

```

0901      *      D&D FOR BALLY
0002 4FF4      ENDS CR EQU 4FF4H
0003 4F06      STACK EQU 4F06H
0004 4000      SCREEN EQU 4000H
0005 4F8F      STR EQU 4F8FH
0006 4F90      INT EQU STR+1
0007 4F91      WIS EQU STR+2
0008 4F92      CON EQU STR+3
0009 4F93      DEX EQU STR+4
0010 4F94      CHA EQU STR+5
0011 4F95      TYP EQU STR+6
0012 4F96      RACE EQU STR+7
0013 4F97      NUMWP EQU STR+8
0014 4F98      ROOM EQU STR+9
0015 4F99      DOOR EQU STR+10
0016 4F9A      WALLS EQU STR+11
0017 4F9B      RELX EQU STR+12
0018 4F9C      RELY EQU STR+13
0019 4F9D      RGLFCO EQU STR+14
0020 4F9F      WPNOW EQU STR+16
0021 2000      DRG 2000H
0022 2000 55      DB 55H
0023 2001 1802      DA 218H
0024 2003 ED25      DA FAWN,BEGIN
      2005 1320
0025 2007 CD7B22      RST8 CALL NXTLN
0026 200A C38222      RST10 JMP CHR3
0027 200D C3F924      RST18 JMP LFNUM1
0028 2010 C38D22      RST20 JMP NUM2
0029 2013 FF      BEGIN RST 7 =38H
0030 2014 4D      DB 4DH GET PARAMETER
0031 2015 FA25      DA NUMHIT NUMBER OF HITS
0032 2017 82      DB 82H OSUPPRESSION 2 DIGITS
0033 2018 F44F      DA ENDS CR
0034 201A 31064F      LXI SP,STACK
0035 201D FF      RST 7 38H
0036 201E 00      DB 0 BEGIN INTERPRETING
0037 201F 19      DB 19H COLSET
0038 2020 0626      DA COLORS GRN,WH,CY,MA,GRA,FL,RD,BLU
0039 2022 1B      DB 1BH FILL
0040 2023 064F      DA STACK
0041 2025 D600      DA :0D6H STACK-STACK+D6
0042 2027 00      DB 0 WITH 0'S
0043 2028 17      DB 17H SET OUTPUT PORTS
0044 2029 B8      DB 0B8H VERT. BLANKING PORT A
0045 202A 14      DB 14H HORIZ. CENTER PORT 9 BITS 6&7=BC
0046 202B 08      DB 8 INMODE PORT E DISABLE
0047 202C 5F      DB 5FH MOVE BLOCK
0048 202D DA4F      DA 4FDAH
0049 202F 0C00      DA 12
U 0050 2031 3082 47 24      DA SIMIT
0051 2033 02      DB 2 EXIT INTERPRETER
0052 2034 218F4F      LXI H,STR BEGIN WITH STRENGTH

```

PG 7, 9, 11

```

0053 2037 0606          MYI B,6          6 ROLL-UPS
0054 2039 FF          ROLOOP RST 7          38H LOOP BEG.
0055 203A 77          DB 77H          RANDUM NO.
0056 203B 00          DB 0           8 BITS
0057 203C 32984F      STA ROOM          INITIAL ROOM =
0058 203F E60F          ANI 0FH          0-15
0059 2041 C603          ADI 3            3-18
0060 2043 FE0A          CPI 10
0061 2045 3804          JRC LSTH10      LESS THAN 10?
0062 2047 DE0A          SBI 10
0063 2049 F610          ORI 16
0064 204B 77          LSTH10 MOV M,A          BCD NO.->ATTRIBUTE
0065 204C 23          INX H           NEXT ATTR.
0066 204D 10EA          DJNZ ROLOOP     FINISHED?
0067 204F FF          RST 7          38H ROLL CHA. TYPE
0068 2050 77          DB 77H          RANDUM 0=FIGHTER 1=MU 2=CLERIC 3=THIEF
0069 2051 04          DB 4            0-3
0070 2052 77          MOV M,A        SAVE IN CHAR.TYPE
0071 2053 218F4F      LXI H,STR      MODIFY PRIME REQUISITE
0072 2056 B7          DRA A
0073 2057 280A          JRZ ENMOD
0074 2059 23          INX H          INTELLIGENCE
0075 205A 3D          DCR A
0076 205B 2806          JRZ ENMOD
0077 205D 23          INX H          WISDOM
0078 205E 3D          DCR A
0079 205F 2802          JRZ ENMOD
0080 2061 23          INX H          BYPASS CON
0081 2062 23          INX H          DEXTERITY
0082 2063 3618          ENMOD MYI M,18H  MODIFY PRIME
0083 2065 FF          RST 7          38H RACE
0084 2066 77          DB 77H          RANDUM 0=HUMAN 1=ELF 2=HAFLING 3=DWARF
0085 2067 04          DB 4            0-3
0086 2068 32964F      STA RACE
0087 206B AF          XRA A          INITIALIZE ENTRY DOOR
0088 206C 32994F      STA DOOR
0089 206F 3E9B          MYI A,155
0090 2071 329B4F      STA RELX          RELATIVE X POS. IN DOOR
0091 2074 3E2E          MYI A,46
0092 2076 329C4F      STA RELY          REL. Y IN DOOR
0093 2079 F3          STRND DI        NEW ROOM
0094 207A FF          RST 7          38H
0095 207B 1B          DB 1BH         FILL
0096 207C 0040          DA SCREEN
0097 207E 880E          DA 0E88H        4000->4E88
0098 2080 00          DB 0           WITH 0'S
0099 2081 110325      LXI D,RACES
0100 2084 3A964F      LDA RACE
0101 2087 67          MOV H,A
0102 2088 84          ADD H
0103 2089 84          ADD H
0104 208A 2600          MYI H,0         GET RACE IN ASCII
0105 208C 6F          MOV L,A

```

0106 208D 19	DAD D	DEPTH + BASE ADDRESS
0107 208E 110000	LXI D,0	0->D->E
0108 2091 CD8222	CALL CHR3	DISP.3 CHAR.
0109 2094 1E20	MVI E,32	X POS. ON SCREEN
0110 2096 214125	LXI H,WEAP	WEAPON TYPES
0111 2099 0604	MVI B,4	
0112 209B CD8422	CALL CHAR	
0113 209E 210F25	LXI H,TRAITS	DISPLAY STRENGTH
0114 20A1 CF	RST 1	=8H
0115 20A2 E5	PUSH H	
0116 20A3 218F4F	LXI H,STR	
0117 20A6 E7	RST 4	=20H
0118 20A7 E1	POP H	DISPLAY INTELLIGENCE
0119 20A8 D7	RST 2	=10H
0120 20A9 E5	PUSH H	
0121 20AA 21904F	LXI H,INT	
0122 20AD E7	RST 4	=20H
0123 20AE E1	POP H	WISDOM
0124 20AF CF	RST 1	=8H
0125 20B0 E5	PUSH H	
0126 20B1 21914F	LXI H,WIS	
0127 20B4 E7	RST 4	=20H
0128 20B5 E1	POP H	CONSTITUTION
0129 20B6 D7	RST 2	=10H
0130 20B7 E5	PUSH H	
0131 20B8 21924F	LXI H,COM	
0132 20BB E7	RST 4	=20H
0133 20BC E1	POP H	DEXTERITY
0134 20BD CF	RST 1	=8H
0135 20BE E5	PUSH H	
0136 20BF 21934F	LXI H,DEX	
0137 20C2 E7	RST 4	=20H
0138 20C3 E1	POP H	CHARISMA
0139 20C4 D7	RST 2	=10H
0140 20C5 21944F	LXI H,CHA	
0141 20C8 E7	RST 4	=20H
0142 20C9 CD7B22	CALL NXTLM	DISPLAY CHAR. TYPE
0143 20CC 3A954F	LDA TYP	
0144 20CF 17	RAL	
0145 20D0 17	RAL	
0146 20D1 17	RAL	
0147 20D2 6F	MOV L,A	
0148 20D3 2600	MVI H,0	
0149 20D5 E5	PUSH H	SAVE TYPE TIMES 8
0150 20D6 012125	LXI B,TYPE	
0151 20D9 09	DAD B	ADDRESS OF ASCII
0152 20DA 0608	MVI B,8	
0153 20DC CD8422	CALL CHAR	
0154	HL HAS TYPE*8	
0155	DISPLAY CHAR. WEAPONS	
0156 20DF E1	POP H	
0157 20E0 014525	LXI B,AMMD1	
0158 20E3 09	DAD B	DEPTH TO WEAPONS+BASE

```

0159 20E4 E5          PUSH H
0160 20E5 3E01        MVI A,1
0161 20E7 21974F      LXI H,NUMWP
0162 20EA 77          MOV M,A
0163 20EB DF          RST 3 18H
0164 20EC E1          POP H          WEAPON1
0165 20ED 0604        MVI B,4
0166 20EF CD8422      CALL CHAR
0167 20F2 E5          PUSH H
0168 20F3 21974F      LXI H,NUMWP
0169 20F6 34          INR M
0170 20F7 CD8422      CALL ONEBCD    WEAPON2
0171 20FA E1          POP H
0172 20FB 0604        MVI B,4
0173 20FD CD8422      CALL CHAR
0174 2100 21974F      LXI H,NUMWP    WEAPON3
0175 2103 34          INR M
0176 2104 DF          RST 3 18H
0177 2105 216525      LXI H,AMMO2    COMMON WEAPONS
0178 2108 0604        MVI B,4
0179 210A CD8422      CALL CHAR
0180 210D E5          PUSH H
0181 210E 21974F      LXI H,NUMWP    WEAPON4
0182 2111 34          INR M
0183 2112 CD8422      CALL ONEBCD
0184 2115 E1          POP H
0185 2116 0604        MVI B,4
0186 2118 CD8422      CALL CHAR
0187                ◆ NUMBER OF HITS DISPLAY
0188 211B CD7B22      CALL NXTLN
0189 211E 0604        MVI B,4
0190 2120 210126      LXI H,NUMHIT+7
0191 2123 CD8422      CALL CHAR
0192 2126 1E30        MVI E,48
0193 2128 21F44F      LXI H,ENDSCR
0194 212B E7          RST 4 =20H
0195                ◆ INSTALL ANY WALLS
0196 212C 3A984F      LDA ROOM
0197 212F 4F          MOV C,A
0198 2130 216D25      LXI H,DOORTB
0199 2133 FF          RST-7 38H
0200 2134 56          DB 56H          GET A NIBBLE
0201 2135 32994F      STA DOOR
0202 2138 CB5F        BIT 3,A
0203 213A 2009        JRNZ TSTLFT
0204 213C F5          BOTTOM PUSH PSW
0205 213D FF          RST 7 38H
0206 213E 1D          DB 1DH          RECTANGLE
0207 213F 50          DB 80          X COORDINATE
0208 2140 57          DB 87          Y "
0209 2141 50          DB 80          X SIZE
0210 2142 05          DB 5           Y SIZE
0211 2143 AA          DB 0AAH        COLOR MASK COLOR = 2
    
```

```

0212 2144 F1                POP PSW
0213 2145 CB57             TSTLFT BIT 2,A
0214 2147 2009             JRNZ TSTTOP
0215 2149 F5               LEFT  PUSH PSW
0216 214A FF               RST 7 38H
0217 214B 1D               DB 1DH
0218 214C 50               DB 80
0219 214D 00               DB 0
0220 214E 05               DB 5
0221 214F 5D               DB 93
0222 2150 AA               DB 0AAH
0223 2151 F1                POP PSW
0224 2152 CB4F             TSTTOP BIT 1,A
0225 2154 2009             JRNZ TSTRGT
0226 2156 F5               TOP   PUSH PSW
0227 2157 FF               RST 7 38H
0228 2158 1D               DB 1DH    RECTANGLE
0229 2159 50               DB 80
0230 215A 00               DB 0
0231 215B 50               DB 80
0232 215C 05               DB 5
0233 215D AA               DB 0AAH
0234 215E F1                POP PSW
0235 215F CB47             TSTRGT BIT 0,A
0236 2161 2007             JRNZ TSTFIN
0237 2163 FF               RIGHT RST 7 38H
0238 2164 1D               DB 1DH
0239 2165 9A               DB 154
0240 2166 00               DB 0
0241 2167 05               DB 5
0242 2168 5D               DB 93
0243 2169 AA               DB 0AAH
0244 216A 3E4F             TSTFIN MYI A,4FH
0245 216C 32144F           STA 4F14H    WRITE QUEUE HEADER + 2
0246 216F 32174F           STA 4F17H    WRITE VECTOR HEADER+2
0247 2172 21154F           LXI H,4F15H  VECT
0248 2175 CD1722           CALL ENTRRM  COWBOY ENTER
0249 2178 3E27             MYI A,27H    HIGHER ORDER INTERRUPT VECTOR
0250 217A ED47             DA 47EDH    LDIA
0251 217C 3EFC           MYI A,0FCH   LOWER ORDER INTERRUPT VECTOR
0252 217E D30D           OUT DDH
0253 2180 FF               RST 7 =38H  PAUSE FOR 1.67 SEC. WHILE
0254 2181 51               DB 51H      COWBOY WALKS OUT
0255 2182 64               DB 100
0256 2183 FF               LOOP  RST 7 =38H  MAIN LOOP
0257 2184 00               DB 0
0258 2185 43               DB 43H      INTERPRET; ENABLE ALL KEYS
0259 2186 1402           DA 214H      KEY MASK
0260 2188 45               DB 45H      DOIT
0261 2189 9422           DA D0ITAB
0262 218B 02               DB 2        EXIT INTERPRETER
0263                       *   CHECK FOR WALLS
0264 218C DDCB0766        BITX 4,7     CHECK LIMIT OBTAINED
    
```

0265	2190	C29A21		JNZ	BONK	
0266	2193	DDCB0C66		BITX	4,12	
0267	2197	CA8321		JZ	LOOP	
0268				HIT	A WALL OR DOOR; WHICH ONE?	
0269	219A	DDCB07A6	BONK	DB	ODDH,OCBH,7,0A6H	RESX 4,7
	219E					
0270	219E	DDCB0CA6		DB	ODDH,OCBH,12,0A6H	RESX 4,12
	21A2					
0271	21A2	DD21614F		LXIX	4F61H	
0272	21A6	DD5E06		LDRX	E,6	X-POS.
0273	21A9	DD560B		LDRX	D,11	Y-POS.
0274	21AC	3A994F		LDA	DOOR	DOOR NIBBLE
0275	21AF	4F		MOV	C,A	
0276	21B0	3E50		MYI	A,80	LEFT WALL?
0277	21B2	BB		CMP	E	
0278	21B3	2018		JRNZ	NLFTWL	
0279	21B5	CB51	<i>LEFTWALL</i>	BIT	2,C	
0280	21B7	CA8321		JZ	LOOP	HIT WALL
0281	21BA	3A984F		LDA	ROOM	NEXT ROOM
0282	21BD	3C		INR	A	
0283	21BE	32984F		STA	ROOM	
0284	21C1	1E9B		MYI	E,155	
0285	21C3	F3	STRNPS	DI		
0286	21C4	219B4F		LXI	H,RELX	
0287	21C7	73		MOV	M,E	
0288	21C8	23		INX	H	RELY
0289	21C9	72		MOV	M,D	
0290	21CA	C37920		JMP	STRND	
0291	21CD	3E9F	NLFTWL	MYI	A,159	
0292	21CF	BB		CMP	E	
0293	21D0	2011	<i>RIGHTWALL</i>	JRNZ	NRGWL	
0294	21D2	CB41		BIT	0,C	
0295	21D4	CA8321		JZ	LOOP	
0296	21D7	3A984F		LDA	ROOM	
0297	21DA	3D		DCR	A	
0298	21DB	32984F		STA	ROOM	
0299	21DE	1E54		MYI	E,84	
0300	21E0	C3C321		JMP	STRNPS	
0301	21E3	AF	NRGWL	XRA	A	
0302	21E4	BA		CMP	D	
0303	21E5	2017		JRNZ	NTPWL	
0304	21E7	CB49	<i>TopWall</i>	BIT	1,C	
0305	21E9	CA8321		JZ	LOOP	
0306	21EC	3A984F		LDA	ROOM	
0307	21EF	FEF0		CPI	0F0H	
0308	21F1	CA1522		JZ	END6AM	
0309	21F4	C610		ADI	16	
0310	21F6	32984F		STA	ROOM	
0311	21F9	1658		MYI	D,88	
0312	21FB	C3C321		JMP	STRNPS	
0313	21FE	3E5C	NTPWL	MYI	A,92	
0314	2200	BA		CMP	D	
0315	2201	2080		JRNZ	LOOP	

```

0316 2203 CB59          BIT 3,C
0317 2205 CA8321       JZ LOOP
0318 2208 3A984F       LDA ROOM
0319 220B D610         SUI 16
0320 220D 32984F       STA ROOM
0321 2210 1604         MVI D,4
0322 2212 C3C321       JMP STRNPS
0323                   *
0324 2215 FF           ENDGAM RST 7 =38H
0325 2216 78           DB 78H      QUIT
0326                   *
0327 2217 3A9B4F       ENTRRM LDA RELX
0328 221A FE9B         CPI 155
0329 221C DD21614F     LXIX 4F61H   RIGHT COWBOY
0330 2220 DD360050     STIX 0,50H  DR & FLOP
0331 2224 2804         JRZ RGTOMC
0332 2226 DD360010     STIX 0,10H  DR
0333 222A DD360180     RGTOMC STIX 1,80H  ACTIVATE VECTOR STATUS
0334 222E DD360701     STIX 7,1
0335 2232 DD360C01     STIX 12,1   X,Y CHECKS MASKS
0336 2236 DD360F06     STIX 15,6
0337 223A DD3612B0     STIX 12H,0B0H
0338 223E 3A9B4F       LDA RELX
0339 2241 DD7706       STRX 6,A    X POS. HIGH
0340 2244 3A9C4F       LDA RELY
0341 2247 DD770B       STRX 11,A   Y POS. HIGH
0342 224A 3A9B4F       LDA RELX
0343 224D FE9B         CPI 155
0344 224F 2004         JRNZ NXPSBL
0345 2251 DD360332     STIX 3,50  DELX LOWER
0346 2255 FE54         NXPSBL CPI 84  STIX 4,OFFH
0347 2257 2004         JRNZ NXPSB1
0348 2259 DD360332     STIX 3,50  DELX LOWER
0349 225D 3A9C4F       NXPSB1 LDA RELY STIX 4,0
0350 2260 FE04         CPI 4
0351 2262 2008         JRNZ NXPSB2
0352 2264 DD3608CE     STIX 8,-50 DELY LOWER
0353 2268 DD3609FF     STIX 9,OFFH
0354 226C FE58         NXPSB2 CPI 88
0355 226E 2808         JRZ NXPSB3
0356 2270 DD360832     STIX 8,50  DELY LOWER
0357 2274 DD360900     STIX 9,0   DELY UPPER
0358 2278 C31623     NXPSB3 JMP ADDTQ  ADDTQ
0359                   *
0360 227B 1E00         NXTLM MVI E,0
0361 227D 3E08         MVI A,8
0362 227F 82          ADD D
0363 2280 57          MOV D,A
0364 2281 C9          RET
0365                   *
0366                   *
0367                   *
0368                   *
SUBROUTINE TO DISPLAY B CHARACTERS
D REG. Y-COORDINATE
E REG. X-COORDINATE
HL POINTS TO CHAR BUFFER
    
```

```

0369          *      C OPTIONS BYTE
0370 2282 0603  CHR3  MYI B,3
0371 2284 0E04  CHAR  MYI C,4
0372 2286 7E    LOOP3 MOV A,M
0373 2287 23    INX H  H+1
0374 2288 FF    RST 7  38H
0375 2289 32    DB 32H
0376 228A 10FA  DJNZ LOOP3
0377 228C C9    RET
0378          *      SUBROUTINE TO DISPLAY BCD NUMBER 2 DIGIT
0379          *      D REG. Y COORDINATE
0380          *      E REG. X COORDINATE
0381          *      HL POINTS TO NUMBER
0382          *      C OPTIONS BYTE
0383          *      B EXTENDED OPTIONS
0384 228D 0682  NUM2  MYI B,82H
0385 228F 0E09  MYI C,9
0386 2291 FF    RST 7  38H
0387 2292 36    DB 36H
0388 2293 C9    RET
0389          *      DD TABLE
0390 2294 5C    DDITAB DB 5CH  CALL MACHINE LANGUAGE
0391 2295 A122  DA POTMOV POT MOVED
0392 2297 55    DB 55H  CALL MACHINE LANG.
0393 2298 B622  DA JOYMOV JOY STICK MOVED
0394 229A 53    DB 53H  MACHINE CALL
0395 229B F222  DA PIZZA KEY DOWN
0396 229D 54    DB 54H  MACHINE LANG. CALL
0397 229E E422  DA TRIGMY TRIGGER MOVED
0398 22A0 C0    DB 0C0H END OF TABLE
0399          *      POT MOVED HANDLER
0400 22A1 DD21614F POTMOV LXIX 4F61H  RIGHT COWBOY
0401 22A5 78    MOV A,B
0402 22A6 E6E0  ANI 0E0H Read 8 bit Pot
0403 22A8 1F0F  RAR ARC Save upper 3 bits
0404 22A9 1F0F  RAR ARC
0405 22AA 1F0F  RAR ARC Move to bits 3,2,1
0406 22AB 1F0F  RAR ARC
0407 22AC FE0E  CPI 0EH MOVE ARM TABLE 2 bytes 0-12
0408 22AE 2002  JRNZ SEVSKP So if 14 set to 12
0409 22B0 3E0C  MYI A,0CH
0410 22B2 DD770F SEVSKP STRX. 0FH,A Save Arm Position
0411 22B5 C9    RET
0412          *      JOYSTICK HANDLER
0413 22B6 DD21614F JOYMOV LXIX 4F61H
0414 22BA DD4E00  LDRX C,0
0415 22BD 218000  LXI H,128
0416 22C0 3A9F4F  LDA WPNDW
0417 22C3 FE04  CPI 4
0418 22C5 2003  JRNZ WALKNG
0419 22C7 210001  LXI H,256
0420 22CA E5    WALKNG PUSH H
0421 22CB D1    POP D
    
```



```

0422 22CC FF          RST 7  =38H
0423 22CD 7E         DB 7EH   JOYSTICK DELTA MASK
0424 22CE DD7409     STRX 9,H
0425 22D1 DD7508     STRX 8,L
0426 22D4 DD7204     STRX 4,D
0427 22D7 DD7303     STRX 3,E
0428 22DA 3E10       MVI A,10H RET
0429 22DC 2802       JRZ RGHTCW
0430 22DE 3E50       MVI A,50H 10H
0431 22E0 DD7700     RGHTCW STRX 0,A
0432 22E3 C9         RET
0433                ♦ TRIGGER HANDLER
0434 22E4 3A9F4F     TRIGMV LDA WPNOW
0435 22E7 FE02       CPI 2
0436 22E9 C0         RNZ
0437 22EA FF         RST 7  =38H
0438 22EB 13         DB 13H
0439 22EC 124F       DA 4F12H
0440 22EE 01         DB 1
0441 22EF E524       DA GUNSHT
0442 22F1 C9         RET
0443                ♦ KEYBOARD HANDLER
0444 22F2 FF         PIZZA RST 7  =38H
0445 22F3 40         DB 40H
0446 22F4 FE31       CPI 31H
0447 22F6 3003       JRNC NECTST
0448 22F8 FF         PIZNOW RST 7  =38H
0449 22F9 48         DB 48H
0450 22FA C9         RET
0451 22FB FE35       NECTST CPI 35H
0452 22FD 30F9       JRNC PIZNOW
0453 22FF 329F4F     STA WPNOW   PRESENT WEAPON SAVED IN ASCII
0454 2302 1600       MVI D,0
0455 2304 1E40       MVI E,64
0456 2306 0E09       MVI C,9
0457 2308 FF         RST 7  =38H
0458 2309 32         DB 32H
0459 230A C9         RET
0460                ♦ DELETE FROM QUEUE
0461 230B F3         DELQ  DI
0462 230C DD7EFF     LDRX A,OFFH
0463 230F 77         MOV M,A
0464 2310 B7         ORA A
0465 2311 C0         RNZ
0466 2312 23         INX H     SET TAIL
0467 2313 77         MOV M,A
0468 2314 2B         DCX H     BACK TO HEAD
0469 2315 C9         RET
0470                ♦ ADD TO QUEUE
0471 2316 DDE5       ADDTQ PUSX
0472 2318 D1         POP D
0473 2319 F3         DI
0474 231A DD36FF00  STIX OFFH,0

```

```

0475 231E 23      INX H  H+
0476 231F 7E      MOV A,M
0477 2320 73      MOV M,E
0478 2321 B7      ORA A
0479 2322 2806    JRZ ADDTQ1
0480 2324 5F      MOV E,A
0481 2325 7E      MOV A,M
0482 2326 2B      DCX H  H-1
0483 2327 1B      DCX D  D-1
0484 2328 12      DB 12H  LD (DE),A
0485 2329 C9      RET
0486 232A 2B      ADDTQ1 DCX H  H-1
0487 232B 73      MOV M,E
0488 232C C9      RET
0489             * POINT IX TO FIRST QUEUE ENTRY
0490 232D F3      FIRST DI
0491 232E 5E      MOV E,M
0492 232F 23      INX H  H
0493 2330 23      INX H  H
0494 2331 56      MOV D,M
0495 2332 2B      DCX H  H
0496 2333 2B      DCX H  H
0497 2334 7B      MOV A,E
0498 2335 B7      ORA A
0499 2336 D5      PUSH D
0500 2337 DDE1    POPX
0501 2339 C9      RET
0502             * BUMP VECTOR TIME BASE
0503 233A 7E      TBUMP MOV A,M
0504 233B 23      INX H  H
0505 233C E6A0    ANI 0A0H
0506 233E 2801    JRZ TBUMP1
0507 2340 34      INR M
0508 2341 19      TBUMP1 DAD D  H+D
0509 2342 10F6    DJNZ TBUMP
0510 2344 C9      RET
0511             * ALTERNATE INTERRUPT HANDLER
0512 2345 08      GFWRIT EXAF
0513 2346 D9      EXRP
0514 2347 DDE5    PUSH
0515 2349 3EFC    MVI A,0FCH  LOWER BYTE PRIMARY INTERRUPT
0516 234B D30D    OUT 0DH
0517 234D 3EC8    MVI A,0C8H  TOP OF SCREEN
0518 234F D30F    OUT 0FH
0519 2351 21124F  LXI H,4F12H  WRITQ
0520 2354 CD2D23  CALL FIRST  FIRST
0521 2357 CD0B23  CALL DELQ  DELQ
0522 235A AF      XRA A
0523 235B 32FF0F  STA 0FFFH  0->MAGIC->4FFF
0524 235E 110514  LXI D,1405H  BLANK GUNFIGHTER
0525 2361 FF      RST 7  =38H
0526 2362 28      DB 28H
0527 2363 2627    MVI H,27H  LEG PATTERN

```

0528	2365	DD6E12	LDRX L,12H
0529	2368	2C	INR L
0530	2369	2C	INR L
0531	236A	FF	RST 7 =38H WRITE LEG
0532	236B	1E	DB 1EH
0533	236C	215324	LXI H,ARMTBL ARM TABLE
0534	236F	1600	MYI D,0
0535	2371	DD5E0F	LDRX E,0FH
0536	2374	19	DAD D COMP. ADDRESS
0537	2375	5E	MOV E,M
0538	2376	23	INX H NEXT BYTE
0539	2377	56	MOV D,M
0540	2378	EB	XCHG
0541	2379	FF	RST 7 =38H WRITE ARM
0542	237A	1E	DB 1EH
0543	237B	21B424	LXI H,6FBODY GUNFIGHTER BODY
0544	237E	FF	RST 7 =38H
0545	237F	1E	DB 1EH
0546	2380	DD720E	STRX 0EH,D SAVE POSITION IN
0547	2383	DD730D	STRX 0DH,E OLD SCREEN ADDRESS
0548	2386	21154F	LXI H,4F15H ADD VECTOR TO QUEUE
0549	2389	CD1623	CALL ADDTQ ADD Q
0550	238C	DDE1	POPX
0551	238E	D9	EXRP
0552	238F	08	EXAF
0553	2390	FB	EI
0554	2391	C9	RET.
0555			◆ GUNFIGHTER LIMIT TABLE
0556	2392	50	GUNLMT DB 80 LEFT
0557	2393	9F	DB 159 RIGHT
0558	2394	00	DB 0 TOP
0559	2395	5C	DB 92 BOTTOM
0560			◆ PRIMARY INTERRUPT HANDLER
0561	2396	F5	GFLFR PUSH PSW
0562	2397	C5	PUSH B
0563	2398	D5	PUSH D
0564	2399	E5	PUSH H
0565	239A	DDE5	PUSX
0566	239C	111600	LXI D,16H
0567	239F	21614F	LXI H,4F61H
0568	23A2	23	INX H STATUS
0569	23A3	0601	MYI B,1
0570	23A5	CD3A23	CALL TBUMP TBUMP
0571	23A8	AF	XRA A
0572	23A9	32FF0F	STA OFFFH SHIFTER
0573	23AC	21124F	GETVEC LXI H,4F12H
0574	23AF	CD2D23	CALL FIRST FIRST
0575	23B2	CA3324	JZ ENDRUP NEWVEC
0576	23B5	CD0B23	CALL DELQ DELQ
0577	23B8	DD7E03	LDRX A,3
0578	23BB	DDB604	DRAX 4
0579	23BE	DDB608	DRAX 8
0580	23C1	DDB609	DRAX 9

XRA A
 CUP OFH
 MOV A,OFFH
 CUP ODH
 EI
 LXI H,4F15H
 CALL FIRST
 JZ ENDRUP ~~NEWVEC~~
~~CALL DELQ~~
 EI

0581	23C4	2017	JRNZ	MOV6F	
0582	23C6	DD7702	STRX	2,A	
0583	23C9	DDCB0166	BITX	4,1	
0584	23CD	203E	JRNZ	STARMC	
0585	23CF	DD3612B0	STIX	12H,0B0H	
0586	23D3	DDCB01DE	SETX	3,1	
0587	23D7	DDCB01E6	SETX	4,1	
0588	23DB	1830	JR	STARMC	
0589	23DD	DDCB07CE	MOV6F	SETX	1,7
0590	23E1	DDCB0CCE		SETX	1,12
0591	23E5	219223	LXI	H,GUNLMT	
0592	23E8	FF	RST	7 =38H	SEE IF EDGE
0593	23E9	3E	DB	3EH	VECT
0594	23EA	2808	JRZ	ANTIM	SEE IF MOVED
0595	23EC	DDCB01DE	SETX	3,1	CHANGED BIT
0596	23F0	DDCB01A6	DB	ODDH,OCBH,1,0A6H	RESX 4,1 MOVING STATUS
	23F4				
0597	23F4	DD7E11	ANTIM	LDRX	A,11H
0598	23F7	91		SUB	C
0599	23F8	F20A24		JP	STORTM
0600	23FB	DD5E12	LDRX	E,12H	LEG LINK
0601	23FE	1627	MVI	D,27H	HIGH ORDER LEG ADDRESS
0602	2400	1A	LDAX	D	(DE)->A
0603	2401	DD7712	STRX	12H,A	
0604	2404	13	INX	D	NEXT
0605	2405	1A	LDAX	D	(DE)->A
0606	2406	DDCB01DE	SETX	3,1	CHANGED BIT
0607	240A	DD7711	STORTM	STRX	11H,A
0608	240D	DD7E0F	STARMC	LDRX	A,0FH
0609	2410	DDBE10	CMPL	10H	GET ARM POSITION
0610	2413	2807	JRZ	NOARMC	OLD ARM SAME?
0611	2415	DDCB01DE	SETX	3,1	NO CHANGE JUMP
0612	2419	DD7710	STRX	10H,A	CHANGED BIT
0613	241C	DDCB015E	NOARMC	BITX	3,1
0614	2420	2019	JRNZ	REMQUE	CHANGED?
0615	2422	21154F	LXI	H,4F15H	VECTOR 0
0616	2425	CD1623	CALL	ADDTQ	ADD TO QUEUE
0617	2428	05	DCR	B	
0618	2429	C2AC23	JNZ	GETVEC	
0619	242C	3EFE	NEWVEC	MVI	A,0FEN
0620	242E	D30D	OUT	ODH	<i>BI Set to 003</i>
0621	2430	AF	XRA	A	<i>CALL STIMER</i>
0622	2431	D30F	OUT	0FH	
0623	2433	DDE1	ENDRUP	POPX	
0624	2435	E1		POP	H
0625	2436	D1		POP	D
0626	2437	C1		POP	B
0627	2438	F1		POP	PSW
0628	2439	FB		EI	
0629	243A	C9		RET	
0630	243B	DDCB019E	REMQUE	RESX	3,1
0631	243F	21124F	LXI	H,4F12H	WRITQ
0632	2442	CD1623	CALL	ADDTQ	ADDTQ

```

0633 2445 18E5                JR NEWVEC
0634 2447 06060000 SINMIT DB 6,6,0,0,0,30H,30H,0,0,80H,15,15
      244B 00303000
      244F 00800F0F
      2453
0635 2453 6124                ARMTBL DA ARM0,ARM1,ARM2,ARM3,ARM4,ARM5,ARM6
      2455 6F24
      2457 7924
      2459 8124
      245B 8D24
      245D 9B24
      245F AB24
0636 2461 0A0A0205 ARM0     DB 0AH,0AH,2,5,40H,0,51H,0,4,0,1,0,0,40H
      2465 40005100
      2469 04000100
      246D 0040
0637 246F 0A0A0203 ARM1     DB 0AH,0AH,2,3,50H,0,14H,0,1,40H
      2473 50001400
      2477 0140
0638 2479 0A0A0202 ARM2     DB 0AH,0AH,2,2,54H,0,55H,40H
      247D 54005540
      2481
0639 2481 0A070204 ARM3     DB 0AH,7,2,4,10H,0,5,40H,54H,0,50H,0
      2485 10000540
      2489 54005000
      248D
0640 248D 0A060205 ARM4     DB 0AH,6,2,5,0,40H,45H,0,10H,0,50H,0,40H,0
      2491 00404500
      2495 10005000
      2499 4000
0641 249B 0A050206 ARM5     DB 0AH,5,2,6,0,40H,1,0,5,0,14,0,54H,0,50H,0
      249F 00400100
      24A3 05000E00
      24A7 54005000
      24AB
0642 24AB 0A050105 ARM6     DB 0AH,5H,1,5,1,44H,10H,40H,40H
      24AF 01441040
      24B3 40
0643 24B4 0000030F 6FBODY DB 0,0,3,0FH,0,44,0,11H,55H,10H,15H,55H,50H
      24B8 002C0011
      24BC 55101555
      24C0 50
0644 24C1 02AA0002                DB 2,0AAH,0,2,0A2H,0,2,0AAH,80H,0,0AAH,0,0
      24C5 A20002AA
      24C9 8000AA00
      24CD 00
0645 24CE AB001555                DB 0A8H,0,15H,55H,0,55H,55H,50H,51H,55H,50H
      24D2 00555550
      24D6 515550
0646 24D9 41550041                DB 41H,55H,0,41H,55H,0,45H,55H,0,1,55H
      24DD 55004555
      24E1 000155
0647 24E4 00                DB 0

```

```

0648 24E5 88EFFF3F GUNSHT DB 088H, 0EFH, 0FFH, 03FH, 0, 0FFH, 0FDH, 0F5H, 0F0H
      24E9 00FFDF5
      24ED F0
0649 24EE E0B0FF3F DB 0E0H, 0B0H, 0FFH, 3FH, 0E1H, 5, 5, 8FH, 5, 4CH, 0F0H
      24F2 E105058F
      24F6 054CF0
0650
0651 24F9 CD7B22 LFNUM1 CALL NXTLN
0652
      * 1 BCD CHARACTER
0653 24FC 0E09 DNEBCD MYI C, 9
0654 24FE 0681 MYI B, 81H
0655 2500 FF RST 7 =38H
0656 2501 36 DB 36H BCD OUT
0657 2502 C9 RET
0658
      * CONSTANTS TABLE
0659 2503 48554D45 RACES DB 'HUMELFHAFDWA'
      2507 4C464841
      250B 46445741
      250F
0660 250F 53545249 TRAITS DB 'STRINTWISCONDEXCHA'
      2513 4E545749
      2517 53434F4E
      251B 44455843
      251F 4841
0661 2521 46492020 TYPE DB 'FI AC2MU AC10CL AC3TH AC6'
      2525 20414332
      2529 4D552020
      252D 41433130
      2531 434C2020
      2535 20414333
      2539 54482020
      253D 20414336
      2541
0662 2541 57454150 WEAP DB 'WEAP'
      2545
0663 2545 53575244 AMMO1 DB 'SWRDARRODAGRLTNGMACEHOLDDAGRHIDE'
      2549 4152524F
      254D 44414752
      2551 4C544E47
      2555 4D414345
      2559 484F4C44
      255D 44414752
      2561 48494445
      2565
0664 2565 52554E20 AMMO2 DB 'RUN TAKE'
      2569 54414B45
      256D
0665
      * YE ROYAL DUNGEON
0666 256D 42773554 DOORTB DB 42H, 77H, 35H, 54H, 57H, 35H, 76H, 37H
      2571 57357637
      2575
0667 2575 3ECA577 DB 3EH, 0CAH, 0F5H, 77H, 5FH, 0D7H, 9EH, 0DCH
      2579 5FD79EDC

```

0668	257D	9E7EE3AD	DB	9EH, 7EH, 0E3H, 0ABH, 6AH, 8DH, 3EH, 0B6H
	2581	6A8D3EB6		
	2585			
0669	2585	4ADDEBCB	DB	4AH, 0DDH, 0EBH, 0CBH, 0FDH, 6BH, 0DFH, 0ABH
	2589	FD6BDFAB		
	258D			
0670	258D	5C77C95F	DB	5CH, 77H, 0C9H, 5FH, 0D5H, 0DFH, 2BH, 0BCH
	2591	D5DF2BBC		
	2595			
0671	2595	22AA367E	DB	22H, 0AAH, 36H, 7EH, 23H, 5CH, 0E9H, 95H
	2599	235CE995		
	259D			
0672	259D	EADDFDD	DB	0EAH, 0DDH, 0FFH, 0DDH, 0E9H, 75H, 0B5H, 36H
	25A1	E975B536		
	25A5			
0673	25A5	FE77BD74	DB	0FEH, 77H, 0BDH, 74H, 0B5H, 0F6H, 95H, 0AAH
	25A9	B5F695AA		
	25AD			
0674	25AD	DC9FC2A3	DB	0DCH, 9FH, 0C2H, 0A3H, 0F6H, 9FH, 56H, 0ADH
	25B1	F69F56AD		
	25B5			
0675	25B5	36683FC8	DB	36H, 68H, 3FH, 0CBH, 0A9H, 68H, 7FH, 97H
	25B9	A9687F97		
	25BD			
0676	25BD	FEA3E863	DB	0FEH, 0A3H, 0E8H, 63H, 0E3H, 0F7H, 0E9H, 1DH
	25C1	E3F7E91D		
	25C5			
0677	25C5	FECBF5DB	DB	0FEH, 0CBH, 0F5H, 0DDH, 0EBH, 9DH, 0F6H, 15H
	25C9	EB9DF615		
	25CD			
0678	25CD	AA7EA362	DB	0AAH, 7EH, 0A3H, 62H, 89H, 56H, 0DFH, 37H
	25D1	8956DF37		
	25D5			
0679	25D5	9EDEABCA	DB	9EH, 0DEH, 0ABH, 0CAH, 17H, 6AH, 1FH, 9EH
	25D9	176A1F9E		
	25DD			
0680	25DD	3C5CCB1F	DB	3CH, 5CH, 0CBH, 1FH, 4AH, 0E9H, 4BH, 3FH
	25E1	4AE94B3F		
	25E5			
0681	25E5	D4155C1D	DB	0D4H, 15H, 5CH, 1DH, 5CH, 0D5H, 1DH, 9CH
	25E9	5CD51D9C		
	25ED			
0682	25ED	4641574E	FAWN DB	'FAWN DUNGEON', 0
	25F1	2044554E		
	25F5	47454F4E		
	25F9	00		
0683	25FA	4E4F2E20	NUMHIT DB	'NO. OF HITS', 0
	25FE	4F462048		
	2602	49545300		
	2606			
0684	2606	7307FA9D	COLORS DB	073H, 7, 0FAH, 09DH LEFT 4-7 DEEP RED, WHITE, MAGEN
	260A			

```
0685 260A FA765A01 7 DB 0FAH,76H,5AH,12 RIGHT 0-3 BLUE,FLESH,RED,GRAY
260E
0686 260B 7 ◆ LEG TABLES
0687 27B0 ORG 27B0H
0688 27B0 C504000F LE60 DB 0C5H,4,0,0FH,3,5,1,55H,0,5,45H,40H
27B4 03050155
27B8 00054540
27BC
0689 27BC 15014050 DB 15H,1,40H,50H,1,40H,15H,0,54H
27C0 01401500
27C4 54
0690 27C5 D504020F LE61 DB 0D5H,4,2,0FH,2,5,15H,50H,54H
27C9 02051550
27CD 54
0691 27CE 50505050 DB 50H,50H,50H,50H,50H,55H,15H
27D2 505515
0692 27D5 B004030F LE62 DB 0B0H,4,3,0FH,2,5,55H,0,15H,0,15H
27D9 02055500
27DD 150015
0693 27E0 00140005 DB 0,14H,0,5,40H
27E4 40
0694 27E5 7 ◆ INTERRUPT VECTORS
0695 27FC ORG 27FCH
0696 27FC 9623 DA 6FLFR
0697 27FE 4523 DA 6FWRIT
0698 2800 END
```

ASSEMBLY COMPLETE 0001 ERRORS