MultiROM Dipswitch Set-Up Chart for the Dagon's Lair or Space Ace Main Board

The purpose of this chart is to find a single dipswitch setting for the Dragon's Lair / Space Ace main board that will work with all ROM versions. You **must** fill in this chart and set your switches before starting the game.

Instructions:
Use the **attached** dipswitch charts to fill in the table. (Some switches have been changed from the originals)
For each revision set, fill in its row with your preferred settings.
Use pencil. Place a 1 for ON and a 0 for OFF
Look at each column and find a single setting that will work for all versions. Some compromises will be necessary.
If you find a major conflict, contact me.

	A0	A1	A2	A3	A4	A5	A6	A7	B0	B1	B2	B3	B4	B5	B6	B7
Dragon's Lair - Rev. A, B, C, Beta, #1																
Dragon's Lair - Rev. D																
Dragon's Lair - Rev. E, F2, DLE1.1																
DLE 2.1 (Standard Disc - 1983)																
DLE 2.1 (2003 disc – w/ proto animation)																
Space Ace – Rev. A, A2, A3																
Space Ace Enhancement 1.0																
Your Final Settings																

*Note: The switch banks are printed with 1-8.   The circuit board is printed with 0-7.
       Ignore the incorrect numbers printed on the switch banks.

DRAGON'S LAIR Rev. A, B, C, Beta & DL #1
DIP switch settings chart:

A. Attract Mode Sound
  Always on ································· B0=ON, B1=ON
  Always off ································ B1=OFF
  Plays every 8th time ············· B0=OFF, B1=ON

B. Number of Coins Required for One Credit
  2 ····································· A0=ON, A1=ON
  3 ····································· A0=ON, A1=OFF
  3 ····································· A0=OFF, A1=ON
  free play ···························· A4=OFF

C. Number of Lives Per Credit
  3 ···································· A5=ON, B2=ON
  5 ···································· A5=OFF, B2=ON
  Unlimited lives for testing purposes B2=OFF

D. Playtest and Diagnostics
  Normal operation ·················· A3=ON, A7=ON
  Playtest for engineering use ······· A3=OFF
  To run diagnostics, set A7 to ON, and
    power up the game. After you hear
    two beeps, turn A7 to OFF. Turn A7
    back to ON to end diagnostics. ···· A7=first ON, then OFF

E. Game Difficulty
  Easy ··· B7=OFF
  Easy at the onset of every game, difficulty increases to
   hard when a player survives 9 consecutive scenes. ······· A2=ON, B4=OFF, B7=ON
  Easy at the onset of every game, difficulty increases to
   hard when a player survives 5 consecutive scenes. ······· A2=ON, B4=ON,   B7=ON
  Hard ··· A2=OFF, B4=ON,   B7=ON

F. Pay-As-You-Go
  Pay-as-you-go disabled The game ends when won············ A6=ON
  Player must deposit more money to continue playing after
   2/3 of the game is finished. If the player has less than
   3 Dirks, he receives one additional Dirk. The game ends
   when won ·· A0=ON, A1=ON, A6=OFF, B5=ON, B6=ON
  Player must deposit more money to continue playing after
   2/3 of the game is finished. The player receives no
   additional Dirks. The game ends when won ··············· A0=ON, A1=ON, A6=OFF, B5=ON, B6=OFF
  Player must deposit more money to continue playing three
   times during the game. If the player has less than
   3 Dirks, he receives one additional Dirk. Player may
   deposit more coin(s) to continue again from the beginning
   after the game is won ··································· A0=ON, A1=ON, A6=OFF, B5=OFF, B6=ON
  Player must deposit more money to continue playing three
   times during the game. No additional Dirks are awarded.
   Player may deposit more coin(s) to continue again from
   the beginning after the game is won ···················· A0=ON, A1=ON, A6=OFF, B5=OFF, B6=OFF

G. Disc Player Model Selection
  Pioneer PR-7820 ··················· B3=ON
  Pioneer LD-V1000 ·················· B3=OFF

DRAGON'S LAIR Rev.D
DIP switch settings chart:

A. Attract Mode Sound
    Always on ···························· B0=ON, B1=ON
    Always off ··························· B1=OFF
    Plays every 8th time ··············· B0=OFF, B1=ON

B. Number of Coins Required for One Credit
    2 ·································· A0=ON, A1=ON
    3 ·································· A0=ON, A1=OFF
    3 ·································· A0=OFF, A1=ON
    free play ························· A4=OFF

C. Number of Lives Per Credit
    3 ·································· A5=ON, B2=ON
    5 ·································· A5=OFF, B2=ON
    Unlimited lives for testing purposes B2=OFF

D. Playtest and Diagnostics
    Normal operation ················· A3=ON, A7=ON
    Playtest for engineering use ······· A3=OFF
    To run diagnostics, set A7 to ON, and
     power up the game. After you hear
     two beeps, turn A7 to OFF. Turn A7
     back to ON to end diagnostics. ···· A7=first ON, then OFF

E. Game Difficulty
    Easy ·· B7=OFF
    Easy at the onset of every game, difficulty increases to
     hard when a player survives 9 consecutive scenes. ······· A2=ON, B4=OFF, B7=ON
    Easy at the onset of every game, difficulty increases to
     hard when a player survives 5 consecutive scenes. ······· A2=ON, B4=ON,   B7=ON
    Hard ·· A2=OFF, B4=ON,   B7=ON

F. Pay-As-You-Go
    Pay-as-you-go disabled The game ends when won············· A6=ON
    Player must deposit more money to continue playing after
     2/3 of the game is finished. If the player has less than
     3 Dirks, he receives one additional Dirk. The game ends
     when won ·· A0=ON, A1=ON, A6=OFF, B5=ON, B6=ON
    Player must deposit more money to continue playing after
     2/3 of the game is finished. The player receives no
     additional Dirks. The game ends when won ················ A0=ON, A1=ON, A6=OFF, B5=ON, B6=OFF
    Player must deposit more money to continue playing three
     times during the game. If the player has less than
     3 Dirks, he receives one additional Dirk. Player may
     deposit more coin(s) to continue again from the beginning
     after the game is won ···································· A0=ON, A1=ON, A6=OFF, B5=OFF, B6=ON
    Player must deposit more money to continue playing three
     times during the game. No additional Dirks are awarded.
     Player may deposit more coin(s) to continue again from
     the beginning after the game is won ··················· A0=ON, A1=ON, A6=OFF, B5=OFF, B6=OFF

G. Disc Player Model Selection
    Pioneer PR-7820 ···················· B3=ON
    Pioneer LD-V1000 ················· B3=OFF

DRAGON'S LAIR Rev.E, F2 & DLE 1.1
DIP switch settings chart:

A. Attract Mode Sound
        Always on ····························· B0=ON, B1=ON
        Always off ···························· B1=OFF
        Plays every 8th time ················· B0=OFF, B1=ON

B. Number of Coins Required for One Credit
        2 ···································· A0=ON, A4=ON
        3 ···································· A0=OFF, A4=ON
        free play ···························· A4=OFF

C. Number of Lives Per Credit
        3 ···································· A5=ON, B2=ON
        5 ···································· A5=OFF, B2=ON
        Unlimited lives for testing purposes B2=OFF

D. Playtest and Diagnostics
        Normal operation ···················· A3=ON, A7=ON
        Playtest for engineering use ········ A3=OFF
        To run diagnostics, set A7 to ON, and
          power up the game. After you hear
          two beeps, turn A7 to OFF. Turn A7
          back to ON to end diagnostics. ···· A7=first ON, then OFF

E. Game Difficulty
        Easy ·· B7=OFF
        Easy at the onset of every game, difficulty increases to
         hard when a player survives 9 consecutive scenes. ······ A1=OFF, A2=ON, B4=OFF, B7=ON
        Easy at the onset of every game, difficulty increases to
         hard when a player survives 5 consecutive scenes. ······ A1=OFF, A2=ON, B4=ON, B7=ON
        Easy at the onset of every game, difficulty increases to
         very hard when a player survives 9 consecutive scenes.·· A1=ON, A2=ON, B4=OFF, B7=ON
        Easy at the onset of every game, difficulty increases to
         very hard when a player survives 5 consecutive scenes.·· A1=ON, A2=ON, B4=ON, B7=ON
        Hard ·· A1=OFF, A2=OFF, B7=ON
        Very Hard ··· A1=ON, A2=OFF, B7=ON

F. Pay-As-You-Go
        Pay-as-you-go disabled The game ends when won··········· A6=ON, B5=ON
        Pay-as-you-go disabled. The game starts again from the
         beginning when won. ···························· A6=ON, B5=OFF
        Player must deposit 2 or 3 coins(depending on A0) to
         continue playing once, after 2/3 of the game is
         finished. The game ends when won ······················ A6=OFF, B5=ON
        Player must deposit 2 or 3 coins(depending on A0) to
         continue playing three times during the game, and may
         deposit more coin(s) to continue again from the
         beginning after the game is won ······················ A6=OFF, B5=OFF
        If pay-as-you-go is on and the game is set for 3 Dirks
         per credit:
         If the player has less than 3 Dirks, he receives one
         additional Dirk after depositing coins to continue the
         game at any time during the first game. No extra Dirks
         are awarded after the first game is won. ·············· B6=ON
        No extra Dirks awarded ································ B6=OFF

G. Disc Player Model Selection
        Pioneer PR-7820 ···················· B3=ON
        Pioneer LD-V1000 ··················· B3=OFF

DLE 2.1S - Standard Play
DIP switch settings chart:

A. Attract Mode Sound
```
    Always on ···························· B0=ON,  B1=ON
    Always off ··························· B1=OFF
    Plays every 8th time ··············· B0=OFF, B1=ON
    Narrator voice on ·················· B4=ON
    Narrator voice muted ··············· B4=OFF
```

B. Number of Coins Required for One Credit
```
    1 ································· A0=OFF, A1=OFF, A4=ON
    2 ································· A0=ON,  A1=ON,  A4=ON
    3 ································· A0=OFF, A1=ON,  A4=ON
    4 ································· A0=ON,  A1=OFF, A4=ON
    free play ························· A4=OFF
```

C. Number of Lives Per Credit
```
    3 ································· A5=ON,  B2=ON
    5 ································· A5=OFF, B2=ON
    Unlimited lives for testing purposes  B2=OFF
```

D. Playtest and Diagnostics
```
    Normal operation ·················· A3=ON,  A7=ON
    Playtest for engineering use ······· A3=OFF
    To run diagnostics, set A7 to ON, and
      power up the game.  After you hear
      two beeps, turn A7 to OFF.  Turn A7
      back to ON to end diagnostics. ···· A7=first ON, then OFF
```

E. Game Mode
```
    Standard ·························· B7=ON *Required
    Prototype (requires 2002 disc) ······ B7=OFF
```

F. Pay-As-You-Go
```
    Pay-as-you-go disabled  The game ends when won············ A6=ON,  B5=ON
    Pay-as-you-go disabled. The game starts again from the
     beginning when won. ································· A6=ON,  B5=OFF
    Player must deposit 1 or 2 coins(depending on A2) to
     continue playing once, after 2/3 of the game is
     finished. The game ends when won ···················· A6=OFF, B5=ON, A4=ON
    Player must deposit 1 or 2 coins(depending on A2) to
     continue playing two times during the game, and may
     deposit more coin(s) to continue again from the
     beginning after the game is won ···················· A6=OFF, B5=OFF, A4=ON
    The player receives one additional Dirk after depositing
     coin(s) to continue (during first game only). ··········· B6=ON
    No extra Dirks awarded ······························· B6=OFF
    The price to continue is 1 coin ······················· A2=ON
    The price to continue is 2 coins ······················ A2=OFF
```

G. Disc Player Model Selection
```
    Pioneer PR-7820 ···················· B3=ON
    Pioneer LD-V1000 ···················· B3=OFF
```

DLE 2.1P – With Prototype Animation
2003 Limited Edition Disc Required
DIP switch settings chart:

A. Attract Mode Sound
    Always on ···························· B0=ON, B1=ON
    Always off ··························· B1=OFF
    Plays every 8th time ················ B0=OFF, B1=ON
    Narrator voice on ··················· B4=ON
    Narrator voice muted ··············· B4=OFF

B. Number of Coins Required for One Credit
    1 ·································· A0=OFF, A1=OFF, A4=ON
    2 ·································· A0=ON, A1=ON, A4=ON
    3 ·································· A0=OFF, A1=ON, A4=ON
    4 ·································· A0=ON, A1=OFF, A4=ON
    free play ·························· A4=OFF

C. Number of Lives Per Credit
    3 ·································· A5=ON, B2=ON
    5 ·································· A5=OFF, B2=ON
    Unlimited lives for testing purposes B2=OFF

D. Playtest and Diagnostics
    Normal operation ··················· A3=ON, A7=ON
    Playtest for engineering use ······· A3=OFF
    To run diagnostics, set A7 to ON, and
     power up the game. After you hear
     two beeps, turn A7 to OFF. Turn A7
     back to ON to end diagnostics. ···· A7=first ON, then OFF

E. Game Mode
    Standard ·························· B7=OFF
    Prototype (requires 2003 disc) ······ B7=ON *Required

F. Pay-As-You-Go
    Pay-as-you-go disabled The game ends when won··········· A6=ON, B5=ON
    Pay-as-you-go disabled. The game starts again from the
     beginning when won. ································· A6=ON, B5=OFF
    Player must deposit 1 or 2 coins(depending on A2) to
     continue playing once, after 2/3 of the game is
     finished. The game ends when won ····················· A6=OFF, B5=ON, A4=ON
    Player must deposit 1 or 2 coins(depending on A2) to
     continue playing two times during the game, and may
     deposit more coin(s) to continue again from the
     beginning after the game is won ···················· A6=OFF, B5=OFF, A4=ON
    The player receives one additional Dirk after depositing
     coin(s) to continue (during first game only). ··········· B6=ON
    No extra Dirks awarded ································ B6=OFF
    The price to continue is 1 coin ······················· A2=ON
    The price to continue is 2 coins ······················ A2=OFF

G. Disc Player Model Selection
    Pioneer PR-7820 ··················· B3=ON
    Pioneer LD-V1000 ·················· B3=OFF

Space Ace Rev.A, A2, A3
DIP switch settings chart:

....

A. Attract Mode Sound
      Always on ···························· B0=ON, B1=ON
      Plays every 8th time ················ B0=OFF, B1=ON
      Always off ·························· B1=OFF

B. Number of Coins Required for One Credit
      2 ·································· A0=ON, A4=ON
      3 ·································· A0=OFF, A4=ON
      free play ························ A4=OFF

C. Number of Lives Per Credit
      3 ·································· A5=ON, B2=ON
      5 ·································· A5=OFF, B2=ON
      Unlimited lives for testing purposes B2=OFF

D. Playtest and Diagnostics
      Normal operation ·················· A3=ON, A7=ON
      Playtest for engineering use ········ A3=OFF
      To run diagnostics, set A7 to ON, and
        power up the game. After you hear
        two beeps, turn A7 to OFF. Turn A7
        back to ON to end diagnostics. ···· A7=first ON, then OFF

E. Game Difficulty Level*
      Difficulty will increase when a
      player survives 3 consecutive scenes B4=ON
      Difficulty will increase when a
      player survives 5 consecutive scenes B4=OFF
      Fast Difficulty increase ·········· B7=ON
      Slow Difficulty increase ·········· B7=OFF

F. Skill Level Selection
      Normal Mode (control panel skill
        level buttons are enabled) ········ B5=ON, B6=ON
      Always SPACE ACE skill level ········ B5=ON, B6=OFF
      Always CAPTAIN skill level ·········· B5=OFF, B6=ON
      Always CADET skill level ············ B5=OFF, B6=OFF

G. Disc Player Model Selection
      Pioneer PR-7820 ···················· B3=ON
      Pioneer LD-V1000 ···················· B3=OFF
....

Not Used: A1, A2, A6

SAE 1.0
DIP switch settings chart:

A. Attract Mode Sound
    Always on ···························· B0=ON, B1=ON
    Plays every 8th time ·············· B0=OFF, B1=ON
    Always off ························· B1=OFF

B. Number of Coins Required for One Credit
    2 ································· A0=ON, A4=ON
    1 ································· A0=OFF, A4=ON
    2 credits at all times/free play ···· A4=OFF

C. Number of Lives Per Credit
    3 ································· A5=ON, B2=ON
    5 ································· A5=OFF, B2=ON
    Unlimited lives for testing purposes B2=OFF

D. Playtest and Diagnostics
    Normal operation ··················· A3=ON, A7=ON
    Playtest for engineering use ········ A3=OFF
    To run diagnostics, set A7 to ON, and
      power up the game. After you hear
      two beeps, turn A7 to OFF. Turn A7
      back to ON to end diagnostics. ···· A7=first ON, then OFF

E. Game Difficulty Level*
    Normal: when a life is lost, gameplay
      resumes immediately after the point
      the player died. The fatal move is
      not replayed. ···················· B7=OFF
    Hard: when a life is lost, gameplay
      resumes back at the beginning of
      the scene. All moves must be
      replayed. ························ B7=ON

F. Skill Level Selection
    Normal Mode (control panel skill
      level buttons are enabled) ········ B5=ON, B6=ON
    Always SPACE ACE skill level ········ B5=ON, B6=OFF
    Always CAPTAIN skill level ·········· B5=OFF, B6=ON
    Always CADET skill level ············ B5=OFF, B6=OFF

G. Disc Player Model Selection
    Pioneer PR-7820 ···················· B3=ON
    Pioneer LD-V1000 ··················· B3=OFF
....

Not Used: A1, A2, A6, B4