# COBRA COMMAND

## CONVERSION KIT
## FOR
## BEGA'S BATTLE LASER GAMES

## INSTALLATION INSTRUCTIONS

DATA EAST USA, INC.
470 Gianni Street, Santa Clara, CA 95050 U.S.A.
Telephone: (408) 727-4490 Toll Free: (800) 538-5129
Telex: 172163 DATA EAST SNTA

# I CONVERSION SUMMARY

### CHOOSING THE MACHINE TO BE CONVERTED

The COBRA COMMAND™ Conversion Kit has been designed to easily be installed in the BEGA'S BATTLE™ Laser Game manufactured by Data East. One of the most important condiserations determining the success of your conversion will be the condition of the machine you are converting.

### COSMETIC CONSIDERATIONS:

It is important that care is taken when installing the Conversion Kit. The graphics of this kit must be installed carefully to insure an attractive looking game machine. It is recommended that if there are any scratches in the cabinet, they be filled and painted over. This should be done prior to the graphics kit installation.

### MECHANICAL CONSIDERATIONS:

In order to comply with the FCC Rules and Regulations it will be necessary to install an EMI Shield to protect against undesirable radio interference. (See page 7 for installation instructions.)

# II GAME OPERATION

## THE WORLD'S FIRST VIDEO DISC HELICOPTER GAME!!!

You are in command of the most Awesome Combat Machine ever designed . . .

Armed with the world's most sophisticated weaponry, your ultra-modern Jet Helicopter will take you through 10 dangerous missions from New York City to Easter Island . . .

Squeeze the trigger on your Control Lever and unleash 6000 rounds a minute of twin gatling Cannon fire. Press the missle release button and watch the dual Air-to-ground missles blast off to destroy and ground targets in your sights.

Your life will depend on these weapons as you fly through Canyons, Jungle Valleys, Subterranean Caverns, City Streets, and the high seas on a series of harrowing seek-and-destroy sorties.

A central reconnaissance station calls voice commands and an arrow flashes on your display panel to direct you through complex flying maneuvers, but your ability to **react** to these commands instantly with Control Lever inputs, Cannon and missle fire will ultimately determine your survival.

Take the controls of COBRA COMMAND and thrill to the excitement of the world's first Video Disc Helicopter game - only from Data East.

### HOW TO PLAY

1. Destroy Enemy Targets
2. Use Machine Guns for Flying Targets
3. Use Rockets for Non-Flying Targets

# III OPTION SETTINGS

**DIP SWITCH 1**

| Game Charge | | 1 coin 1 play | 1 coin 2 plays | 1 coin 3 plays | 2 coins 1 play |
|---|---|---|---|---|---|
| SW 1 | RIGHT HAND | OFF | ON | OFF | ON |
| SW 2 | SELECTOR | OFF | OFF | ON | ON |
| SW 3 | LEFT HAND | OFF | ON | OFF | ON |
| SW 4 | SELECTOR | OFF | OFF | ON | ON |

**DIP SWITCH 2**

| | | | | |
|---|---|---|---|---|
| NUMBER OF LIVES | | 3 | | 5 |
| SW 1 | | OFF | | ON |
| BONUS LIFE | | 10,000 and every 20,000 | | 20,000 and every 30,000 |
| SW 2 | | OFF | | ON |
| DIFFICULTY | EASY | REGULAR | DIFFICULT | VERY DIFF. |
| SW 3 | OFF | ON | OFF | ON |
| SW 4 | OFF | OFF | ON | ON |
| COUNTRY | | JAPAN | | USA |
| SW 5 | | OFF | | ON |
| IDLEMODE SOUND | | YES | NO | |
| SW 6 | | OFF | ON | |
| RANDOM 1ST PATTERN | | NO | YES | |
| SW 7 | | OFF | ON | |
| SELF-TEST | | GAME MODE | SELF-TEST | |
| SW 8 | | OFF | ON | |

# IV SELF TEST

## SUMMARY

The Self-Test Diagnostic Program is an important function of your COBRA COMMAND Laser game. It is the best way to check for proper operation of the entire game.

## OPERATION

Turn the game off before activating the Self-Test, as a safety precaution. The option switches must be adjusted to activate the Self-Test Diagnostics. (refer to the option setting page) After the switches are set, turn the game ON. Pushing the Player 1 switch will cause the game to step through each of its 10 different Self-Tests. To repeat a test, hold the Rocket button down, while pushing the Player 1 button. The Self-Test Diagnostics will continue to repeat through the 10 tests until the option switch settings have been returned to the game mode. Dip switch II position 8 must be OFF for the game mode and ON for diagnostic mode. Switch 7 must also be OFF for the diagnostics.

1) **RAM TEST**

The Zero Page Ram (Address oooo-offf) on the VDO-2 Logic Board. Ram locations 3F, 5F are tested. The video (Address 2000-3FFF) and (Address 1800-1837) on the VDO-1 logic board is tested. Several multi-colored screens will quickly be displayed on the screen.

PASS: "OK" will be displayed on the screen.

FAIL: The faulty RAM location will be displayed on the screen.

2) **ROM READ TEST**

The program RAM (Address 4000-Dfff) on the VDO-2 logic board is tested by the check sum process.

PASS: "OK" will be displayed on the screen.

FAIL: The faulty ROM location will be displayed on the screen.

3) **MONITOR TEST**

Use the rocket button to advance through the 18 monitor test patterns.

1) Red Color Bars
2) Green Color Bars
3) Blue Color Bars
4) White Screen
5) Blue Border
6) R.G.B. Blocks
7) Cross Hatch
8) Character Display
9) R.G.B. Color Bars
10) R.G.B. Color Bars ½
11) Black Reference (Laser)
12) Color Bar (Laser)
13) Red Scale (Laser)
14) Green Scale (Laser)
15) Blue Scale (Laser)
16) Gray Scale (Laser)
17) White (Laser)
18) Cross Hatch (Laser)

## 4) CHARACTER DISPLAY

The contents of the (A Group) character generator ROM is displayed. By pressing the Rocket Button, the contents of the (B Group) character ROM will be displayed.

PASS: The A Group, and B Group, should be displayed uniformly on the screen.

FAIL: Failure is indicated by one or more of the following symptons:

1) White display on the screen
2) Vertical lines
3) The absence of Red, Green, or Blue.

## 5) MIX CONTROL TEST

This test has two parts. First, 32 (16 × 16 bit) character blocks are shifted diagonally on the screen, while rotating the character blocks after each pass. Second, 28 character blocks are displayed and shifted against a video disc generated background.

PASS: All block shifts should be smooth.

FAIL: Failure is indicated by eratic block shifts or the absence of the correct number of character blocks.

## 6) DIP SWITCH TEST

This test is helpful in the adjustment of the option switches.

1 = Switch ON
0 = Switch OFF
X = Switch not in use

## 7) PANEL SWITCH TEST

The Control Panel, switch input circuitry, and switch wiring are tested.

PASS: When a particular control panel switch is activated, the corresponding block on the screen should be filled.

FAIL: A failure is indicated in two possible ways:

1) A block filled without a switch activated, a short circuit, possibly a shorted switch.

2) A block not filled when a switch is activated, open circuit, possibly a bad switch.

## 8) SOUND TEST

10 increments of sound will be outputed, fluctuating between the right and left speaker. The Sound Circuitry, Audio Amp, Speaker, and Wiring are tested.

PASS: If the outputed sounds are clear and if End is displayed after the 10 increments, the test is OK.

FAIL: Failure is indicated by "READ ERROR" displayed on the screen, the absence of sound or, distorted sound.

9) **LDP LINE TEST**

The RS 232 Connector and cable for the video disc player communications is tested. This test requires a special purpose socket from the factory. The RS 232 connector is removed from the video disc player and plugged into the special purpose socket. The fire button must be pressed to activate the test.

PASS: "OK" will be displayed on the screen.

FAIL: An Error Message will be displayed on the screen.

10) A **LDP TEST**

The Video Disc Player command are tested, forward play, fast forward, forward slow, forward step, still, reverse play, reverse fast, reverse slow, reverse step, still.

PASS: The Video Disc Player should step through all of the commands and automatically advance to the Disc Test 10 B.

FAIL: If the Video Disc Player does not respond to a command, then the Video Disc Player is bad. Be sure to run the LDP Line Test, because it must work in order for this test to work.

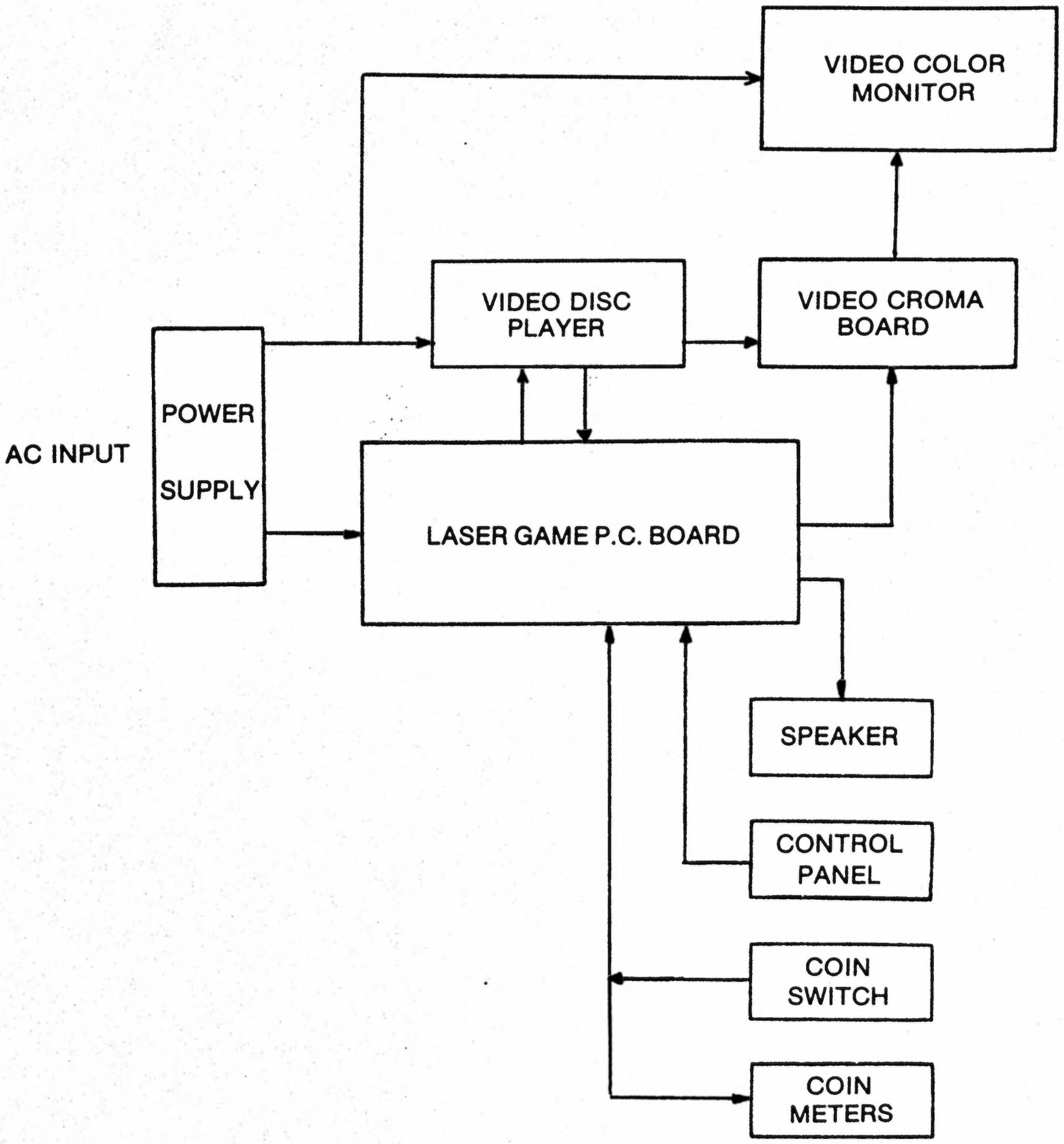
10) B **DISC TEST**

The Video Disc Players search capabilities are tested. Several video screens will rapidly be displayed on the screen.

PASS: "End" will be displayed on the screen and automatically advance to RAM TEST.

FAIL: "Error" will be displayed on the screen with the faulty Disc Address.

# V SYSTEM BLOCK DIAGRAM



# EPROM REPLACEMENT INSTRUCTION

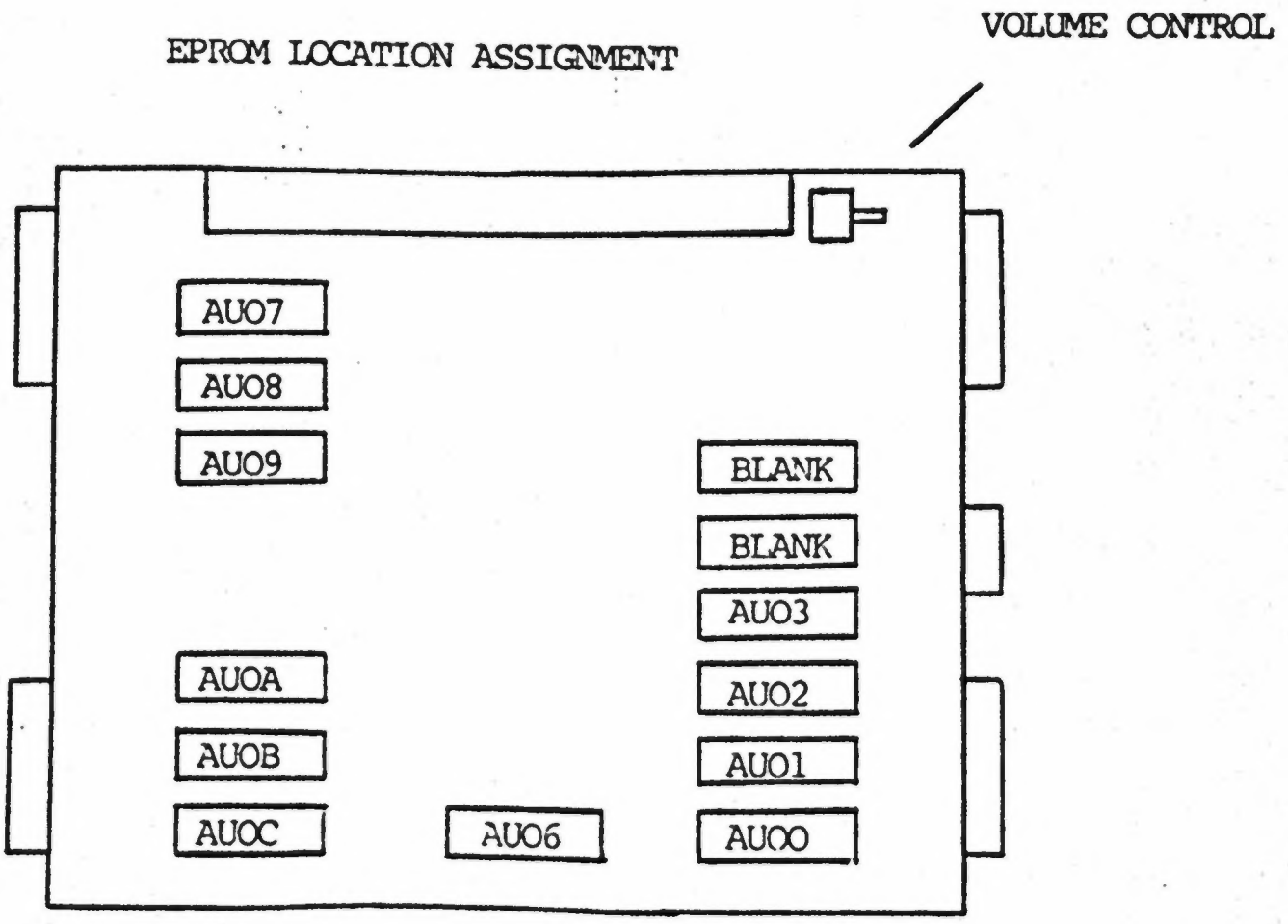
1. Remove the 13 Bega Battle EPROM's from the PC Board.
   Be sure to save these EPROM's to get the proper credit.

2. Install the Cobra Command EPROM set.See the figures below.

| EPROM No. | Board location | EPROM No. | Board location |
|---|---|---|---|
| AUOO | 14 F | AUO8 | 4 A |
| AUO1 | 12 F | AUO9 | 6 A |
| AUO2 | 11 F | AUOA | 12 A |
| AUO3 | 9 F | AUOB | 14 A |
| AUO6 | 15 C | AUOC | 15 A |
| AUO7 | 3 A | | |

NOTE: I.C. SOCKET LOCATION 8F,AND 6F ARE NOT USED WITH COBRA COMMAND AND ARE TO REMAIN EMPTY.

EPROM LOCATION ASSIGNMENT



# COBRA COMMAND OPTION SETTINGS

**FOR MAXIMUM EARNING RESULTS, WE RECOMMEND THAT YOU USE THE FOLLOWING SETTING.**

## Dip Switch 1

Coinage- 2 Coins 1 Play

| | | |
|---|---|---|
| SW 1 | Right Hand | ON |
| SW 2 | Selector | ON |
| SW 3 | Left Hand | ON |
| SW 4 | Selector | ON |
| SW 5,6,7,8 | | OFF |

## Dip Switch 2

| | | |
|---|---|---|
| SW 1 | 3 Lives | OFF |
| SW 2 | 20,000 and every 30,000 Bonus | ON |
| SW 3 | Regular Difficulty | ON |
| SW 4 | Regular Difficulty | OFF |
| SW 5 | Operation Code | ON |
| SW 6 | Idlemode Sound On | ON |
| SW 7 | Random 1st Pattern | ON |
| SW 8 | Self Test | OFF |

Thomas Petit
Vice President, Sales
Data East USA, Inc.