1680 - $95E4	4270 - $B41B	2320 - $DC24	4910 - $7699
1690 - $17C5	4280 - $A090	2330 - $D2D3	4920 - $73D1
1700 - $7377	4290 - $500C	2340 - $C107	4930 - $14AB
1710 - $61C4	4300 - $33AD	2350 - $8495	4940 - $A5B1
1720 - $1786	4310 - $F520	2360 - $4739	4950 - $CCDD
1730 - $17BB	4320 - $1218	2370 - $F0E4	4960 - $8C9E
1740 - $E92D	4330 - $C31E	2380 - $F67C	4970 - $229D
1750 - $6B50	4340 - $A50D	2390 - $2D6E	4980 - $C178
1760 - $23E0	4350 - $3F23	2400 - $9A65	4990 - $211B
1770 - $4DBA	4360 - $000A	2410 - $FFC2	5000 - $EBD7
1780 - $DBEC	4370 - $0C1D	2420 - $5459	5010 - $BEBA
1790 - $0932	4380 - $CFEE	2430 - $CD83	5020 - $E73E
1800 - $6904	4390 - $2373	2440 - $4BCF	5030 - $8837
1810 - $1A9C	4400 - $AA65	2450 - $7ADB	5040 - $6287
1820 - $578E	4410 - $F8DB	2460 - $1E27	5050 - $3961
1830 - $F0D0	4420 - $25A6	2470 - $54AC	5060 - $A979
1840 - $E36B	4430 - $FA9E	2480 - $7861	5070 - $05A2
1850 - $557E	4440 - $0F88	2490 - $52B9	5080 - $7AC0
1860 - $1343	4450 - $C01E	2500 - $6377	5090 - $45C6
1870 - $DAC6	4460 - $194F	2510 - $B04C	5100 - $698B
1880 - $5F05	4470 - $F3F8	2520 - $DF80	5110 - $7C48
1890 - $8C66	4480 - $2C89	2530 - $B0F3	5120 - $75A3
1900 - $DF1D	4490 - $4CAA	2540 - $393D	5130 - $612B
1910 - $46B3	4500 - $BCD5	2550 - $728E	5140 - $1C31
1920 - $AD94	4510 - $2311	2560 - $7F93	5150 - $3D05
1930 - $5F62	4520 - $2057	2570 - $CF90	5160 - $0EF9
1940 - $1349	4530 - $114D	2580 - $F13B	5170 - $AC7A
1950 - $A288	4540 - $2CCF	2590 - $CF8F	5180 - $A6FD
1960 - $A676	4550 - $96F0	2600 - $4737	5190 - $C931
1970 - $B216	4560 - $0BE0	2610 - $8DDA	5200 - $01E8
1980 - $985D	4570 - $ED64	2620 - $79A8	5210 - $2319
1990 - $04ED	4580 - $B5C1	2630 - $BF53	5220 - $668D
2000 - $71B5	4590 - $9090	2640 - $2E93	5230 - $7154
2010 - $4787	4600 - $70B8	2650 - $F230	5240 - $B53A
2020 - $3DDE	4610 - $14E1	2660 - $D801	5250 - $B9F6
2030 - $07ED	4620 - $96CA	2670 - $70E7	5260 - $EA9C
2040 - $43D9	4630 - $B596	2680 - $A140	
2050 - $2BCF	4640 - $59AD		
2060 - $DB7A	4650 - $3577		
2070 - $FB7D	4660 - $A138		
2080 - $2393	4670 - $B7FD		
2090 - $2EC6	4680 - $1B58		
2100 - $5F15	4690 - $8916		
2110 - $50C1	4700 - $0DA2		
2120 - $45E8	4710 - $CD46		
2130 - $C4B0	4720 - $B950		
2140 - $03E5	4730 - $13BA		
2150 - $D319	4740 - $462B		
2160 - $034F	4750 - $1098		
2170 - $B54B	4760 - $C463		
2180 - $404B	4770 - $911A		
2190 - $8F61	4780 - $D687		
2200 - $5C7C	4790 - $188A		
2210 - $F9BB	4800 - $D070		
2220 - $5193	4810 - $3995		
2230 - $06F3	4820 - $FC4D		
2240 - $2B97	4830 - $8876		
2250 - $7772	4840 - $002A		
2260 - $777B	4850 - $425F		
2270 - $101E	4860 - $C76E		
2280 - $13E5	4870 - $8840		
2290 - $0365	4880 - $05EF		
2300 - $500C	4890 - $D4F8		
2310 - $BE67	4900 - $122F		

Charles Taylor

Softkey for...

Seaspeller
Fisher-Price Learning Software

■ **Requirements**

☐ Super IOB
☐ A blank disk

Examining this disk with the utilities from Copy II Plus quickly revealed the copy protection scheme used. While in the nibble editor I found that the address prologues alternated from D5 AA 96 on even-numbered tracks to D4 AA 96 on odd-numbered tracks. This is a common protection scheme, and is easily beaten by the Dragonworld controller (from COMPUTIST #30) with Super IOB.

[1] Install the controller below into Super IOB.

[2] RUN Super IOB and copy the Seaspeller disk to a blank disk, formatting if necessary.

Controller

```
1000 REM SEASPELLER CONTROLLER
1010 TK = 0:ST = 0:LT = 35:CD = WR
1020 POKE 47507,0: POKE 47517,0
1030 T1 = TK: GOSUB 490
1040 POKE 47445,213
1050 IF TK < > ( INT (TK / 2)) * 2 THEN POKE
     47445,212
1060 GOSUB 430: GOSUB 100:ST = ST + 1: IF ST < DOS
     THEN 1060
1070 IF BF THEN 1090
1080 ST = 0:TK = TK + 1: IF TK < LT THEN 1040
1090 GOSUB 490: POKE 47445,213:TK = T1:ST = 0
1100 GOSUB 430: GOSUB 100:ST = ST + 1: IF ST < DOS
     THEN 1100
1110 ST = 0:TK = TK + 1: IF BF = 0 AND TK < LT THEN
     1100
1120 IF TK < LT THEN 1030
1130 POKE 47507,174: POKE 47517,164: POKE
     47445,213
1140 HOME : PRINT : PRINT "DONE." : END
```

Checksums

1000 - $356B	1080 - $0507	
1010 - $3266	1090 - $A256	
1020 - $5917	1100 - $9356	
1030 - $0A12	1110 - $F70D	
1040 - $AFB3	1120 - $9811	
1050 - $26A1	1130 - $BC98	
1060 - $29A5	1140 - $4064	
1070 - $077B		

Jason Cobb

Ultima IV: Tips & APTs

I successfully completed Ultima IV about one year ago and decided to let COMPUTIST readers know how to complete the game. Here is some information that plays an important part in solving a great game.

Party Members

The party members of the game are in their very own class and there are 8 of them. Try to build a party fast, if you want to survive. Here are the names of the ones that can become members, and where they can be found.

NAME	RACE	TOWNE
Iolo	Bard	Britian
Shamino	Ranger	Skara Brae
Dupre	Paladin	Trinsic
Mariah	Mage	Moonglow

Guide

Virtue	Mantra	Vision Granted	Stone Color
Honesty	AHM	I	Blue
Compassion	MU	N	Yellow
Valor	RA	F	Red
Justice	BEH	I	Green
Sacrafice	CAH	N	Orange
Honor	SUMM	I	Purple
Spirituality	OM	T	White
Humility*	LUM	Y	Black

*Before trying to go into this one, be sure to Use the silver horn every time you take a step closer to it, or you will be attacked by endless hords of daemons.

Rune, Stone & Shrine Locations

The following is a list of Rune locations, Shrine locations & Stone locations.

	Rune	Shrine	Stone
Honesty	NW corner(gold)	Lat E'C/Long O'J	Dungeon Deceit
Compassion	End of long hall	E Britian 2 bridge	Dungeon Despise
Valor	SE tower	Island near Jhelom	Dungeon Destard
Justice	N part of prison	N & E from Yew	Dungeon Wrong
Sacrifice	Iron forge	E across 2 bridges	Dungeon Covetous
Honor	SW corner of towne	S & W from towne	Dungeon Shame
Spirituality	Lord B. Treasure Rm	Minoc Moongate	Serpent Spine
Humility	SE corner Paws	on Island of Abyss	Moonglow Mn Gate

Principles

Here are the principles of the 8 virtues of the Avatar:

Honesty . . . . . . Truth
Compassion . . . . Love
Valor . . . . Courage
Justice . . . . Truth & Love
Sacrafice . . . . . . Love & Courage
Honor . . . . Truth & Courage
Spirituality . . . . . Truth & Love & Courage
Humility . . . . . . Solely from Truth Love & Courage

To Enter Codex & Abyss

• Must be 8 part Avatar.
• Must have the key of three parts.
• Must have the Bell, Book, Candle, & Skull.
• Must have all of the 8 possible stones.
• Must know the word of passage (VERAMOCOR).
• Must know the pure Axiom (INFINITY).

Word:

truth	Lycaeum	ver
love	Empath Abbey	amo
Courage	Serpent Castle	cor

To Enter Abyss:

• Must have a ship with wheel of the HMS Cape.
• Must then (use) the Bell, Book, & Candle.
• Must toss the Skull into the Abyss.

The Great Stygian Abyss

Go only with a party of eight or you cannot enter the final chamber. When you go down, the levels are very tricky and it is easy to get stuck on level 6, I believe. It should take at least 3-4 hours to get through it so be prepared to be on it a while.

To pass through the levels you will need to (U)se a stone and then answer the questions which are asked.

Level 1	Honesty	Blue
Level 2	Compassion	Yellow
Level 3	Valor	Red
Level 4	Justice	Green
Level 5	Sacrafice	orange
Level 6	Honor	Purple
Level 7	Spirituality	White
Level 8	Humility	Black

The following questions must be typed in correctly. One wrong answer and the game teleports you back to the entrance to the Abyss to start all over again, which is a big pain, since it happened to me about 4 times before I got it right.

● Word of Passage: Veramocor
• Honesty
• Compassion
• Valor
• Justice
• Sacrafice
• Honor
• Spirituality
• Humility
• Truth
• Love
• Courage
● Pure Axiom: Infinity

I would like to thank Matt Ownby, COMPUTIST #49, for inspiring me to take the time to write almost all I know about Ultima IV.

If you have any more questions about the game, Origin Systems, Inc. publishes a book that has the maps and some very valuable information on completing the game. You can also write me a letter in RDEX, and I should be able to answer it for you.

Ultima IV Sector Editing Tips

■ Requirements

☐ Sector editor
☐ *Ultima IV* side C

Ultima IV is a relatively easy game to start on, because if (when) you die Lord British will resurrect you, and it usually doesn't cost much. It is however a fairly large place so it's easy to get lost.

I found my characters easily. One reason was that on side C there is a file named ROST

(short for roster?). I found where it was on the disk (track $14, sector's $02-04) then searched for a name with a sector editor. I changed different things to see what would happen.

I organized all that I found into easy to use tables. Table I lists exactly what everything does for every character. Table II lists the weapons you can put on the characters. Table III lists the armour you can use. Table IV lists the changes needed to become an Avatar. Table V lists how to get the party items.

Table I - (track $11, sector $04)

Byte	Description
$04-12	Name 1
$17	Strength
$18	Dexterity
$19	Intellect
$1A	Magic points
$1C	Hit points (1st Number)
$1D	Hit points (2nd & 3rd Numbers)
$1E	Level & 1st Number of Hit Points out of
$1F	2nd and 3rd number of Hit Points out of
$20	Experience 1st 2 numbers
$21	Experience 2nd 2 numbers
$22	Weapon equipped with (see Table II)
$23	Armour equipped with (see Table III)
$24-32	Name 2
$37	Strength
$38	Dexterity
$39	Intellect
$3A	Magic Points
$3C	Hit points (1st Number)
$3D	Hit points (2nd & 3rd Numbers)
$3E	Level & 1st Number of Hit Points out of
$3F	2nd and 3rd Number of Hit Points out of
$40	Experience 1st 2 numbers
$41	Experience 2nd 2 numbers
$42	Weapon equipped with (see Table II)
$43	Armour equippes with (see Table III)
$44-52	Name 3
$57	Strength
$58	Dexterity
$59	Intellect
$5A	Magic Points
$5C	Hit points (1st Number)
$5D	Hit points (2nd & 3rd Numbers)
$5E	Level & 1st Number of Hit Points out of
$5F	2nd and 3rd Number of Hit Points out of
$60	Experience 1st 2 numbers
$61	Experience 2nd 2 numbers
$62	Weapon equipped with (see Table II)
$63	Weapon equipped with (see Table III)
$64-72	Name 4
$77	Strength
$78	Dexterity
$79	Intellect
$7A	Magic Points
$7C	Hit Points (1st Number)
$7D	Hit Points (2nd & 3rd Numbers)
$7E	Level & 1st Number of Hit Points out of
$7F	2nd and 3rd Number of Hit Points out of
$80	Experience 1st 2 numbers

Guide

Virtue	Mantra	Vision Granted	Stone Color
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$7D	Hit Points (2nd & 3rd Numbers)
$7E	Level & 1st Number of Hit Points out of
$7F	2nd and 3rd Number of Hit Points out of
$80	Experience 1st 2 numbers