAYER NAMES: When this box is checked, player names will appear over astronauts’ heads in the game.

4. EXTRA OPTIONS DESCRIPTIONS
View the descriptions of the extra options that are listed above.

5. ADVANCED OPTIONS
After selecting the custom video quality setting, you can customize several advanced display options. Turning these options on increases the visual quality of the game, but may negatively affect your computer’s performance. If you have difficulty running the game, try to turn some of these options off.
GAME SCREEN

Your space suit is equipped with the latest in NASA Heads up Display technology. Important elements, along with critical messages, are displayed on your screen allowing for quick and easy access to crucial information.

1. PLAYER LIST
View the names and colors of your teammates. The microphone icon next to the player name will flash when that player is speaking using VOIP. Pressing the ‘P’ key hides the player list.

2. EQUIPPED ITEM
View the name and icon of the item that you are holding.

3. MAP
View an overhead view of the lunar base. Pressing the ‘B’ key hides the map, the ‘M’ key maximizes the map to full screen, and the ‘+’ and ‘−’ keys can be used to zoom the view in and out.
4. CHAT BOX
The chat box allows you to communicate with your team. Press the ENTER key to access chat and press ENTER again to send a typed message. Pressing the ‘C’ key hides the chat box.

5. O² TOTAL
Displays the total oxygen supplied to the living quarters. The game is won when this meter is completely full.

6. GAME TIMER
Displays either the amount of time elapsed (Freeplay Mode) or the game time remaining (Competitive Mode).

7. O² Rate
Displays the rate at which the O² Total increases over time. Repairs made to the base will increase your O² rate.
MAP MODES

Your suit is equipped with a map display system that allows you to view a normal view of the lunar base as well as a schematic view. Pressing the ‘<’ key toggles between the normal and schematic views.

NORMAL MAP VIEW

The normal map view displays a real-time overhead view of all activity on the lunar base.
FULL SCREEN MAP CONTROLS

7 – SETTLEMENT VIEW – Focuses the map view on the lunar settlement.

9 – ALL VIEW – Zooms the map view out to the fullest extent.

< - TOGGLE MAP VIEW – Switches between Normal and Schematic map views.

Up Arrow – PAN MAP UP – Pans the map view up.

Down Arrow – PAN MAP DOWN – Pans the map view down.

Right Arrow – PAN MAP RIGHT – Pans the map view right.

Left Arrow – PAN MAP LEFT – Pans the map view left.

+ Key – ZOOM IN – Zooms in the map view.

- Key – ZOOM OUT – Zooms out the map view.
SCHEMATIC MAP VIEW

The schematic map view displays energy flow, damage states for all components, and positions of players, robots and rovers.

The schematic map displays the damage states of the components at the lunar base. There are four levels of damage: light, medium, heavy and destroyed. The icons are color coded depending on the type of damage and the more severe the damage, the longer it will take to repair it.

WHITE: No damage, component is operational
YELLOW: Light damage
ORANGE: Medium damage
RED: Heavy damage
BLACK: Destroyed

Power flow is represented by a moving purple dot. Power originates at any operational solar panel and flows through the power cables toward the power distributor. Once the connection is broken by a non-working component, power cannot flow beyond that point.
PLAYING MOONBASE ALPHA

Now you are ready to take your first steps on to the moon. We have already highlighted what your suit will display; now it’s time to learn how to use it!

GAME CONTROLS

KEYBOARD CONTROLS

W – Move forward.

S – Move back.

A – Move left (astronaut) / Turn left (rover & robot).

D – Move right (astronaut) / Turn right (rover & robot).

Q – Strafe left (robot only).
E – Strafe right (robot only).

R / Num Lock – Toggle autorun.

P – Hide/Show player list.

Z – Push to talk (must have microphone).

C – Hide/Show chat box.

B – Hide/Show map.

M – Toggle full screen map.

< – Change map mode (normal/schematic).

+ Key – Zoom in map.

- Key – Zoom out map.

Enter – Activate chat window.

Page Up – Scroll chat box up.

Page Down – Scroll chat box down.

Space Bar – Jump (astronaut only) / Skip movie.

Esc – Open escape menu.

F1 – Open game help.

Arrow Key Up – Move forward / Pan full screen map up.

Arrow Key Down – Move back / Pan full screen map down.

Arrow Key Left – Move left / Pan full screen map left.

Arrow Key Right – Move right / Pan full screen map right.
MOUSE CONTROLS

**Mouse Move** – Look around environment.

**Mouse Left Click** – Interact (astronaut & robot) / Exit (robot & rover).

**Mouse Right Click** – Drop carried equipment (astronaut & robot).

**Mouse Scroll Wheel** – Zoom view in / out.
Context Menus

When you move your cursor over an interactable object, it will glow blue. While the object is glowing, left click your mouse to interact with it.

Sometimes there are multiple ways you can interact with an object. In this case, a context menu will appear on your screen. Highlight an action and left click to perform that action.
If you are not able to perform an action, its box will appear grayed out. If you highlight the box, text will explain why the action is unavailable.
SETTLEMENT LAYOUT

The lunar base utilizes solar energy, a power distributor, and a life support system to provide a consistent flow of oxygen to the living quarters. In order to keep operations running smoothly the base also contains equipment sheds, lunar rovers, and a command center.

SOLAR PANELS

Solar panels absorb energy from the sun. Every panel is connected to the power distributor through its own network of cables and couplers. If a solar panel is damaged, it will not absorb any energy. **NOTE:** A solar panel can be raised and lowered via the computer terminal on its base. A solar panel must be lowered before repairs can be made on it, but only a raised solar panel can absorb energy from the sun.

POWER CABLES & COUPLERS

Power cables transfer energy and oxygen throughout the lunar settlement. Couplers connect power cables. If there is a break in the chain of cables and couplers, power cannot be transferred beyond that point. **NOTE:** After attaching a cable to a coupler it must be secured with a wrench to enable power flow. Lights on unsecured cables will blink yellow.
POWER DISTRIBUTOR

The power distributor converts power from the solar panels into usable electricity for the life support system. Repairing the distributor components increase its efficiency of converting energy to usable power, and supplies more power to the life support system. The amount of power being received by the distributor is displayed on the incoming power display.

LIFE SUPPORT SYSTEM

The life support system uses electricity from the power distributor to create oxygen. Repairing the system components increases its conversion efficiency, which increases the O² rate. Only robots can access this area due to the hazardous coolant leak.

LIVING QUARTERS

The living quarters are connected to the life support system via a hose that directly supplies oxygen to the astronauts inside. Due to the meteor impact, the astronauts do not have a steady supply of oxygen. You cannot enter this building.

EQUIPMENT SHED

The equipment shed houses equipment and tools necessary for repairs, and allows you to construct robots. Further details can be found in the Equipment section.
COMMAND CENTER

In the command center, you can remotely pilot rovers and view various parts of the lunar settlement through static and player focused cameras. Only one team member can be in the command center at a time.
EQUIPMENT SHED

The equipment shed has an abundant variety of tools and equipment that you can use to repair the lunar base. You can also use the shed to construct robots which will aid your work around the settlement.

Heavy Equipment

Heavy equipment significantly slows down your movement speed while being carried (severe encumbrance).

**Power Cable:** Power cables transfer electricity throughout the lunar settlement. Power cables attach to structures and couplers. Cables must be secured with a wrench after they have been attached, or else they will not transfer energy or oxygen. Lights are positioned at both ends of the power cable. If a light is flashing yellow, that end of the cable is attached but has not been secured. Power cables cannot be loaded onto the rover.

**Solar Panel:** Solar panels capture photons from the sun and convert this energy into electricity. The panels are made of crystalline silicon and are quite fragile. A solar panel must be deployed (in the raised position) in order to absorb energy, but it must be undeployed (lowered) before you can repair it.

Light Equipment

Light equipment slightly slows down your movement speed while carried (minor encumbrance).

**Coupler:** Couplers connect power cables. Power cables are attached and secured into sockets on either side of the coupler. Multiple couplers and cables can create chains across large distances. If the coupler is receiving power through a secured power cable, its light appears green. If the coupler is not receiving power, the light is red.

**Power Distributor Components:** Bridge circuits allow the power distributor to convert energy into electrical power. The power is then distributed to the life support system and throughout the lunar settlement. If power distributor components are damaged, the overall efficiency conversion rate drops and less energy is converted into electricity.
Life Support Components: The life support system is a complex machine that is essential to the astronauts’ survival on the moon. \( O^2/N^2 \) Controllers, Oxygen Generators, and \( CO^2 \) Filters help the system to drive reductive processes that manufacture oxygen and water from extracted lunar regolith.

Tools

The equipment shed has numerous tools that will aid in the repair of the damaged base.

Wrench: Wrenches are used to secure and detach power cables from power relays and couplers. A wrench is not required to attach a power cable to a power relay or coupler, but is required to secure the cable connection. A wrench must be used to detach a power cable from a power relay or coupler.

Welding Torch: The welding torch, also known as a welder, is necessary for repairing circuitry and structural damage around the lunar settlement. It is a compact, lightweight model that can easily be carried. Robots can also be affixed with a welder attachment when they are constructed.

Toolbox: Toolboxes hold wrenches and welders. Each toolbox has space for three tools, and initially contains one welder and two wrenches. There are only two toolboxes in the shed.

Beacon: Deployed beacons light up and can be seen from a great distance. Beacons can designate meeting points, areas that need attention, or boundaries. Drop the beacon to deploy it. Left click on the beacon to name it or change its color.

Constructing Robots

In the equipment shed you can construct robots that will allow you to be able to make repairs to the power distributor and life support system. Robots can be permanently equipped with either an arm (allows for equipment pick-up / removal) or a welder (allows for equipment repairs). Select which attachment you'd like the robot to have by clicking on it.

Drag the slider to choose the balance between speed and battery power. The speed of the robot determines its movement speed as well as how quickly it performs actions. More speed means the robot moves and repairs faster, but it will also run out of battery much sooner.

Click the "construct" button to create your robot. It will automatically be placed in your hand.
Drop the case, select it and click "deploy" to control your robot. Upon deployment, the case opens and the robot and its control unit are extracted.

Any astronaut may control a robot, not just the player who created it. A robot can only be controlled by one team member at any given time.

The lunar base only supports six active robots at a time. If you reach this limit, you must deactivate a current robot before creating a new one.

View the complete list of Robot controls in the ‘Controls’ section.
The lunar rover is the paragon of cutting edge NASA technology. This sure-footed all-terrain vehicle is capable of quickly traversing the harsh lunarscape, with primary goals of research and reconnaissance.

Players can board and pilot the rover, as well as use it to transport equipment.

The lunar rover can carry up to two astronauts at one time.

By using a solar rechargeable advanced battery system, the lunar rover does not require external fuel stores. However, it does need to recharge after extensive use. While using the rover, a battery meter appears on-screen and displays the remaining battery life.

View the complete list of Rover controls in the ‘Controls’ section.

Driving

Left click on the rover and select "drive" to pilot the rover around the moon. Control the rover using the W, A, S and D keys.

If another player is already driving the rover, you can ride as a passenger.

Left click and select "Exit Rover" to disembark once the rover has stopped moving.

Loading Equipment

The rover bed, located at the back of the rover, carries equipment for quick transport around the lunar base.

When you are holding an item, left click on the bed to load your item onto the rover.

Left click on the item to unload it.
Robots are small but sturdy remote controlled units. They are essential for fixing the life support system and also aid astronauts in moving and repairing equipment.

You can construct robots at the equipment shed.

Robots rely on battery power that will deplete as the robot moves and repairs. The remaining battery power is displayed on-screen and when the power is exhausted the robot will cease to function and will automatically deactivate.

Every robot has a limited remote range. The robot cannot receive a signal from its control unit if it goes out of this range, meaning it can no longer be controlled. If this occurs, undeploy the case, move it to a new location closer to the robot, and deploy the case to re-access the robot.

While an astronaut is controlling a robot, the robot’s side light color will change to reflect that of the astronaut controlling it.

Controlling Robots

Click on the robot control unit to directly control its corresponding robot. You view the world from the robot's perspective and are directly in charge of its movement and actions.

View a complete list of Robot controls in the ‘Controls’ section.

Robot Attachments

WELDING TORCH ROBOT: This robot is permanently equipped with a welding torch, and is able to repair most types of damaged equipment.

ARM ROBOT: This robot can insert and remove components from the life support system, as well as pick up light equipment and quickly transport it around the lunar base. It is limited to holding one item at a time. **NOTE:** Even if the arm robot is holding a tool, it lacks the manual dexterity to use it.
**Repairing**

**Damage States**

A colored icon hovering over a piece of equipment indicates that it is damaged. There are four levels of damage: light, medium, heavy and destroyed. The icons are color coded depending on the type of damage and the more severe the damage, the longer it will take to repair it.

- **YELLOW**: Light damage
- **ORANGE**: Medium damage
- **RED**: Heavy damage
- **BLACK**: Destroyed

Damage states are also visible on the schematic map view.

**Fixing Equipment**

- **REPAIR**: The welding torch must be used to repair damaged equipment. It takes longer to repair equipment that has suffered from greater damage. Destroyed components cannot be repaired.

- **REPLACE**: Replace damaged or destroyed components with a new unit from the equipment shed. In some cases, it may be faster to replace heavily damaged equipment rather than to repair it.

- **CONNECT & SECURE**: Power cables must be connected to power relays or couplers and then secured with the wrench before they will transmit power.

**Critical Disasters**

Due to the meteorite impact, the power network is fairly unstable and damaged components are interfering with energy transfer. Some couplers may not be able to properly transfer received energy and have a small likelihood to overload and go critical.

When a coupler goes critical, all team members are alerted through their mini-map. The critical coupler's lights will flash orange and it will appear on the mini-map as a pulsing red dot.

A countdown clock appears both above the coupler and the player’s screen, which tracks the remaining time before the coupler short circuits. If you don't repair the affected coupler in time, it will be destroyed.
You can temporarily circumvent an overloaded coupler by cutting off its source of power. If the coupler has not been repaired by the time power is restored, it will return to its critical state.

**Repair Games**

While you are repairing damaged equipment, you will occasionally have the opportunity to bypass the structural damage and directly access the damaged circuitry or solar cells. If you repair the connections, you will reduce the total amount of time required for the repair.

Once the repair game screen appears, trace the tip of the welding torch through the circuitry to solder in new connections. You have a limited amount of time to complete the connections, so work quickly and accurately.

If you win, you save a certain amount of repair time depending on the difficulty level.

If you lose, you will not save any repair time.
MULTIPLAYER

When living in near total isolation, reliance on your fellow astronauts is not a choice - it's a necessity. If a crisis hits with barely a moment's notice, cooperation, communication and trust are essential for survival.

Game Scoring

Your team wins once oxygen is completely restored to the settlement ($O^2$ total reaches 100%).

If you are playing in Competitive Mode, your score will be submitted to the leaderboards if you complete the game within the allocated time. Your posted score is the time it took you to complete the game.

Team Communication

Use VOIP (Voice Over Internet Protocol) for instant voice communication with your team members. You must have a microphone installed in order to use this feature. Hold the 'Z' key to talk.

Players without a microphone can talk to their teammates using the Chat Box. Press ENTER to activate the Chat Box, type your message, and press ENTER again to send it. If you want to hear all messages sent to the Chat Box, you can turn on the "Text to Speech" capability in the Options menu.
CREDITS

NASA PROJECT MANAGER
Daniel Laughlin, Learning Technologies

EDUCATION PROGRAM SPECIALIST
Jeff Ehmen, Marshal Space Flight Center

PROJECT MANAGER
James Harrington, Learning Technologies

SENIOR INFORMATION SYSTEMS ANALYST
Terry Hodgson, Learning Technologies

SENIOR SOFTWARE ENGINEER
Stephanie Smith, Learning Technologies

RESEARCH SCIENTIST
Marci Delaney, Learning Technologies

RESOURCE ANALYST
Sharla Rice-Moore

LUNAR BASE MODEL REFERENCE PROVIDED BY LANGLEY RESEARCH CENTER
Pat Troutman
David Helton
Josh Sams

NASA SPECIAL THANKS
Joyce Winterton
Shelley Canright
Bob Gabrys
Tammy Rowan
Jim Ellis
Doug Cooke
Jerry Hartman
Carla Rosenberg
Robery Shelton
Michelle Fox
ARMY GAME STUDIO

DIRECTOR OF DEVELOPMENT/CONCEPT AUTHOR
Michael Barnett

CONCEPT DESIGNER
John Fairchild

CONCEPT ARTIST
Davis Godwin

CONTRACT AREA LEAD
Sam McKenzie

QUALITY ASSURANCE
Tony Donatelli
   Jeff Sallas
   Cody Garton

BETA TESTERS
Michael Eldredge (Eodtech)
Dwight Brasher (Bear_82)
Roger Miller ((1VB)Red Ryder)
Steve Elton (TUFFENUF)
Tim Sahr (UncleBuck)

PUBLIC RELATIONS DIRECTOR
Lori Mezoff

MARKETING DIRECTOR
Courtney Hayden

AMERICA’S ARMY SPECIAL THANKS:
COL (RET) Casey Wardynski
Frank Blackwell, Program Director
Marsha Berry, Director of Development
Developed by Virtual Heroes

VICE PRESIDENT, APPLIED RESEARCH ASSOCIATES, Inc.
Software, Systems, & Modeling Sector
Allen York, Ph.D., P.E.

MANAGING DIRECTOR, VIRTUAL HEROES
Jerry Heneghan

DIRECTOR OF TECHNOLOGY
Randy Brown

DIRECTOR OF PRODUCTION
Joe Halper

PROJECT MANAGER
Steven Cattrell

ASSOCIATE PRODUCER
Sarah Gray

DIRECTOR OF DESIGN
Sam Clifford

DESIGN LEAD
Brad Willson

DESIGN AND SCRIPTING
Juan Collado
Jake Martin
Gwen Murray

TECHNICAL DIRECTOR
Gerke 'Max' Preussner

LEAD PROGRAMMER
Edwin Sirko Ph.D.

PROGRAMMERS
Oliver Gray
Jay Nakai
Dmitri Savine
Gabe Scott
Bob Tellez

ART DIRECTOR
Takayoshi Sato

**LEAD ARTISTS**
Steve Sickles
Kenny Thompson

**ART**
Andrew Allen
Kyle Hagen
Bryce Lumpkin
Thomas Miller
Sebastian Penedo
Metta Sommerville

**QUALITY ASSURANCE MANAGER**
Franklin A. Crawford IV

**QUALITY ASSURANCE**
Laura Crites
Rachel Lloyd
Lauren Maczka

**COMMUNITY MANAGER**
Mitch Gross

**AUDIO**

**SFX & VOICE RECORDING**
Blazing Music + Sound

**VOICE TALENT**
Joe Halper
Christine Heneghan
Brad Willson

**MUSIC**
Dragon and Toast - Kevin MacLeod (incompetech.com)
Feral Chase - Kevin MacLeod (incompetech.com)
Martian Cowboy - Kevin MacLeod (incompetech.com)
Unrelenting - Kevin MacLeod (incompetech.com)
Variation on Egmont - Kevin MacLeod (incompetech.com)

**VIRTUAL HEROES SPECIAL THANKS**
Sydney Avery
Joan Myers
Timothy Alan Neil Gagnon (Moonbase Alpha Mission Patch Creator)
TECHNOLOGIES

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