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HEADS UP DISPLAY

1) **Aiming Reticle**
 1A Primary weapons arming status
 1B Secondary weapons arming status

2) **Primary weapons display**

3) **Secondary weapons display**

4) **Weapons energy status bar**

5) **Shield energy status indicator**

6) **Ship status indicator**

7) **Enemy missile lock alarm**

8) **Access key indicator**

9) **Current score**

10) **Ships remaining**

DESCENT WALK-THROUGH

■ **Material Defender this is PTMC Security One.**
■ **Prepare for descent insertion Level 1.**

PTMC Security One, please give flight systems configuration and mission briefing before descent insertion.

■ **You weren't given a mission briefing?**

No, PTMC Security One.

■ **How many missions have you flown, son?**

Thirty seven... simulated.

■ **Great... why me? I always get the nubies. No offense, son.**

None taken, sir.

■ **You don't have to call me sir, my name's Russ. What's your handle?**

Nilron, sir... I mean Russ.

■ **Relax. Now, about your configuration, what does your control panel look like?**

I have a series of key pads in front of me. All of my simulators had a flight stick in them, Russ.

■ **O.K. You're flying an older model Syssyx. Don't worry, they pack as much punch as the new ones. I flew one for 20 years.**

Wow...

■ **This will be easy to use. See the key pad in front of you with the arrows? That is your main controller. It's just like a flight stick, the arrow-up pushes your nose down and the down-arrow pulls your nose up. The left and right arrows bank left and right.**

That seems simple enough.

■ **Yep, it is. Now do you see the Home and PgUp keys? They roll you counter-clockwise and clockwise. That will help you get re-oriented if you get flipped upside down.**

OK... but what are the keys one through zero for, across the top?

■ **That's your weapons ordinance selection. The first five are for arming your guns. Your lasers are number one. These are the primary guns for the Syssyx. Beyond that you can pick up additional weapons in other locations: number two is the Vulcan cannon, three is the spreadfire cannon, four is the plasma cannon, and five is the fusion cannon.**

NEW GAME	Allows player to start a new game.
LOAD GAME	Player Resumes from Saved Game. Game can be saved during play at any time.
MULTIPLAYER	Takes player to a menu where he can choose to start or join a multiplayer network, modem, or serial game.
OPTIONS	Takes player to the options screen.
CHANGE PILOTS	Player can change login name.
VIEW DEMO	Allows player to view their Recorded Demos.
HIGH SCORES	Takes player to high score screen. Player can review high scores, time taken, and other vital statistics.
CREDITS	Shows player the list of credits for the game.
QUIT	Exit the game.
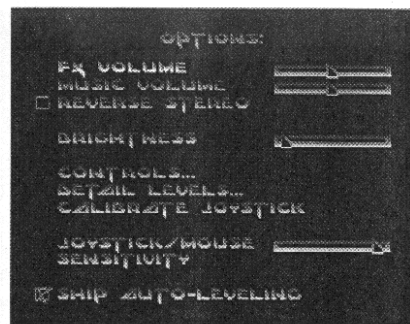
FX VOLUME	Adjust sound effects volume using the arrow keys.
MUSIC VOLUME	Adjust music volume using the arrow keys.
REVERSE STEREO	Reverses left and right channel of the stereo sound effects in Descent.
BRIGHTNESS	Adjusts the Brightness level of the game.
CONTROLS	Takes player to controls configuration screen.
DETAIL LEVELS	Allows player to adjust detail level. Lowering your detail level is highly recommended if you are using a slower computer.
CALIBRATE JOYSTICK	Calibrates the joystick (and throttle if used) controller for the game.
JOYSTICK/MOUSE SENSITIVITY	Adjusts the turning rate of your ship.
SHIP AUTO-LEVELING	Turns the Auto-Leveling feature ON/OFF.
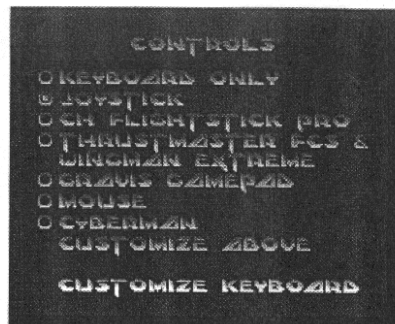
Here the player can adjust the fundamentals of their input device. All changes are saved in your pilot file for future usage. The controls can be adjusted during game play.
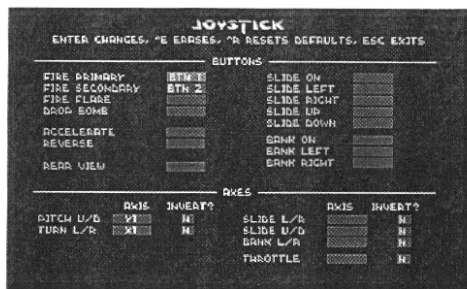
To change any of the keys, simply move the highlight with the arrow keys to the function you wish to change, press ENTER, then hit the new key you wish this function to be. For axis entries, press ENTER, then move the new joystick axis.

GAME OPTION KEYS

[Esc]	Abort game	[F3]	Cockpit on/off
[F1]	Help screen	[F4]	Calibrate joystick
[F2]	Options	[F5]	Record own demo
[Alt]-[F2]	Save		
[Alt]-[F3]	Load	You may Save or Load at any time during the game.	
[F7]	Toggle between multiplayer HUD displays		
[F8]	Send typed message (multiplayer only)		
[F9]-[F12]	Taunt macros (multiplayer only)		
[Shift]-[F12]	Define F9-F12 taunt macros (multiplayer only)		
[Pause]	Pause game (not in multiplayer)		
[ ] / [ ]	Change window size		
[Print Screen]	Save screen shot. All screen shots are saved in PCX format.		

CYBERMAX VR KEYS

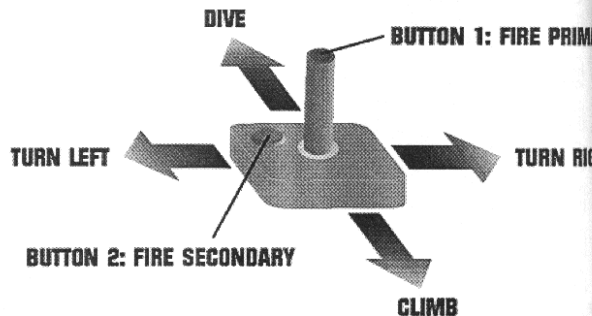|		
[Alt]-[V]	Toggle between NTSC and VGA signals	
[Shift]-[F6]	Reverse left/right image	

AUTOMAP

[Tab] Automap
(hold & release or tap on/off)

• To rotate the Map, use the ship-turning keys

• To move the Map, use the ship-sliding keys

• To move in and out of the Map, use the forward/reverse keys

• To show more or less of the Map, use + or - keys

The following assignments can all be modified in the Options/Controls m[...] These settings are defaults, and can be changed.

JOYSTICK

DIVE

BUTTON 1: FIRE PRIM[...]

TURN LEFT

TURN RIG[...]

BUTTON 2: FIRE SECONDARY

CLIMB

JOYSTICK
ENTER CHANGES, ^E ERASES, ^R RESETS DEFAULTS, ESC EXITS

BUTTONS

FIRE PRIMARY	BTN 1	SLIDE ON	
FIRE SECONDARY	BTN 2	SLIDE LEFT	
FIRE FLARE		SLIDE RIGHT	
DROP BOMB		SLIDE UP	
		SLIDE DOWN	
ACCELERATE		BANK ON	
REVERSE		BANK LEFT	
REAR VIEW		BANK RIGHT	

AXES

	AXIS	INVERT?		AXIS	INVERT?
PITCH U/D	Y1	N	SLIDE L/R		N
TURN L/R	X1	N	SLIDE U/D		N
			BANK L/R		N
			THROTTLE		N

KEYBOARD
ENTER CHANGES, ^D DELETES, ^R RESETS DEFAULTS, ESC EXITS

		—OR—			—OR—
PITCH FORWARD	↑	PAD8	FIRE PRIMARY		LCTRL RCTRL
PITCH BACKWARD	↓	PAD2	FIRE SECONDARY	SPC	
TURN LEFT	←	PAD4	FIRE FLARE	F	
TURN RIGHT	→	PAD6	DROP BOMB	B	
SLIDE ON	LALT		REAR VIEW	R	
SLIDE LEFT		PAD1	AUTOMAP	TAB	
SLIDE RIGHT		PAD3			
SLIDE UP		PAD-	ACCELERATE	A	
SLIDE DOWN		PAD+	REVERSE	Z	
BANK ON			CRUISE FASTER		
BANK LEFT	Q	PAD7	CRUISE SLOWER		
BANK RIGHT	E	PAD9	CRUISE OFF		

FLIGHT:

Key	Action
← ↓ ↑ → or keypad	Ship rotation
A	Forward
Z	Reverse
Q or 7	Bank left
E or 9	Bank right
1	Slide left
3	Slide right
-	Slide up
+	Slide down

R — Rear view (hold & release or tap on/off)

WEAPONS:

Key	Action
^	Fire primary
⎵	Fire secondary
B	Drop proximity bomb
F	Flare

Select primary

Key	Weapon
1	Lasers
2	Vulcan cannon
3	Spreadfire cannon
4	Plasma cannon
5	Fusion cannon

Select secondary

Key	Weapon
6	Concussion missile
7	Homing missile
8	Proximity bomb
9	Smart missile
0	Mega missile

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OTHER CONTROL DEVICES

Descent fully supports the following:

Mouse

Joystick (one or two)

Thrustmaster FCS

* Thrustmaster WCS & FLCS

Logitech Wingman Extreme

CH Flightstick Pro

Gravis GamePad

Logitech Cyberman

* Gravis Phoenix

devices may be selected and customized under the Options/Controls menu

* DESCENT2.ADV, DESCENT.PHX, DESCENT.B50 and DESCENT.M50 config files can be found in your DESCENT directory.

GRAVIS PHOENIX

Spreadfire Cannon - 3
Fire Primary - JB1
6 - Concussion missiles
7 - Homing missiles
8 - Proximity bombs
9 - Smart missile
0 - Mega missile

JB2 - Fire Secondary
4 - Plasma Cannon
5 - Fusion Cannon
R - Rear View
2 - Vulcan Cannon
1 - Laser

Bank flare - F
Bank left - HOME
Bank right - PGUP

NUM - Slide up
PGDN - Slide right
+NUM - Slide down
END - Slide left
Slide left/right - Rudder

THRUSTMASTER FCS & WCS

HAT - Slide Controls
Fire Secondary
Fire Primary
Fire Flare
Drop Bomb

Reverse
Forward
Roll right
Roll left
Taunt Macro 3
Taunt Macro 2
Rear View
Taunt Macro 1

THRUSTMASTER FLCS

Fire Primary

TOP VIEW

HAT
Slide Controls

Slide Control
Forward/Reverse
Roll left/right
Taunt Macros
Multiplayer only
Forward/Reverse
Slide left/right
Fire Secondary
Fire Primary
Fire Flare
Drop Bomb

COCKPIT VIEW

To toggle the view of your cockpit on or off, press F3. When the cockpit view is off, it's replaced by a status panel across the bottom of the scre[en]. To get full screen view simply hit the + key at this point; the – key can reduce the window size to increase game speed.
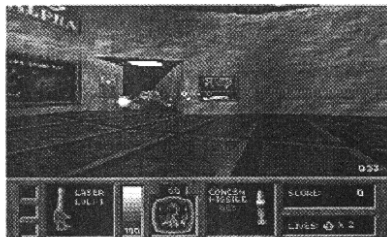
REAR VIEW

To look out the rear of your ship, press R. If you hold down the R key you will temporarily look out the rear; when you release R you will return to [the] front view. If you want to switch indefinitely to the rear view, quickly tap

RECHARGING

At specific sites within every mine there are energy centers that will boo[st] your ship's energy level. Although these centers will only boost your ship['s] energy level up to 100, it is possible to achieve a maximum level of 200 [by] collecting 'energy packets' that are scattered throughout the mines. Thes[e] energy centers have distinct gold walls with a sparkling energy field between them. See "Mine Centers" section.

EXHAUSTING A WEAPON

If you exhaust a weapon, it automatically selects the next best weapon.

YOUR SHIP AS A WEAPON

The objects in Descent are "physical" objects; you can ram into somethin[g] with your ship and possibly cause a response. For example, most doors [can] be rammed open or shot at to open, while hostage doors must actually b[e] fired upon until destroyed. You can conceivably ram something repeatedl[y to] destroy it - if this happens to be a fighting method you've been reduced [to,] best of luck!

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AUTOMAP

The Automap keeps track of places you've been. As you move through new territory, your progress is drawn in by the Automap. To access the Automap, press the Tab key. To close the Automap, press Esc or Tab.
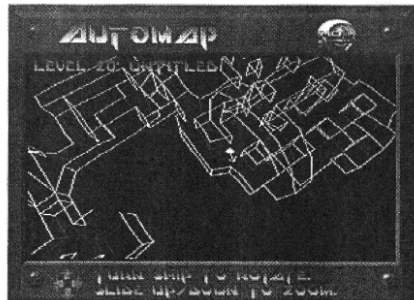
- The center object is your ship. Other green objects are hostages.
- The purple object is the mine's entrance.
- The red, yellow and blue walls are the locked doors. These doors require the use of corresponding color-coded access keys for passage.
- Yellow areas are refueling stations.
- The Red area is the Reactor.
- In Team Anarchy and Cooperative Modes, your teammates appear as colored objects with directional arrows.

ROBOTS

There are many robots in the mines of the PTMC. Unfortunately the invading force has also created variations of these that are deadly.

13
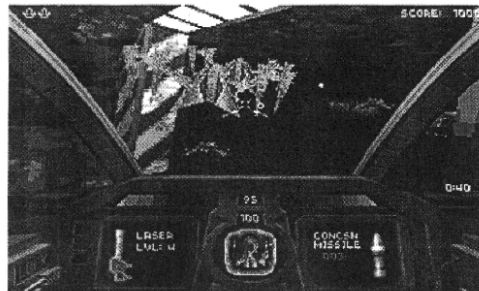
POWERUPS

Access Keys - These access keys give you access to tł different security levels of the mines. They are color co to the doors they open.

Energy Boost - This will give your energy banks a boost up to 200 units max. (Energy Centers can deliver rechar up to 100 units.)

Shield Boost - This will give your ship's shields a kick. I getting shield powerups, you can get your shields up to maximum of 200 units.

Cloaking Device - Gives your ship cloaking ability for a limited time.

Invulnerability - Makes your ship invulnerable for a short time.

Extra Life - Gives you a bonus life.

Laser - Laser cannons have four power levels. The laser powerup will give you the next available level.

Quad Laser - This powerup will modify your existing las system to fire four bolts instead of the standard two.

Vulcan Cannon - This weapon rapidly fires explosive-tip shells.

Vulcan Ammo - This gives you more ammunition for the Vulcan Cannon.

Spreadfire Cannon - This fires a spread of energy at your target.

**Plasma Cannon** - Fires bursts of supercharged plasma.

Fusion Cannon - Fires destructive blasts of energy directly from the ship's fusion reactor. Holding down the Fire key will continue to charge the Fusion cannon until you release it. Doing this can double the damage, but can also damage your ship if you hold it too long.

Concussion Missiles - All-purpose dumbfire rockets. Come singly or in packs of four.

Homing Missiles - Same size warhead as Concussion Missiles, these are equipped with a tracking device that can follow a target around most turns. Come singly or in packs of four.
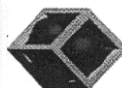
Proximity Bombs - These bombs are dropped behind your ship, waiting to explode when something gets near. Can be armed as a secondary weapon, or dropped directly by hitting the default key "B."

Smart Missile - When this missile detonates, it sends tracking bomblets of heated plasma after the surrounding targets.

**Mega Missile** - Stand back when you fire this earthshaker.

DOORS

There are a variety of doors that can be found in the PTMC mines. Most [...] be opened by either bumping into them or shooting them. There are some [...] though, that can only be opened if you have the appropriate access key. Others can only be opened if certain actions are performed or the Reacto[...] is set to self-destruct (i.e. the emergency exit). Hostage doors take seve[...] hits to destroy, and there are also doors that are hidden.
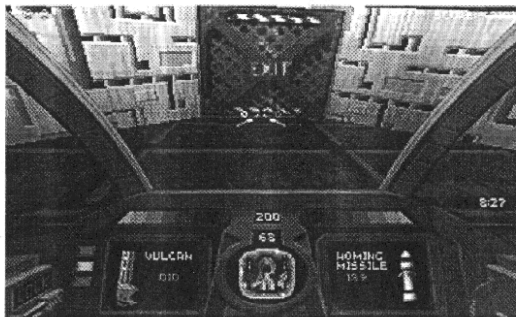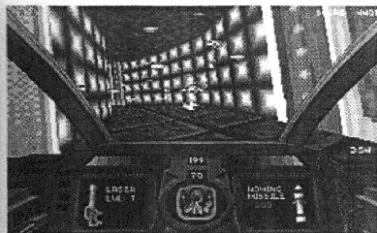

RESUPPLYING WEAPONS

Throughout the mines are caches of missiles and vulcan ammo that you [...] pick up to restock your supply.
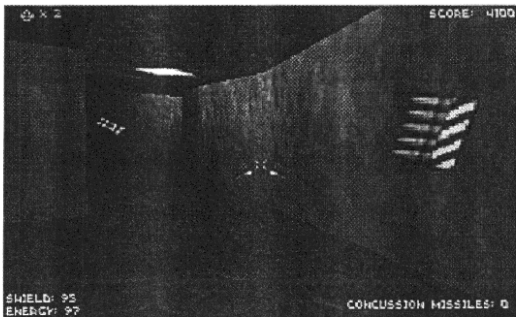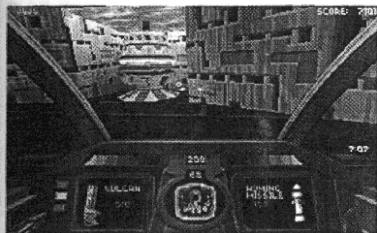

MINE CENTERS

Energy Center - Designed for "on the fly" replenishing of robot's power cells, it will also recharge your own (up to 100 units).

Robot Generator - Automated centers that determine a mine's needs and assemble robots from surrounding minerals and metals. Very dangerous.

Main Reactor - The power generator of the whole mine. Usually in a secluded place away from day-to-day mine mishaps.

What are six through zero for?

■ Those are your long-range ordinance, your missiles. The Syssyx comes armed standard with dumbfire concussion missiles - number six. Additional missiles the ship can pick up include number seven, homing missiles (if you them); eight, proximity bombs; nine, smart missiles; and ten, mega missile (good old earth-shakers).

Frag! These can carry a lot of ordinance.

■ Darn straight they can. One thing. If you pick up what the ship's system consider a higher level weapon, it will automatically switch to it. That can be troublesome at times.

Great...now how do I move this baby around?

■ You see the A and Z keys in front of you? Those are your forward and reverse. A accelerates forward and Z moves you in reverse.

Interesting... now what do TAB, R, B, and F do for me?

■ TAB brings up your automap. The ship's computer records, where you are where you've been. Rely on this, not the corp map I'm going to show you lat The bots have been busy reworking the mines to suit their needs, whatever t may be. When you have this map up, use the arrow keys to swing it around and the A and Z key to zoom in and out.

I assume that the ship doesn't move when I do that.

■ Right. Now, R gives you your rear view. B deploys proximity bombs witho switching your missile ordinance. This can come in handy, but be careful if something is shooting at you when you deploy the bomb; it will blow if it is l and if it is close, the blast can really hurt your ship. Finally, F deploys laser flares. These will stick to a wall and last around a minute. They provide excellent illumination in a dark mine shaft.

Roger that. The Syssyx seems pretty easy to fly.

■ That's why I flew one 20 years, son. Now here is a look at Lunar Base 1.

■ Point 1 - That is where descent insertion will place you.

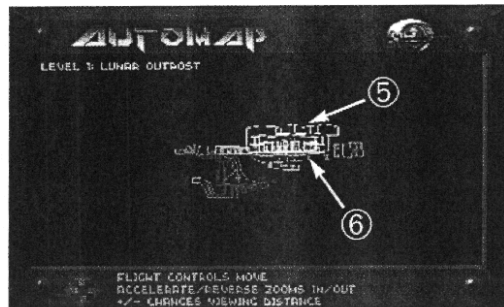■ Point 2 - Security door to reactor room. This requires a red security pass.

■ Point 3 - This is where some PTMC miners are being held by the bots. We don't know why they're being held, but you should make an effort to pick the up. The company has a lot of time and money invested in training them for t jobs-blowing them up with the reactor isn't going to score points with the su upstairs.
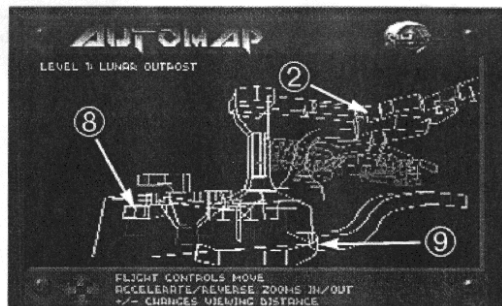
■ Point 4 - These are a pair of undocumented passages in the regular mining maps. Security puts these in for emergency situations. The entrance points are on the ceiling. Shoot them or bump them and they will open up. This leads to Point 5.
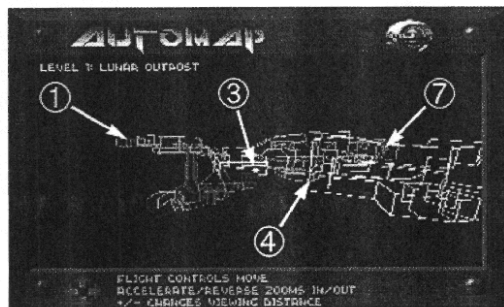
■ Point 5 - As I said, the folks in security stash contingency equipment in case of emergencies. Up here you will find some Vulcan cannon ammo and a four-pack of homing missiles.

■ Point 6 - This is a refueling center. You should always locate these in any mine. They will recharge the capacitors for your energy weapons, including lasers.

AUTOMAP
LEVEL 1: LUNAR OUTPOST

FLIGHT CONTROLS MOVE
ACCELERATE/REVERSE: ZOOMS IN/OUT
+/- CHANGES VIEWING DISTANCE

■ Point 7 - This is where intelligence currently places the pass card for the security door at Point 2.

■ Point 8 - This is the reactor. It takes about 10 shots to set it to blow. Whe[n] it goes you'll have between 30 and 45 seconds to get out. One warning: the bots have set the reactor security measures to shoot at any corporate equip[-] ment, including your ship.

■ Point 9 - This is the emergency exit. It will only open after the reactor sta[rts] its self-destruct cycle. When the count down starts, this is the only way to [the] surface. If you don't make it, you, your ship, and any miners you rescue will [be] blown to atoms. A note of caution: this one is easy to find, others will be harder. I've seen more men die because they don't find this before setting o[ff the] reactor. So you should really find the exit before setting the reactor to go.

Got it, Russ. This will be a cake-walk.

■ Don't get so cocky, son. That's what the last Material Defender said.

What happened to him?

■ He didn't come back.

Oh.....

■ Good luck, Nitron. Kick the drek out of those bots and may the... oh, never mind, you're too young to remember.

■ Get ready for descent insertion level 1!

RECORDING A DEMO

Descent has a fully integrated demo recording and playback system that lets you keep a permanent record of blasting your friends to pieces. This recording will work in single or multiplayer games.

Press F5 anywhere in the game to start recording; press F5 again to stop the recording. When you stop a recording, you'll be prompted to enter a file name.

If you press Esc at this dialog box, the demo will not be saved.

SAVE DEMO AS:
____

VIEWING A DEMO

To view a recorded demo, choose View Demo from the Descent Main menu. Highlight a demo from the Select Demo list and then press Enter or click a controller button to open that file. To delete a file, highlight the file and then press Ctrl + D.

SELECT DEMO
<CTRL-D> DELETES
CONFRONT.DEM
SPEED.DEM
ZIPDEMO.DEM

During playback, the following keys are available:

Key	Action	Key	Action
↑	Play	Shift + →	Fast reverse
↓	Stop	Shift + →	Fast forward
←	Single frame reverse	Ctrl + ←	Go to start of demo
→	Single frame forward	Ctrl + →	Go to end of demo
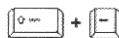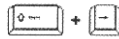
The demos will record advancement from one level to the next; however, the escape sequences will be skipped in playback.

Demo files are saved in the Descent subdirectory and have the file name extension of .DEM. Demo (.DEM) files may be freely distributed.

CAPTURING SCREENS

You can capture (take a "snapshot") of any screen in Descent by pressing the Print Screen key while at that screen. Each screen you capture is saved to a .PCX file in the GAMES\DESCENT subdirectory. When you press Print Screen key, your computer's hard drive light will flicker momentarily indicate that it's working to capture the screen; you will see an onscreen message.

To view a captured screen, exit Descent. Then load a paint or draw program and open the .PCX file you want to view. A screen is saved under the file name SCREENxx.PCX (where xx = 00 or higher; e.g., SCREEN00.PCX, SCREEN01.PCX, SCREEN02.PCX, etc.).

To view the screenshots, you need to exit Descent and then launch a paint or draw program that's capable of reading .PCX files or converting .PCX files into another file type that can be used by the program. In some cases, the paint or draw program will automatically convert .PCX files into a different file type it can read. In other cases, you'll need to convert the .PCX file to different file type before your paint or draw program can read it. Paint or draw packages often come with a separate conversion program that lets you convert a file from one type to another. If you need more details on viewing the .PCX files captured in Descent, see your paint or draw program's user documentation. Look for details on reading or converting .PCX files.

CUSTOM DETAIL LEVELS

Detail levels may be individually adjusted by selecting Options (from either the Main Menu screen or hitting F2 while playing a game), and then selecting Detail Levels. Custom settings can be made by choosing "Custom".
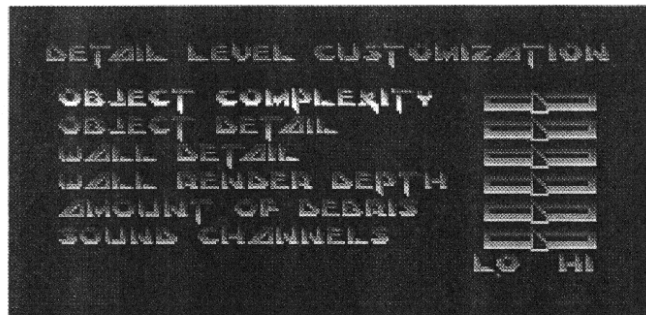
Object Complexity: This affects the number of polygons used by objects like robots, player ships, and other 3D objects. Lower values will increase speed, but simplify the shape of many objects.

Object Detail: This determines at what distance an object changes from flatshaded to texture-mapped details. Setting this slider to a lower value will cause robots to be flat-shaded much closer.

Wall Detail: This option determines at what distance walls appear flat-shaded vs. texture-mapped. It also affects the accuracy vs. speed of the texture mapper. If you notice textures "sliding" or "jumping" a little in the distance, this slider is set too low.

Wall Render Depth: This will change the maximum distance you can see. Lower values will increase the speed of Descent, but will cause flat-colored "walls" to appear in long hallways. These boundaries do not affect weapons or other objects, only your visuals.

Amount of Debris: Changing this slider will determine how much debris is made when robots explode. Setting this to a low value will make fewer pieces in heavy combat.

Sound Channels: In addition to visuals, sound can have a minor effect on the speed of your game as well. This slider will change the maximum number of sounds that can be played at once.

NETWORK PLAY

NETWORK REQUIREMENTS

Descent is designed to run on a Novell network using the IPX protocol. To use IPX protocol on your LAN-connected PC, you must be loading the IPX.COM driver provided by Novell, in addition to lower-level drivers requir by your particular brand of network card.

To get optimum performance from network games, you should be connect on the same local network so its packets can be routed directly without intermediate processing by routers. If players are all on the same sub-network, the router and servers will experience almost no load due t the network game in progress.

SETTING UP A GAME

Descent supports up to 4 simultaneous network games on a single socke If you need to run more than four games on a single LAN, players can us the -socket option to change to a different socket number (i.e. C:>Descent -socket#). Descent uses a default socket number of 5100(Hex). The -socket option adds a value to this base, so "-socket 1" would tell Descent to use socket 5101(Hex). You can use this option to av socket conflicts with other network services if they arise.

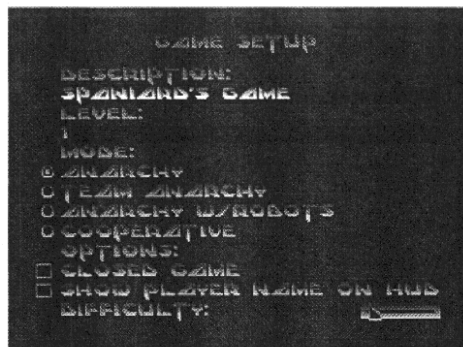To prepare for network play, select Multiplayer from the Main menu.

MULTIPLAYER

START A NETWORK GAME...
JOIN A NETWORK GAME...

MODEM/SERIAL GAME...

One of the players must select Start A Netgame Game from the Multiplaye menu in order to select the parameters for the game.

Mission   This lets you choose which mission file to use.

Description   The description is the name that other people will see in their Join *A Network Game* menu.

Level   This can be any valid level for the mission you have loade Play will begin on the level selected and can continue to 1 other levels as play progresses.

Mode   Mode determines what type of game will be played:

GAME SETUP

DESCRIPTION:
SPANIARD'S GAME
LEVEL:
1
MODE:
○ ANARCHY
○ TEAM ANARCHY
○ ANARCHY W/ROBOTS
○ COOPERATIVE
OPTIONS:
☐ CLOSED GAME
☐ SHOW PLAYER NAME ON HUD
DIFFICULTY:

- **Anarchy** is a player-only battle to the death, where the goal is to accumulate the most kills by killing up to 8 other players.

- **Team Anarchy** is the same as Anarchy, but in teams. The next screen you see is the Team Selection screen. Team names can be modified in the text boxes. To move a player to the other team, highlight his or her name and then press Enter. Team 1 ships are blue while Team 2 ships are red. Press Esc to accept the teams and start the game. This can be played with a maximum of 8 players.

- **Anarchy With Robots** is the same as Anarchy, only there will be robots in the game trying to kill any player they find. The goal is still to score kills by killing your fellow players. This can be played with a maximum of 4 players.

- **Cooperative Mode** lets you team up with the other players to destroy all the robots in the mine and complete the level. The goal is to get the highest score by killing robots, rescuing the hostages and escaping the mine after destroying the level Reactor. This can be played with a maximum of 4 players.

Closed Game This determines whether or not other players will be allow[ed] into your game after it begins. If the Option box is checke[d] only players that were chosen for play at the start of the g[ame] are allowed in. Note: In a closed game, the starting player[s] are still allowed to leave Descent and rejoin at any time.

Difficulty This determines several factors, from robot awareness an[d] deadliness to time for mine destruction countdowns. The farther the slider is to the right, the tougher the game will be.

Once the parameters are chosen, the person starting the net game press[es] Enter. This brings up a screen where the person who started the game c[an] select the players. As each network player selects your game from the J[oin] A Network Game screen, their names appear in the list. By default all pla[y]ers who want to join are selected; you can deselect a player by using th[e] Spacebar to clear the check-box next to his or her name. Once you've selected the players you want for the game, press Enter to start the acti[on].

JOINING A NETGAME

To join a netgame, select Multiplayer from the Descent Main menu and th[en] select Join A Network Game. This brings up a menu of currently active network games on that socket. Below each game is listed the current le[vel] number of the game, the number of people playing, and game status. Gam[e] status can be one of the following:

- **Forming** - The person starting the game is still at the player selection screen. There is still time to join in before the game starts.

- **Open** - The game is in progress but you can still join in because either game is not closed, or you were previously connected to the game and can rejoin.

- **Closed** - The game was either started as a closed game so you can't j[oin] or else there is already the maximum number of players in the game.

- **Between Levels** - The players in this game are rushing for the escape tunnel. You cannot join a game that is between levels. If the game is between levels, you can wait at the Join A Network Game menu until th[e] game mode changes to open.

If you leave a netgame for whatever reason, you can usually join in later and resume your game. Although you lose accumulated items, you will retain your ship color and kill count unless you have been gone long enough for someone new to have taken your spot. Make sure you rejoin from the same computer and use the same pilot name so the game can identify you as an existing player.

The person who started the game is also free to leave and rejoin the game at will; there are no special restrictions for this person other than setting the initial parameters for the game.

NETWORK TROUBLESHOOTING

If you try to select Start A Network Game or Join A Network Game but get an error message saying your IPX drivers are not loaded properly, make sure your computer has a reasonable amount of low memory available. Although Descent uses a DOS extender to avoid low-memory hassles, low memory is still required for network buffers. Also make sure your IPX.COM and other network drivers are being loaded properly. A good test is to make sure you can log onto a network server, if one is available.

Another thing to try is using a different socket number. It's possible that some other application on your computer is using socket 5100h, which will prevent Descent from opening its own network connection. Try large values for the -socket option and see if this solves the problem.

Sometimes while playing a game you may receive a message box that says your network card is missing packets from other players. This can be the result of a slow network card, heavily congested network, or software conflicts in your system. If the message appears, you can rejoin the game and try again, but the problem should not be ignored completely since it's likely to return. Here are some possible causes for dropped packets in your network games:

- Too many players for a high-traffic LAN. Eight players is the maximum number sustained by a high-quality LAN and fast computers. It is possible that your LAN or computer configuration can only reliably support a maximum of four to six players.

• Bad LAN card. Some cards drop IPX packets even without heavy loads a outside interference. If you suspect the LAN card of causing problems, tr switching that computer's card with another card.

• Software conflicts. Other drivers that are running may cause problems with the network interrupts. These conflicts may not be apparent when p forming other LAN tasks that do not use IPX or that have a built-in layer error-checking and repeating. Try disabling other unneeded drivers in you CONFIG.SYS and AUTOEXEC.BAT to see if the problem goes away.

• Router problems. Playing the game between players on opposite sides a router can be a cause of lost packets and other delays. It is recommend that the game not be played in this fashion since it creates a system loa on the router that can disturb other users of the LAN. If you continue play the game with an unreliable network connection due to one of these problems, you are likely to see erratic behavior in the game even before error message is displayed.

NETWORK FEATURES

There are several features available to the network player that aren't use in a regular one-player game.

F6 Teammate ID Display - If enabled, this will show a teammate's name if or she is in your sights. Press F6 to toggle this feature on and off.

F7 Kill List - You can turn on and off the kill list shown near the bottom o your screen by pressing the F7 key. In Network Team games, this alter- nates the display between Player Kills, Team Kills, and no kill display. In cooperative games, the kill tally is replaced by score.

F8 Send Network Message - To send a message to other player(s) in the game, press F8 and type in your message [press Enter to send it]. If you begin the message with one or more characters followed by a colon (:), t message will be addressed only to pilots whose names match the chara ters. For instance, if you want to send a private message to Scourge, you would enter "Scourge: Your time is near!" If you entered "S: You're dead!" the message would be sent to any players whose name begins with the letter "S" (e.g., Scourge, Stan, Sue, etc.) If no match is found, the messag will not be sent. In Team Anarchy mode, addressing messages to "1:" or "2:" will send them only to Team 1 (BLUE) or Team 2 (RED), respectively.

Shift + F9 to Shift + F12 Record Taunt Macros - You can create pre-defined taunts for your opponents using the message macro keys. To define or redefine a macro, press Shift + F9 through Shift + F12, type in a message, and then press Enter to save it.

F9 to F12 Send Taunt Macros - To send a taunt macro, press one of the F9 through F12 keys. The macros are stored on a per-player basis so you only have to set them in your first game. Addressing messages to specific play- ers using the colon (:) is available in macros as well.

NETWORK PLAY RULES

Some special rules apply to Multiplayer Descent games:

• When you fire a secondary weapon in a multiplayer game, a new powerup of that type is created at random somewhere in the mine (this keeps the total number of secondary weapons in the game constant). If you see a weapon suddenly appear in front of your ship, consider yourself lucky! Replacement powerups are also created when the effects of an Invulnerability or Cloak powerup wear off. Concussion missiles are the only secondary weapon not replaced. This replenishment does not occur in cooperative games.

• When you bring up menus in multiplayer games, the action does not stop as it does in one-player games. While you're viewing a menu, your ship remains vulnerable to attack by other players. It's a good idea to find a quiet spot to hide in if you need to examine the Automap or reconfigure your controls. If you are attacked while in a menu or if the reactor is about to explode, the menu will automatically abort so you can deal with the problem.

• After you finish a level there may be a waiting period while other players are trying to escape from the mine. No player is allowed to enter the next mine until all have completed the current mine; this keeps players from gaining an unfair advantage of finding powerups in the new level. If you escape early in the countdown sequence, there may be up to a 60-second wait for other players to finish, plus time for them to fly through the escape tunnel and view the kill list. If you don't want to wait around for the other players to finish, you can leave the netgame by pressing Esc at this screen.

• Weapon powerups are single-use only in network games. This means if there is only one Fusion cannon in the mine and someone else has taken it, the only way to get it is to kill the person currently carrying it. When you kill another player, the weapons they are carrying are ejected as powerups for you to take.

DESCENT MODEM/SERIAL SUPPORT

Descent supports serial and modem play. All of the information relating t[o] network play also applies to modem and null-modem games, although th[e] procedure for starting new games is somewhat different since only two players are involved. This section describes the ways in which the serial version of the head-to-head game differs from the network game.
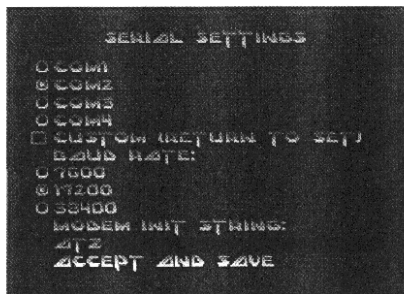
STARTING A GAME

All of the serial/modem options are available by selecting Multiplayer fro[m] Descent's Main menu, and then selecting Modem/Serial Game.

Before performing any func-
tions in the Serial Game menu,
both users should check their
COM settings to confirm that
they are correct for each
machine. Once the COM set-
tings are chosen, they are
saved for all future games.

```
SERIAL GAME
NOT CURRENTLY CONNECTED
DIAL MODEM...
ANSWER MODEM
ESTABLISH NULL-MODEM LINK
COM SETTINGS...
```

Note: If you're playing a game via a null-modem cable, both machines mu[st] have the same baud rate in the COM settings menu. Modem games do no[t] require the same baud rate.

```
SERIAL SETTINGS
O COM1
® COM2
O COM3
O COM4
☐ CUSTOM (RETURN TO SET)
  BAUD RATE:
O 9600
® 19200
O 38400
  MODEM INIT STRING:
  ATZ
  ACCEPT AND SAVE
```

The COM settings should be self-explanatory for those familiar with other serial programs. If your machine has a 16450 UART, you should select a baud rate of 9600 or 19.2K. The higher the baud rate, the better the game will perform in serial mode. If you have a 16550 UART, you can select the

38400 baud rate settings for optimum performance. This selection only sets the rate of communication between the computer and the modem if a modem is being used. Even though many modems do not sup-port actual baud rates

```
CUSTOM (RETURN TO SET):
BASE ADDRESS (IN HEX)
2F8
IRQ NUMBER
3
RESET TO DEFAULT
ACCEPT
```

higher than 14400, it is still better to choose a 38400 baud rate if your UART will support it. This lets the program spend less time communicating with the modem, thus improving the frame rate. If you're unsure of the type of UART your machine has, you can try selecting the 38400 baud rate option; the program will tell you if it does not detect a 16550 UART.

Descent requires a modem that is capable of at least 9600 baud with an error correction protocol (v.42 bis is preferable). Data compression is also helpful, and should be enabled in the modem. The modem should respond to a drop in the DTR control line by hanging up the modem. Fortunately, most modern modems have these settings as their factory defaults.

If you receive good performance at 9600 baud or above when using your modem for things like online services, no special initialization string should be necessary to run Descent (ATZ should work). If your modem is something more exotic, you may want to use the initialization string AT&F1 to reset the modem to factory defaults; this setting should work great with Descent.
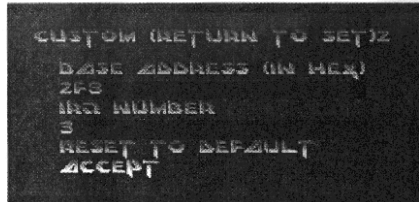
CONNECTING A SERIAL GAME

STEP 1

Starting a game of serial Descent is a two-stage procedure. First, a link must be established between two machines. There are two ways to esta lish this link: null-modem cable link or modem (and phone line). This is accomplished differently depending on whether you're using a null-moder cable or a modem. If you are establishing a null-modem game link, both players must select Establish Null-Modem Link from the Serial Game men After the two computers have established a connection over the null-mod cable, you will be returned to the menu and should have new options ava able to you. If the two machines fail to achieve a link, check the serial parameters on both sides. The baud rate settings must be identical on bo sides for them to communicate properly. After establishing the null-mode link, one machine is designated as the master and the other is the slave. This is not visible from the menu; when you start a game, only one of the two machines will prompt for the game settings to use.

If you're establishing a modem link, one person must select Dial Modem from the Serial Game menu and the other must select Answer Modem. Th easiest way to coordinate this is to decide before starting which side wi answer the modem; this person should select Answer Modem and wait u the phone rings. After the modems connect, you will be returned to the serial game menu and new options will be available to you.

STEP 2

The second phase of starting a modem/serial game is actually running th game. This option is only available after you have connected via modem null-modem. If you do not see the Start Game option on your menu, make sure your settings are correct and try again. The second line in the menu (highlighted in blue) helps to confirm whether or not you are connected. the line reads Not Currently Connected, you must select one of the three options (Establish Null-Modem, Dial or Answer) before you can start a gar

When selecting Start Game, one computer will wait for the other compute to start. The other computer will be offered a menu of game options such as Start Level and Game Mode. If a modem is being used, the person who dials is also the one who selects the parameters. In the case of serial games, the person who selects the parameters is randomly determined.

Once the parameters are set, both players will be placed in the mine and the game begins. After the game is finished or when one of the players decides to leave the game, both players are returned to the Serial Game menu. *Please note that the communication link is still active.* If you want to play another game - maybe with different settings or a different starting level - just select Start Game again. If you want to hang up the modem or release the null-modem connection, select Close Link.

DISCONNECTING A SERIAL GAME

Make sure you select Close Link or Exit The Serial Game Menu after you're done playing a modem game. If you don't, the modem connection will remain established with the other player (which could rack up quite a phone bill)!

MODEM GAME FEATURES

• You can send messages back and forth between players while connected You can do this by selecting Send Message from the Serial Game menu (this option is only available if a connection has been established). This is useful if you do not have an extra phone line for voice communications during play and you need to negotiate the terms of the game.

• Another feature is automatic notification of starting a game. If player A selects Start Game but player B doesn't, player B will be informed that player A is ready and will be given the option of starting. If player B is not ready to start, player A will be informed of this.

• A small phonebook is available from the Dial menu under the Serial Game menu. This lets you store the names and phone numbers of your eight most frequently called opponents. To edit the phonebook, go to the Dial menu and select Edit Phonebook.

MODEM PLAY TROUBLESHOOTING

• If your frame rate is lower in modem games than in standard games, t setting your baud rate higher in the COM setup menu. The lower the baud rate, the more time the computer spends writing data to the serial port, therefore the slower the game's frame rate. If possible, outfit your comp with an improved 16550 UART which will enable COM speeds of up to 384

• If your program hangs with the message Waiting for Opponent displaye this may indicate a failure in the serial link (errors caused by using too h a baud rate, interference with the null-modem cable, or uncorrected error in the modem connection). However, in many situations it is normal to pa for a long time at this screen. One case where this happens is after a le is completed. If one player exits the mine early in the countdown, the ga must wait until the other player has either escaped or has been killed before continuing. Since the countdown timer is up to 40 seconds and th sequence of flying through the escape tunnel can take several more sec onds, a wait of 60 seconds or more at this screen between levels is not sign of problems. On the other hand, waiting for the opponent at the start a new modem game or establishing a connection should be brief - a wait more than 10 seconds is a sign of problems.

• If you are getting numerous errors in the serial connection, the progran will inform you with an onscreen dialog box. This is a warning to you tha you are probably driving the serial hardware in your computer at too fast rate. If you continue without reducing the baud rate, there is a chance important communications between the two players will be lost and the game will behave erratically. Try reducing the baud rate in the COM setup menu or adding an improved UART to your computer.

The following DOS command line options can be used when loading Descent. Type the command line after DESCENT and then press Enter to start the game (e.g., DESCENT -CyberMaxx).

-CyberMaxx	Enables CyberMaxx helmet display
-MaxxTrak <n>	Enables CyberMaxx head tracking via COM port n
-VFX	Enables VFX helmet support
-VFXTrak	Trak Enables VFX head tracking (VFX1.COM must be resident)
-VFXMono	Enables monoscopic rendering for VFX helmet
-Volume <v>	Sets sound volume to v, where v is a value between 0 and 100
-Socket <n>	Changes IPX socket for network games; n is a value
-LowMem	Lowers animation detail for better performance with low memory machines
-Verbose	Shows initialization steps for technical support
-NoSound	Disables sound drivers
-NoMemCheck	Disables memory requirement checking
-NoLoadPats	Disables patch loading for Gravis UltraSound
-NoNetwork	Disables network drivers
-NoSerial	Disables serial drivers
-NoJoystick	Disables joystick support
-NoMouse	Disables mouse support
-NoDosCheck	Ignores results of Dos version check. May be needed for DR DOS users
-NoMusic	Disables music; sound effects remain enabled
-NoCyberman	Disables Cyberman support

QUESTIONS & ANSWERS

Regardless of your computer configuration, you should have no troubles [running] Descent. Just in case you do have some issues, here are some tips

GENERAL PROBLEMS

Q: I have a Gateway 2000 P75. The colors in Descent are completely screwed up. What do I do?

A: Do a hard reboot of your computer and go into your Bios Setup. Find th[e] "VGA Palette Snoop" option and disable it. This should fix the problem.

Q: Descent runs slowly on my machine, especially in large battles. What can I do?

A: Try putting your detail level on a lower setting. Also try using F3 and [F4] to change the size of the game window. Also, lowering the number of av[ail]able sound channels through the Options/Detail/Custom menus can help [sig]nificantly in large battles.

Q: I have a small game window and a low detail level, but Descent still loads and runs slowly. What can I do?

A: Check your sound card settings by running the Descent Setup program Incorrect settings can cause significant slowing. To access the Setup pro[gram, go to the GAMES\DESCENT subdirectory, type SETUP and press Enter.

Q: Why do the walls in my game seem to jump around in the distance? W[hy] do I get a colored wall in the middle of my tunnels?

A: This can happen when the Detail Level is set below the highest setting

Q: My computer has 4 MB of RAM. How do I speed up the game and redu[ce] the hard drive access time?

A: If you have less than 8 MB of RAM, try running a disk cache (even as small as 256k). This can help immensely. Also, load the game by typing DESCENT -lowmem so you trade off animation detail for speed. You might consider purchasing a memory upgrade; every meg of RAM you add will increase performance.

Q: Why does Descent lock up when I run it?

A: It could be a sound card problem. Load the program by typing "DESCENT -nosound". Run the Setup program and make sure your card settings are correct. If you don't hear digital sounds or music when you [test] them in Setup, try the Auto Detect Sound Hardware option. If this doesn't help, refer to your sound card manual for troubleshooting instructions or [Interplay's Technical Support]

Q: Why does my computer lock up during setup when autodetecting for a sound card?

A: Due to hardware conflicts, autodetecting for sound cards is a risky process. If you know the brand, port address, IRQ and DMA of your sound card(s), you should manually configure these items. Lockups are also common when autodetection is used but no sound cards are installed.

Q: Why don't I hear anything when I test my sound in setup?

A: There are several possibilities. You may have the wrong sound card selected. You may have selected the incorrect port, IRQ or DMA settings. The volume may be set too low in your sound drivers (or the volume slider on the back of your sound card). Hardware conflicts or loose cables may also be to blame.

Q: Why does the introduction music stop when I reach the Main menu?

A: You probably have your Music Volume slider set too low in the Options menu. All Options settings are stored in your pilot file; when the game identifies your pilot name, it lowers the volume to a level you may have customized.

Q: Why doesn't my joystick respond to the game?

A: Be sure you have Joystick selected in the Options/Controls menu, and make sure the joystick is calibrated. If your joystick connects to your sound card, make sure the joystick port jumper is enabled on the card. Some soundcards have this disabled by default.

Q: Hey! Why did some of my powerups disappear?

A: Certain powerups will remove themselves from the game if they have been around four or five minutes. This only happens to Concussion missiles, Energy powerups and Shield powerups dropped by a dead player.

Q: Why does Descent act strangely when I run it under Windows?

A: Although Descent may run under Windows, it isn't recommended. You will probably get odd behavior and slowdowns due to timer conflicts. Gravis Ultrasound users may get no sound at all under Windows.

Q: I have a Thrustmaster WCS hooked up with a joystick. When I use the stick to fly and the A and Z keys to move forward and backward, I start flying out of control. Why?

A: Because these devices intercept the keyboard signals, your ship may fly strangely when you also hold down keyboard keys (like A and Z). If you keep the WCS or FLCS on your system, it's recommended that you use th devices for throttle control and sliding, not the keyboard.

MODEM/SERIAL PROBLEMS

Q: Why does my game freeze during a modem/serial game and give me t message "Waiting for opponent"?

A: This screen will appear if you've died in or escaped from an exploding mine. If the other player is still flying there can be up to a 60 second del However, if your game sits at this screen much longer, chances are something is wrong. Likely culprits: opponent is having technical difficulti interference with unshielded serial cables, loose cables, baud rate set to high, or uncorrected errors in the modem transmission.

Q: Why are my modem games a lot slower than my normal one-player gam

A: Try using a higher baud rate in the COM Settings menu. If your comput does not have a 16550 UART, you should consider getting one so you can up to 38400 baud when communicating with the modem. See the "Modem/Serial Game Setup" section for details.

NETWORK PROBLEMS

Q: What do I do if I'm getting an error message stating that my IPX driver are not loaded properly?

A: First, make sure you have a reasonable amount of low memory availab Although Descent uses a DOS extender to avoid low-memory hassles, son low memory is still needed for network buffers. If this fails, make sure y IPX.COM and other network drivers are loaded properly. A good way to te this is to log on to a network server, if one is available.

Q: Why does my network game seem slow and unreliable?

A: Try using a different socket number. It's possible that some other appli cation on your computer uses socket 5100h, which prevents Descent fro opening a proper network connection. Try large values for the -socket op (like 32 or 100). Remember, your opponents will need to use the same socket you do.

Q: What does it mean when Descent tells me my network card is missing packets?

A: This can be a result of a slow network card, heavy traffic on the network, or software conflicts in your system. If you get this message, you can rejoin the game and try again. If the problem persists, one of the following could be to blame:

 • **Loose cables.** Happens to the best of us. Check the plugs on the back of your computer, specifically the ones running to and from your network card.

 • **Too many players.** While eight players is offered as the maximum in Descent, it's possible that your LAN or computer configuration can only support four to six players reliably.

 • **Bad network card.** Some cards drop IPX packets even without heavy loads or interference. If you suspect your LAN card, try swapping it with one from another computer.

 • **Software conflicts.** Other drivers may be running that cause problems with the network interrupts. These conflicts may not emerge when performing other LAN tasks that either don't use IPX or have layers of error-checking. Try removing unneeded drivers from your CONFIG.SYS and AUTOEXEC.BAT.

 • **Router problems.** Playing Descent with players on different sides of a router may cause lost packets or delays. Playing this way is not recommended because it creates a significant load on the router that may disturb other LAN users.

Q: I tried everything to resolve my problem but I'm still stuck! Now what do I do?

A: Don't panic. Read through the Customer Support section on page 39. Interplay's Customer Support department is happy to help with any problems you may have.

You may also find additional troubleshooting answers in the readme.txt file.

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