

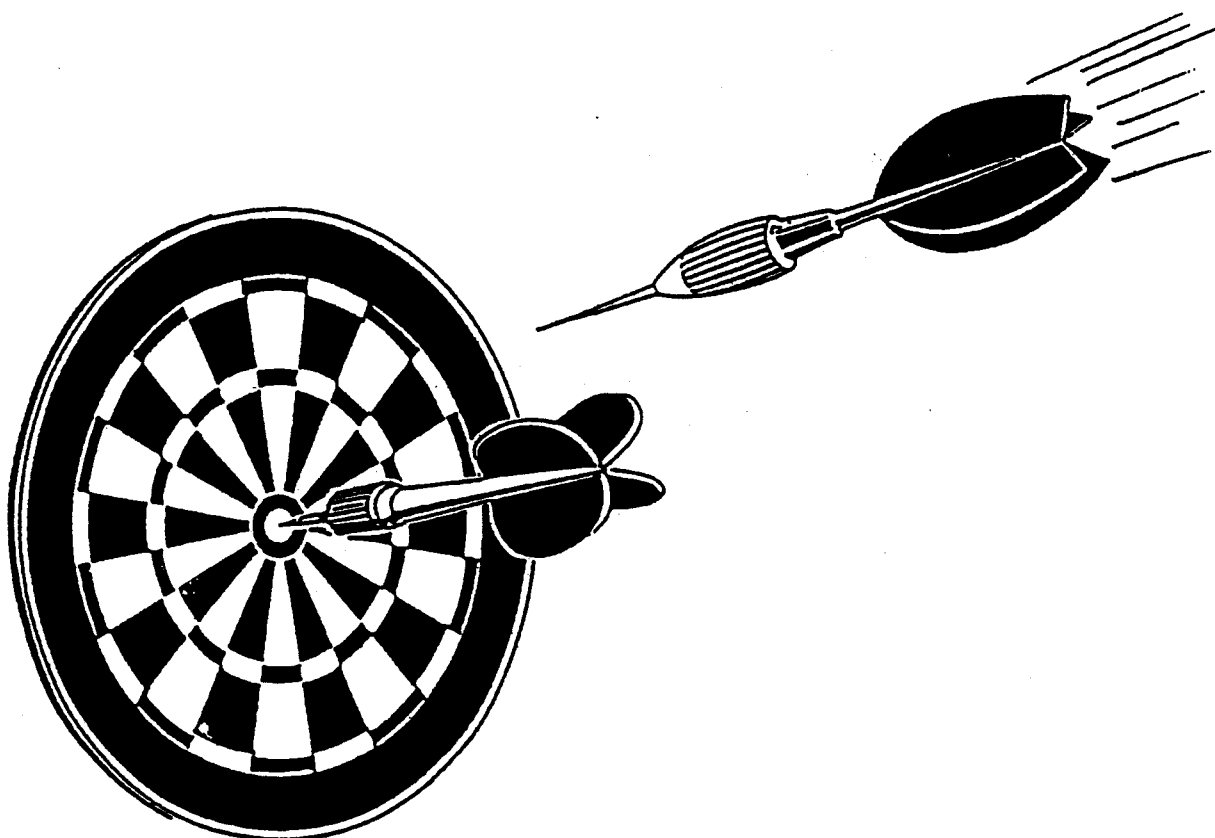
# TECHNICAL INSTRUCTIONS

for

## LÖWEN TURNIER DART

Model HB8-96

Part-No.: 119 969



# NSM

## Aktiengesellschaft

NSM Aktiengesellschaft, Im Tiergarten 20-30, 55411 Bingen am Rhein



**THIS GAME CONTAINS A LITHIUM BATTERY. PLEASE CONTACT YOUR LOCAL WASTE HAULER FOR PROPER DISPOSAL OR RECYCLING POLICIES.**



**ONLY AUTHORIZED PERSONNEL MAY USE KEYS TO ACCESS SERVICE AREAS.**



**LOCATE GAME CLOSE TO POWER OUTLET. IN CASE OF FIRE HAZARD, UNPLUG POWER CORD FROM OUTLET.**



**MAKE SURE POWER CORD IS NOT TRAPPED BETWEEN TOP AND BOTTOM CABINET WHEN GAME IS IN ITS UPRIGHT POSITION.**



**DO NOT BLOCK VENTILATION HOLES.**

**Version: HB8-10**

**ALTERATION TO ANY PART OF THE GAME IS PROHIBITED.**

**JANUARY 1999**

**DUPLICATION OF THIS DOCUMENT IS NOT PERMITTED WITHOUT AUTHORIZATION.**

**PART NUMBER: 119 969**



## CE - Declaration of Conformity

corresponding to the EC guiding rules

**-electromagnetically compatibility 89/336/EEC**  
**-low voltage directive LVD 73/23/EEC**

The product

**Electronic Dart HB8-96**

corresponds to the following harmonized standards,  
rules and specifications:

**EN 50081-1:1992**

**EN 50082-1:1992**

**EN 60 335-1**

This declaration becomes invalid following product  
modifications which are not authorized by.

Bingen/Rhein, 10.01.1997

### Conventions to this manual



This sign at the beginning of a text indicates that you have to be very carefully in following the given instruction. Thus to avoid damage of the game and to avoid injury of yourself and other people.

### Caution:

This indicates messages which may help you to avoid damage of the game.

### Note:

This indicates important information to be regarded. Thus to fulfil the well-functioning of the game.

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# GAME SPECIFICATIONS AND INSTALLATION

## Specifications

**This game is suitable for indoor use only.**

**Height: 220cm upright**  
**Weight: 92Kg**

**Width: 61cm**  
**Voltage: 220V 50Hz**

**Note:** A working area of approximately 185cm x 125cm with a 230cm ceiling clearance is needed to install this game.

## Installation

1. Unlock and open door "A" (see fig. 1) to access the electronics compartment.
2. Remove the washers and bolts "C" from the plastic bag which is stapled inside the electronics compartment and set them aside within easy reach.
3. Slowly and carefully swing the upper section of the game upright, **bracing the back until the game is securely fastened.**
4. Verify that the wires are not pinched. Replace the washers and bolts "C" in the inside top of the electronics compartment and thread upward to secure the upper section of the game. **Tighten the bolts.**
5. This game is equipped with an easily replaceable power/line cord which is located inside the pedestal when shipped and must be routed through the opening at the back of the game prior to operation. Review fig. 2a before proceeding.
  - A. Open coin door.
  - B. Turn power cord cover latch counterclockwise until the power cord hole cover itself can be rotated counterclockwise. See fig. 2b.
  - C. Turn power cord hole cover to expose opening. See fig. 2c.
  - D. Locate power cord (inside pedestal) and route plug end through opening. Push the entire length of the cord through the opening.
  - E. If the cabinet top must be folded down for any reason, the power cord must be placed back inside the pedestal.
6. Move the game to its operation location without tilting it more than 10 degrees. Plug power cord into an appropriate outlet.

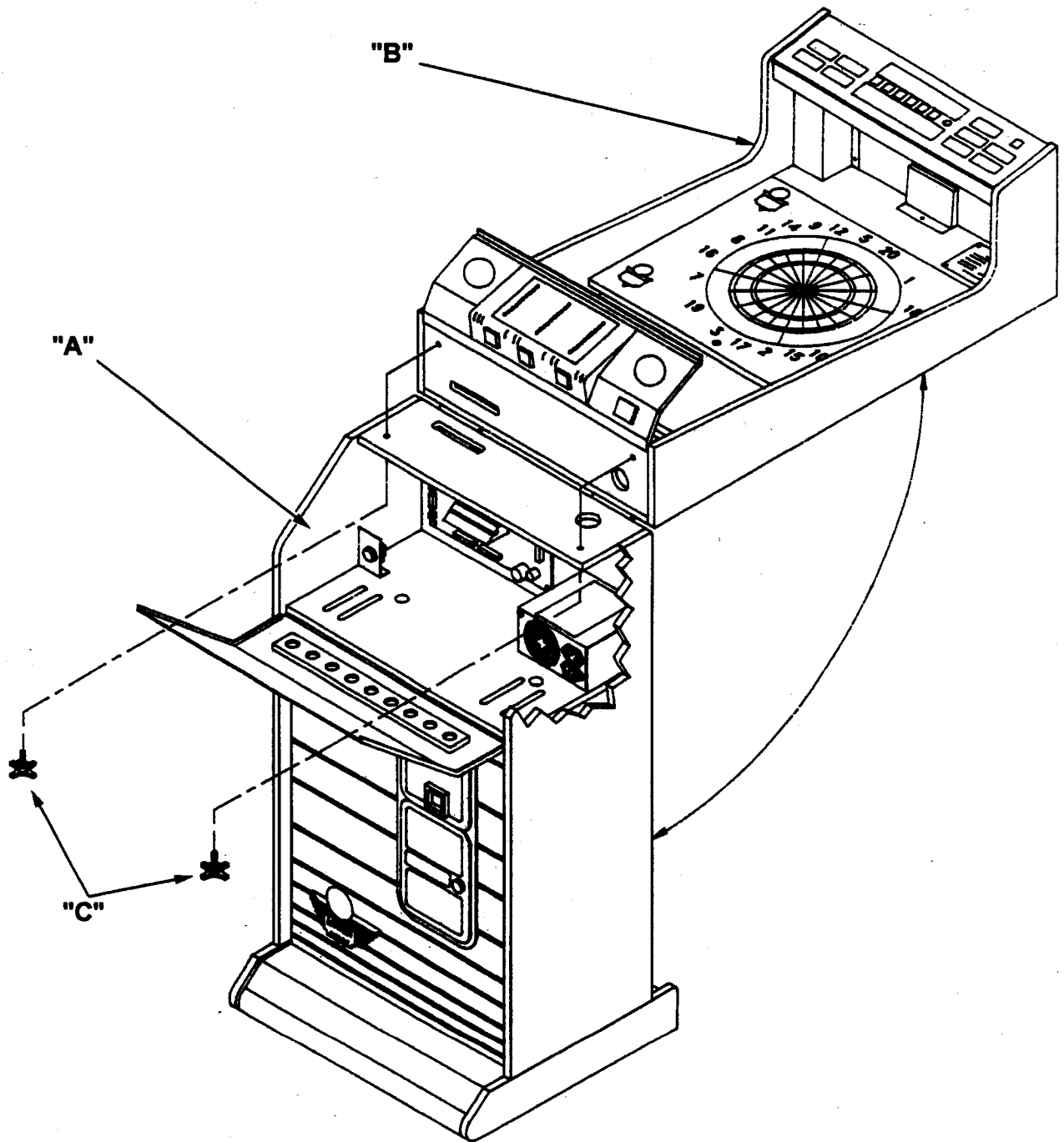


**DO NOT BLOCK VENTILATION HOLES.**

### **CAUTION**

**To ensure safety, it is recommended that the game be secured to the floor or to the wall using the Stability Assurance Kit provided. See instructions on the following pages.**

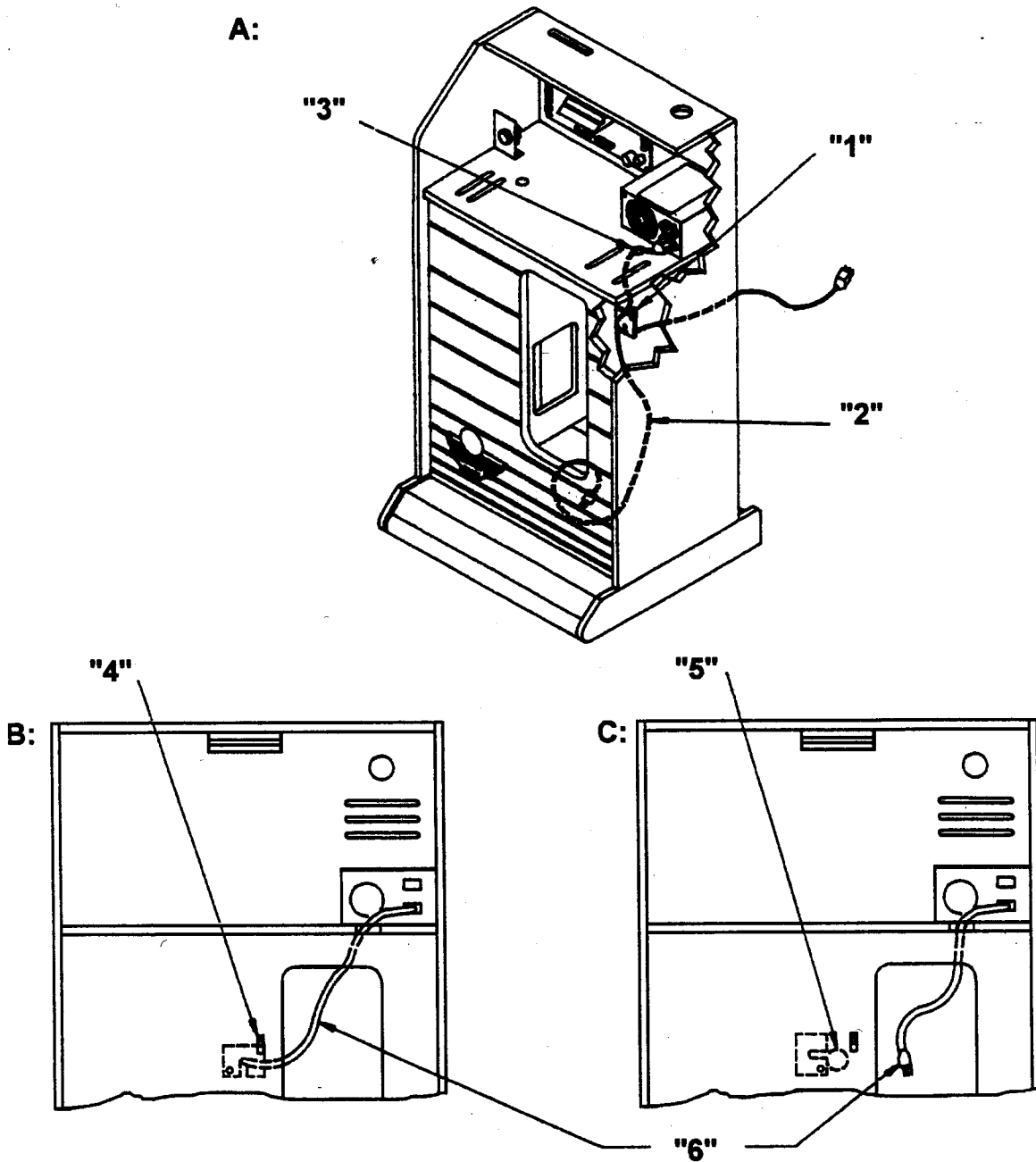
# GAME SPECIFICATIONS AND INSTALLATION



- A: Electronics Compartment (A)
- B: Upper section of the game
- C: Thumb-screws and washer (C)

FIGURE 1: LÖWEN TURNIER DART MODEL HB8-96

# GAME SPECIFICATIONS AND INSTALLATION



- A:= 3-D View of power cord routing
- B:= Front view of power cord cover in closed position
- C:= Front view of power cord cover in open position
- "1"= Power cord shown in assembled position
- "2"= Power cord shown in shipping position
- "3"= Power cord opening in lower electronic shelf
- "4"= Power cord ccover latch
- "5"= Power cord opening in lower electronic shelf
- "6"= Power cord

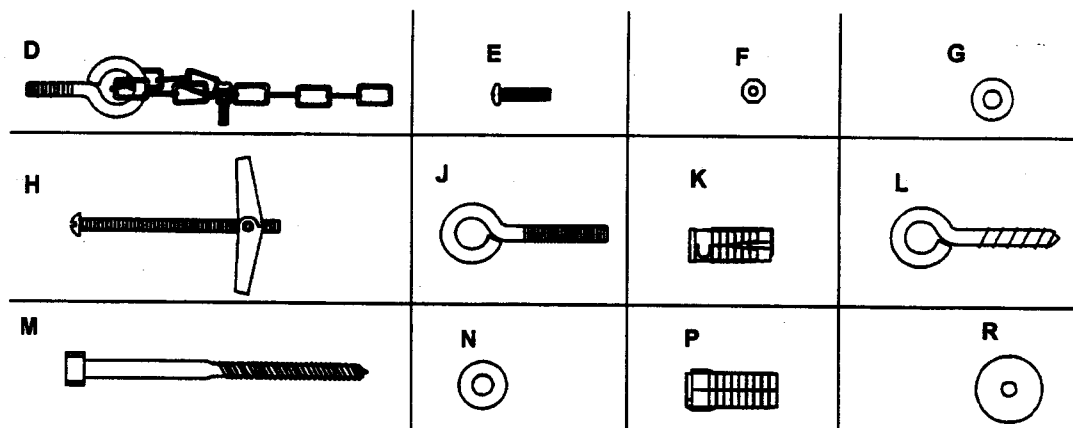
Figure 2: Line cord routing



## GAME SPECIFICATIONS AND INSTALLATION

The stability assurance kit

The stability assurance kit is shipped in cash box.



D = Eye bolt and chain fastened with hex nut and screw.

E = Machine screw 8#-32x3/4"

F = Hex nut 8#-32

G = Flat washer #10

H = Toggle bolt 3/16x3"

J = Wire eye bolt

K = Hex nut expansion shield 1/4x-1/4"

L = Wood eye bolt

M = Lag bolt, hex 5/16 x 4,5"

N = Flat washer 11/32" I.D. 11/16" O.D.

P = Floor anchor 5/16x1-3/4"

R = Fender washer

Figure 3: Parts list of the stability assurance kit

### Installation instructions

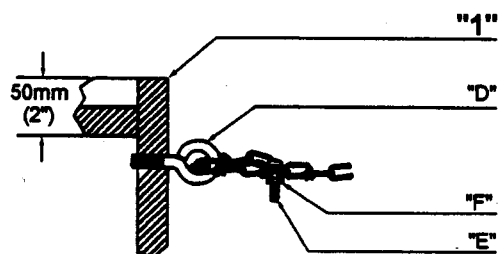
#### Tools needed:

- Measuring tape
- Small screwdriver (Phillips and Flathead)
- Pliers or Crescent wrench
- Drill with:
  - 12.5mm (1/2") bit to secure the game to a hollow wall
  - 12.5mm (1/2") masonry bit to secure the game to a concrete, brick, or stone wall.

#### Attachment of the chain to the wall:

**Step 1:** Fasten eye bolt and chain to the game.

- Screw the eye bolt with chain (D) into the insert on the upper back wall (1) of the game.



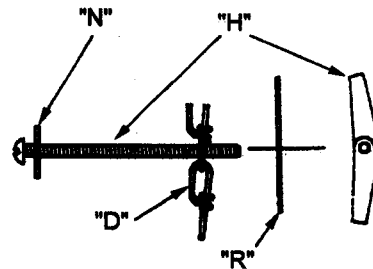
## GAME SPECIFICATIONS AND INSTALLATION

**Step 2:** Fasten to the wall according to the following instructions A, B, or C.

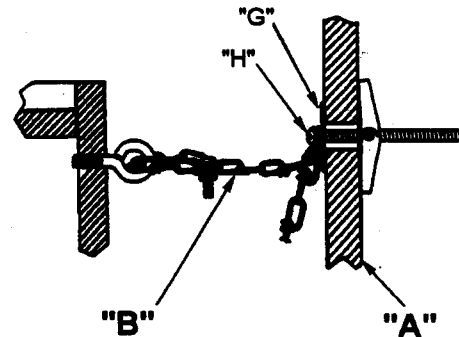
### A. *Hollow wall: plaster, drywall, etc.*

1. With the game in the position where it will be played, mark a spot on the wall directly in line with the eye bolt and chain attachment on the back of the game.
2. Drill a 12.5mm (1/2") diameter hole at the marked spot.

3. Unscrew the wings from the toggle bolt (H).
4. Place a fender washer (R) on the toggle bolt.
5. Place the toggle bolt (H) through a loop in the chain a few inches from the end of the chain. The toggle bolt (H) may have to be threaded through the loop in the chain.
6. Slide a fender washer (R) on the toggle bolt (H) and screw the wings back on.



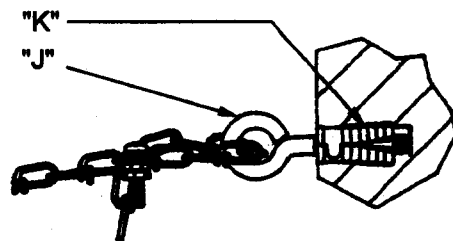
7. Push the toggle bolt (H) into the drilled hole in the wall.
8. Fasten the toggle bolt (H) tightly until the wings are snug against the back of the wall as shown. Keep the chain as taut as possible to minimize slack.



### B. *Concrete, brick, stone wall*

1. With the game in the position where it will be played, mark a spot on the wall directly in line with the eye bolt and chain attachment on the back of the game.

2. Drill a 12.5mm (1/2") diameter hole, 35mm (1-1/4") deep at the marked spot.
3. Pound the wall anchor (K) into the hole until it is flush with the wall surface.
4. Screw the eye bolt (J) into the wall anchor (K) until it is tight.

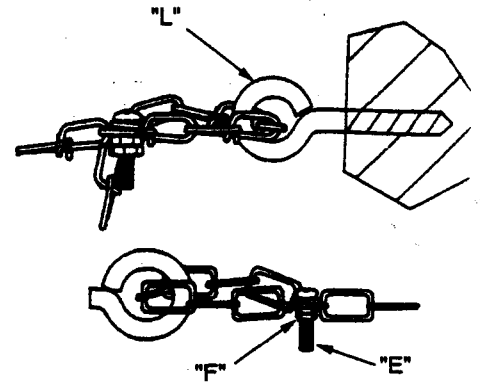


5. Thread the chain through the eye bolt and attach it to itself with the screw (E) and the two hex nuts (F) as shown. Keep the chain as taut as possible to minimize slack.

### C. *Wood stud mounting*

## GAME SPECIFICATIONS AND INSTALLATION

1. With the game in the position where it will be played, mark a spot on the wall directly in line with the eye bolt and chain attachment on the back of the game.
2. Screw the eye bolt into the stud at the marked spot.
3. Thread the chain through the eye bolt and attach it to itself with the screw (E) and the two hex nuts (F) as shown. Keep the chain as taut as possible to minimize slack.

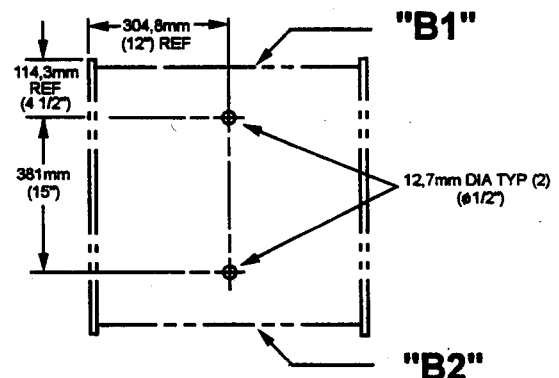


### ATTACHMENT TO THE FLOOR:

Fasten to the floor according to the following instructions A or B.

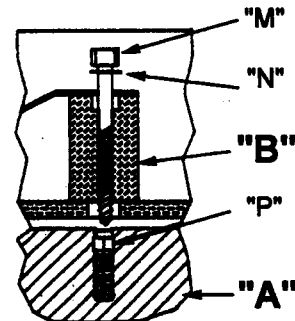
#### A. *Concrete floor*

1. Mark two spots on the floor according to the diagram.
2. Drill the two holes at the marked spots 12.5mm (1/2") diameter X 45mm (1-3/4") deep each.
3. Pound in the floor anchors (P).
4. Align the holes in the base of the game with floor anchors (P).
5. Secure the game with the flat washers (N) and lag bolts (M).
6. Tighten the lag bolts until flush with the bottom of the counterbored holes in the base.



#### B. *Wood floor*

1. Position the game in its selected location.
2. Secure the game with the washers (N) and lag bolts (M).



**Note:** If desired, a 6mm (1/8") diameter pilot hole maybe used to start the lag bolt.

3. Tighten the lag bolts (M) until flush with the bottom of the counterbored holes in the base.

## GAME FEATURES

### Game features

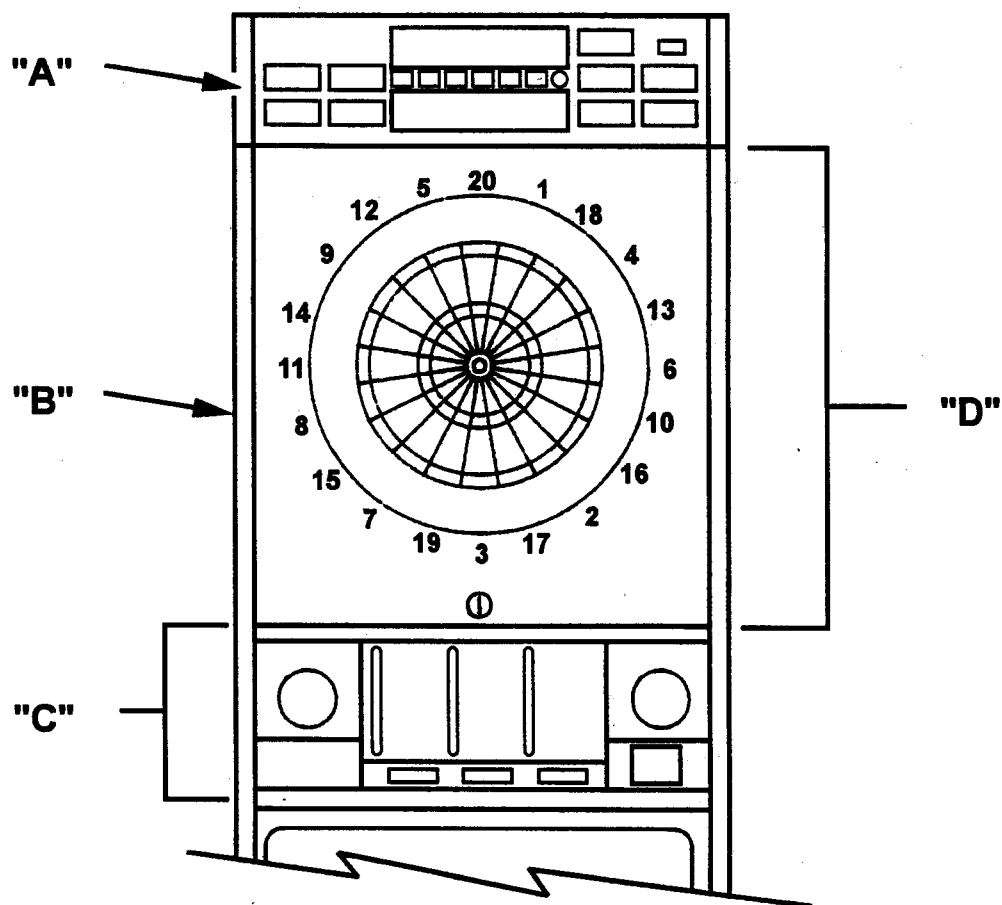
- A. **Game Selection** Menu driven Game Select Panel layout.
- B. **Point Display** Versatile Upper Display with Variable Cricket Segment Numbers.
- C. **Games** High Score, Shanghai, 301, 501, 701, and Cricket Eliminator **NEW** Split Score and Rapid Fire  
**Six Options for 301/501/701** Double In, Double Out, Masters Out, Double In/Double Out, Double In/Masters Out, and League.  
**NEW** Time-Out-Handicap  
**Five Options for Cricket** You Pick It and Chance It, all with the additional options of Cut Throat, Masters Cricket, and League.
- D. **League Play** Permits 301, 501, 701, Cricket or Cut-Throat team play with 2 or 4 players per team.
- E. **301/501/701 and Cricket Feats Readout**
- F. **Diddle Time** 2 minute time allowed to practice or to establish starting positions. (See the General Playing Instructions section in this manual.)
- G. **Price Preview in Attract Mode**
- H. **Tru-Score** Anti-Flighting Software and Missed Dart Detection.
- I. **Programmable Round Limit, Prices, and Bullseye Settings for Each Game**
- J. **Bookkeeping** Allows the operator to keep a record of total credits entered and credits entered per game.
- K. **DATAprint Connection** Print out statistics and upload feature changes!  
**NEW** Date and Time can be uploaded from DATAprint.
- L. **Programmable Features** No Dip Switches, all features are software controlled.
- M. **Dart Catching Ring**
- N. **Dormant Time Out** Programmable inactivity time to end games.  
Programmable in 15 minutes increments.
- O. **Handicap (Round 0)** for 301, 501, 701, and Cricket variations.
- P. **Superhandicap** Individualized for each player - Different starting scores, Double In/Double Out, and masters out options are also available.
- Q. **Dart Alarm** When being played on with no credits, the game will sound an alarm and turn off the over head lamp for one minute.

## GAME FEATURES

### TRU-SCORE II

Your Valley Dart Game is equipped with an impact sensor to detect darts which bounce off the door or hit the dart catching ring; the darts which do not hit the scoring area of the target are indicated by a short tone. By sensing all the darts which have been thrown, the game will alert the player to remove the darts.

This feature is factory adjusted and ready to use. If further adjustments are necessary, refer to the Dart Sensor Adjustment Procedure in this manual.



- A: Upper display
- B: Cabinet side panel
- C: Game selector area
- D: Missed dart sensing area

Figure 7: Missed DART sensing area

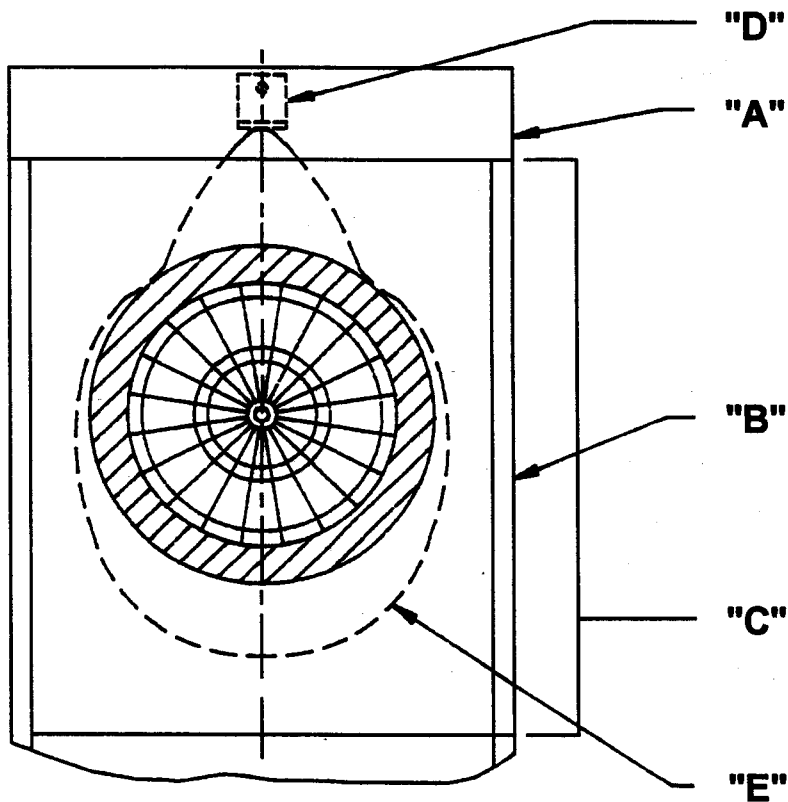
## GAME FEATURES

### **INFRARED BODY SENSOR**

This dart game is equipped with an infrared sensor to detect a player removing darts from the target at the end of his turn.

The infrared sensor (IR) is activated after 3 darts have hit the target or the door and have been detected by the Tru-Score II Impact Sensor. Players do not need to push the Player Change button as the game will sense the player removing darts.

However, if all darts have not been counted, such as when a dart misses the game completely or when Tru-Score II is disengaged, the Infrared Body Sensor will not activate and it will be necessary to press the Player Change button twice.



- A: Upper display
- B: Cabinet side panel
- C: Target door (recessed)
- D: IR Sensor assy
- E: IR Beam pattern

Figure 8: Infrared detection area

# PLAYING INSTRUCTIONS

## **General playing instructions**

1. Insert coins. Press the **GAMES** button until the red LED next to the desired game is lit. At this time, price per player will be displayed. The number of credits entered will be shown in **ROUNDS** display. Deposit the required number of credits for each player.
2. Select options (Ex. Double In) by pressing the **OPTIONS I** or **OPTIONS II** button until desired option(s) is lit.

## **DIDDLE TIME**

After coining up, **but before pressing Player Change button**, there will be two minutes for players to "diddle" for position without setting off the **DART ALARM**.

3. Press the **PLAYER CHANGE** button for the desired number of players.
4. Wait for the green **THROW DARTS** lamp to light (about 5 seconds) before starting play. A dart thrown before **THROW DARTS** is lit will not receive a score.

## **To start the game**

Throw the first dart, or select a different game by pressing the **GAMES** button and then the **PLAYER CHANGE** button.

5. After 3 darts have been thrown the player can remove the darts. If the Infrared Sensor feature is **engaged**, the **DON'T THROW** lamp will light until the player moves away from the game. The game will automatically change players.

**Note: If the 3 darts have not been registered the player must press PLAYER CHANGE before removing darts.**

## PLAYING INSTRUCTIONS

### Playing instructions for each game

#### 301

- Beginning with a score of 301, player(s) must score down to exactly 0. The first player to reach 0 wins.
- Any points scored exceeding the point total needed to reach 0 will result in a BUST. The player loses a turn and forfeits any remaining darts not thrown in that round. Player's score will return to the score at the beginning of the round.

#### 501/701

- Same game as 301 except that the starting score is 501 or 701 points.

#### Traditional Cricket

**Objective:** In traditional Cricket, the object is to close numbered segments by hitting each one the equivalent of three times. (Ex. To close segment #20, a player must throw 3 darts in the single, 1 dart in the single and 1 dart in the double, or 1 dart in the triple #20.)

- This game is played using segments 20, 19, 18, 17, 16, 15, and the Bullseye. The player who closes a segment may score on that segment until it is closed by all other players. On the upper display, the number of a closed segment will be replaced by dashes (--). If the Bullseye is closed, Bullseye LEDs will go out. The game ends when one player has closed out all the segments from 20 through the Bullseye and has the highest score or is tied for it.

#### High Score

- Each player throws three darts per round.
- Highest score at the end of seven rounds wins the game.

#### Shanghai

- Player(s) begin by throwing three darts per turn.
- The object is to hit each segment in sequence beginning with segment #1, working up to segment #20, and ending with the bullseye. The player with the highest score after 7 rounds or a Shanghai wins the game. Game will prompt player for next segment at the beginning of each round except first round, first play.
- A "Shanghai" is an automatic win achieved by throwing 3 consecutive scoring darts consisting of a single, a double, and a triple segment in any order. (Ex. Player is shooting for 4, 5, 6 in round 4 of a game. Player hits a triple 4 segment, then a single 5 segment, then a double 6 segment: this qualifies as a "Shanghai.")

#### 301 Elimination

- Played with the same rules as the 01 games, except that each player has the opportunity to send other players' scores back to zero.
- Each player begins with 0.
- The first player to reach 301 exactly within the round limit or the player with the highest score after the 10 round limit is the winner.



## PLAYING INSTRUCTIONS

- Each player can wipe out other players by matching their scores with any or all of the three darts thrown.

### **Example:**

- Player 1 has score of 80 points, Player 2 has a total score of 120 points, Player 3 has a score of 90 points, Player 4 has a score of 150 points.
- Player 1 shoots a 10 with his first dart for a score of 90. This matches Player 3's score so Player 3's total score returns to 0.
  - Player 1 shoots his second dart and hits a Double 15 for a total score of 120. This matches Player 2's score, and sends her to 0.
  - Player 1 shoots his third dart and hits another Double 15, bringing the total score to 150, which matches Player 4's score. Player 4's score returns to 0.

### SPLIT SCORE

- Each player begins with 40 points.
- Each player throws 3 darts per round at the segment designated by the game.
- Each time the designated segment is hit, the value of the segment is added to the score. (Including double or triple point values).
- If the designated segment is not hit at least once during the round, the player's score is split in half.
- The designated segments are 15, 16, any Double, 17, 18, any triple, 19, 20 and Bullseye.
- Highest score at the end of 9 rounds wins the game.

### RAPID FIRE

- Each player selects their own individual time handicap by pressing target segments. A Bullseye gives 21 „ticks“ and is the maximum.
- Each player begins by throwing at the first segment designated by the game. This number will be flashing in the Cricket display. The timer starts at this point.
- The second dart must be thrown at the next designated segment. Likewise, the third dart must be thrown at the last designated segment.
- The second and third darts must be thrown prior to the elapse of the timer.
- Only the flashing designated segment can be scored upon.
- Each segment hit is displayed in the left side of the Cricket display.
- Each sector of the target is designated once during the game.
- The highest score after 7 rounds wins.

## PLAYING INSTRUCTIONS

### Options (1) for 301/501/701 and 301 Elimination

#### **Double In:**

- Each player must hit a double point value segment or an inner bullseye to begin play.  
**Darts thrown prior to the first scoring throw will not score points.**

#### **Double Out:**

- A player must reach 0 exactly by scoring a double point value segment or an inner Bullseye. A score of 1 will automatically bust a player in this position.

#### **Double In/Double Out:**

- This is a combination of the Double In and the Double Out games.

#### **Masters Out:**

- This is played the same way as Double Out, but the player can also go out by hitting a triple point value segment or an inner bullseye.

#### **Double In/Masters Out:**

- This is a combination of the Double In and the Masters Out games.
- 

### Options (1) for Traditional Cricket

#### **Chance It Cricket:**

**Objective: Same as Traditional Cricket.**

- In this variation of Cricket, the dart game picks 6 segments at random (and the Bullseye) which players then close as in a normal Cricket game.
- All the usual Cricket rules apply.

#### **You Pick It Cricket:**

**Objective: Same as Traditional Cricket.**

- In this variation of Cricket, players pick 6 segments (and the Bullseye) which they then close as in a normal Cricket game.
- To pick segments, wait for flashing 0 to appear in the Cricket number display. Press 6 segments on the target. Once 6 segments have been chosen, the numbers will appear on the display in descending order.
- All the usual Cricket rules apply.

#### **Cut Throat Cricket:**

**Objective: Same as Cricket, except that players with closed numbers add points to opposing players with those numbers still open.**

- The player who has closed all numbers and has the lowest score wins.

## PLAYING INSTRUCTIONS

### **Masters Cricket:**

**Objective:** Same as Cricket, except that a player can only score when closing out a segment.

- Player can only score points on darts that also close out a segment.
- After a player has closed all his numbers and the bullseye, the player may then score points on any opponents' open numbers.
- The player who has closed all numbers and has the highest score wins.

### **Chance It / Cut Throat Cricket:**

- This is a combination of the Chance It and the Cut Throat games.

### **Chance It / Masters Cricket:**

- This is a combination of the Chance It and the Masters games.

### **You Pick It / Cut Throat Cricket:**

- This is a combination of the You Pick It and the Cut Throat games.

### **You Pick It / Masters Cricket:**

- This is a combination of the You Pick It and the Masters games.

### **Team Options For 301/501/701 and 301 Elimination**

- Frozen team player is available, except for 301 elimination: If a player is "frozen" and reaches 0, the game will cause this player to bust when feature F06 (frozen player) is set to 'BUST'. When feature F06 is set to 'LOSE', the game will cause the team to lose.
- Handicap play available, except for 301 elimination.

### **Team: 2 Player**

This option can only be chosen when there are enough credits to start a 4, 6, or 8 player 301/501/701 game.

Players 1 and 3 are Team "A." Players 2 and 4 are Team "B." Players 5 and 7 are Team "C." Players 6 and 8 are Team "D."

After selecting a 301 or 301 Elimination game, press the blue OPTIONS II button until TEAM: 2 PLAYER is lit.

Use the red PLAYER CHANGE button to select all players for the teams (the game will automatically put up scores to make an even number of players).

**Note: There must be a minimum of 2 teams (4 players) up to a maximum of 4 teams (8 players).**

### **Team: 4 Player**

- This option can only be chosen when there are enough credits to start an 8 player 301/501/701 game (2 teams of 4 players each).
- Players 1, 2, 3, and 4 are Team "A." Players 5, 6, 7, and 8 are Team "B." After selecting a 301 or 301 Elimination game, press the blue OPTIONS II button until TEAM: 4 PLAYER is lit.
- Use the red PLAYER CHANGE button to start the game.
- The display will automatically put up a 2 team, 8 player game.
- The total score for each team is shown in the Cricket number display.
-

## PLAYING INSTRUCTIONS

- The total score of the other players on the team must be less than or equal to the combined score of the opposing team's players in order to win the game. A player cannot win the game if his partners' scores are greater than the opposing team's combined score, this situation causes that player to be "frozen" (ex. if the partners' scores are 150 points and the combined score of the opposing team is 125 points).
- Frozen team player rules apply according to feature setting F06 (see programming section).

### **Team Option For Cricket:**

- Frozen team player rules apply according to feature setting F06 (see programming section).
- Handicap play available.
- For Cricket / Cut-Throat, scoring on a number can only begin when all players on a team have closed the number. Scoring only occurs against opposing team members who have not closed the segment (ex. if Team B has #18 closed, and only Player 1 on Team A has #18 closed, Team B can score on #18 until Player 3 closes the number).
- The game ends when the members on a team close all segments 20-15 and the Bullseye and have points according to each game's rules.

### **Team: 2 Player**

- This option can only be chosen when there are enough credits to start a 4, 6, or 8 player game.
- After selecting a Cricket game (with or without options), press the blue OPTIONS II button until TEAM: 2 PLAYER is lit.
- Use the red PLAYER CHANGE button to select the players for the game (the game will automatically put up scores for an even number of players).

### **Team: 4 Player**

- This option can only be chosen when there are enough credits to start an 8 player game of Cricket (2 teams of 4 players each).
- Players 1, 2, 3, and 4 are Team "A." Players 5, 6, 7, and 8 are Team "B." After selecting a Cricket game, press the blue OPTIONS II button until TEAM: 4 PLAYER is lit.
- Use the red PLAYER CHANGE button to start the game.
- The display will automatically put up a 2 team, 8 player game.

### **301 Elimination Team Rules:**

- Players cannot eliminate a team member if they match their team member's score.
- Players on one team may eliminate players on the other team by matching their score as described previously.

**Warning:** If both members of a team have the same score, an opposing team member could knock **both** players' scores back to the starting score should he match their score.

## PLAYING INSTRUCTIONS

- The team with the first player to reach 301 before the 10 round limit is the winner as long as cumulative score of winning team is more than the cumulative score of the other team. A team player reaching 301 without having the highest cumulative teamscore could
  - Cause the player to "Bust," and his score will return to that of the previous round or
  - Lose the game depending on how the feature F06 (frozen player) is set.
- If the round limit is reached, the team with the highest cumulative score is the winner.

### Handicapping / Spot Darts

- Any spot darts will be thrown during this round
- "0" Round for handicapping players.
- Only handicapped players feats are tracked in round "0." Non-handicapped players are not affected in the "0" round.
- Handicap Round accurately scores number of darts thrown, feats, and rounds for all players; no player adjustments are necessary at the end of the game.

### To use Handicap / Spot Darts Option:

1. Deposit correct number of coins for game and options.
2. Select 301 / 501 / 701 or Cricket, with or without options.
3. Push the red PLAYER CHANGE button. Player score will flash 0. Use the target segments to enter the number of spot darts for this player (0, 1, 2 , or 3). Use the Bullseye for 0.
4. The player score will flash the new spot dart value.
5. Press the red PLAYER CHANGE button once to save the spot darts for that player.
6. Press the red PLAYER CHANGE again to add another player and repeat steps 3-5 to handicap each player.

**Caution: In Round "0" if a player is accidentally "skipped over", advancing back to that player will put you into Round ONE.**

### Time Out Handicap

- May be selected with any 301/501/701 game with any options (except Teamplay or Handicap round).
- Each player selects their own individual time handicap by pressing target segments. A Bullseye gives 21 „ticks“ and is the maximum.
- The second and third darts must be thrown prior to the elapse of the timer.
- Each player's round ends after the third is scored, or upon elapse of the timer whichever occurs first.
- Normal 01 rules apply.

## PLAYING INSTRUCTIONS

### **Superhandicap**

Each player may select which 01 game (with or without options) he/she wants to play.

#### **Example:**

- There are three players, Player 1 is a beginner and will play 301. Player 2 is an intermediate and will play 301 double-in. Player 3 is an expert and will play 701. To set up this Superhandicap game:
- Enter enough credits for the players and games.

#### **For PLAYER 1:**

- Use the red GAMES button to choose 301 for Player 1. Press the red PLAYER CHANGE.

#### **For PLAYER 2:**

- Use the light blue OPTIONS I button to choose the double-in option. Press the red PLAYER CHANGE button.

#### **For PLAYER 3:**

- Use the red GAMES button to choose 701. Press the red PLAYER CHANGE button.
- Wait for the "Throw Darts" lamp light on before starting the game.
- Time out Handicap may be combined with Superhandicap.

## PLAYING INSTRUCTIONS

### **Time Play Mode**

Players can choose to play in the traditional Credit Play mode or in Time Play mode. Time Play allows players to select paying for and playing games by time rather than credit. Feature F09 must be "ON" (See Features Programming Section).

### **How To Choose Time Play**

When money is inserted, the game will be in credit play mode. To change the game to time play mode, press and hold the red PLAYER CHANGE, then press the blue OPTIONS II button. The game will beep and 'tS' will appear in the cricket display.

The mode can be switched between credit play mode and time play mode until a game is selected.

To change back to credit play mode press and hold the red PLAYER CHANGE, then press the blue OPTIONS II button. The game will beep and 'CS' will appear in the Cricket display.

### **How Time Play Works**

- In Time Play mode, all credits are converted to minutes.
- Any game and option can be chosen - ONCE A GAME IS STARTED, THE MODE CANNOT BE SWITCHED BACK TO CREDIT PLAY.
- Time begins counting down when the first dart hits the target.
- Remaining time is shown (in minutes) on the Temporary Score between players.
- A warning will sound when one minute remains. During the one minute, remaining time is displayed in seconds. To continue playing, insert more money.
- If time runs out before additional money is added, the game will end. The player with the best score will be declared the winner.
- If enough time remains when a game is finished, a new game may be selected and played until time runs out or additional money is inserted.
- The game will revert back to credit play mode if no new game is selected before the final score or feats readout time-out. Time remaining (if equal to or greater than one credit) will be converted to credits.

# PLAYING INSTRUCTIONS

## Happy Hour and Club Training Options

### Happy Hour Option

If a Happy Hour Time Slot has been programmed (see programming section, P07), a "bonus" number of credits is added to the remaining credit amount each time a specified level of credits is inserted.

For Example:

Assume a Happy Hour Time Slot has been programmed for Tuesday, beginning at 12 Noon with a duration of one (1) hour. The bonus level has been programmed at 5 DM, with a bonus adder programmed at two (2). When 5 DM coins are inserted into the game between 12 and 1 o'clock, 2 "bonus" credits are added to the credit total.

**Note:** The DM which counts toward the bonus level of 5 must be inserted at the same time, and before a game is played.

### Club Training Option

If a Club Training Time Slot has been programmed (See programming section, P08), 301 and 501 games with options will cost the same as a normal 301 game without options.

For Example:

Assume a Club Training Time slot has been programmed for Wednesday beginning at 5 o'clock P.M. with a duration of two (2) hours. During this time period, a 301/501 game with any options will have the same cost as a regular 301 game. After the programmed time period is over, all games will return to their previously programmed prices.



# PLAYING INSTRUCTIONS

## Feats Readout

Press the blue OPTIONS II button to start displaying the feats. Each feat will be displayed at the end of the game for a period of 6 seconds each. Pressing the blue OPTIONS II button will speed the advance to the next feat. Feats will cycle for two minutes. The display will then return to the ATTRACT mode unless credits remain.

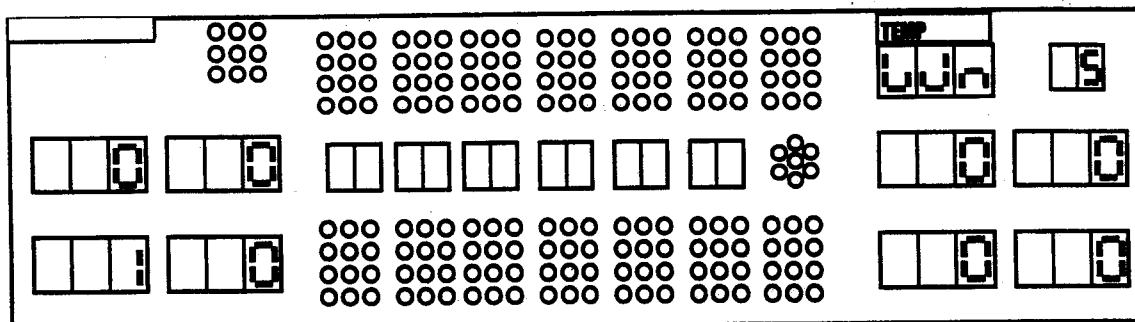


Figure 9: Sample display showing a „win“ feat

### 301/501/701 - Feats

| Feat                              | As shown on TEMPORARY DISPLAY | Description  |
|-----------------------------------|-------------------------------|--|
| Points per Dart                   | PPD                           | Shows average points per dart for each player  |
| Points per Round                  | PPR                           | Shows average points per round for each player. Calculated only during the first three rounds of play. |
| WIN                               | WIN                           | A win  |
| Assist                            | AST                           | An assist while playing „team“-with a partner  |
| 6th Dart Out <small>(301)</small> | 6DO                           | A win in 6 darts   |
| 7th Dart Out <small>(301)</small> | 7DO                           | A win in 7 darts   |
| 8th Dart Out <small>(301)</small> | 8DO                           | A win in 8 darts   |

## PLAYING INSTRUCTIONS

### 301 / 501 / 701 - Feats, continued

| Feat                                   | As shown on<br>TEMPORARY<br>DISPLAY | Description                           |
|--|-------------------------------------|---------------------------------------|
| 9th Dart Out <small>(301, 501)</small> | 9do                                 | A win in 9 darts                      |
| 10th Dart Out <small>(501)</small>     | 10d                                 | A win in 10 darts                     |
| 11th Dart Out <small>(501)</small>     | 11d                                 | A win in 11 darts                     |
| 12th Dart Out <small>(501)</small>     | 12d                                 | A win in 12 darts                     |
| 4th Round Out <small>(301)</small>     | 4tH                                 | A win in the 4th round                |
| 5th Round Out <small>(501)</small>     | 5tH                                 | A win in the 5th round                |
| Hat Trick                              | HAT                                 | 3 x Bullseyes in one turn             |
| TON                                    | ton                                 | A score of 100 to 150 in one turn     |
| High TON                               | Htn                                 | A score of 151 or greater in one turn |
| Total number of Darts thrown           | tdt                                 | See Programming Section               |

**Note:** A bust situation will cancel any feat obtained in that player's round. The Hat Trick can be accomplished on an inner or outer Bullseye. When 100 or more points are accumulated in a Hat Trick will be only feat recorded.

## PLAYING INSTRUCTIONS

### Cricket - Feats

| Marks per round | As shown on<br>TEMPORARY<br>DISPLAY | Description   |
|-----------------|-------------------------------------|---|
| Marks per Round | nr                                  | Average marks per round                             |
| WIN             | Win                                 | A win   |
| Assist          | AST                                 | An assist while playing team<br>with a partner      |
| 8 Dart Out      | 8do                                 | Finish in 8 darts                                   |
| 9 Dart Out      | 9do                                 | Finish 9 darts                                      |
| 9 Mark          | 9m                                  | 9 Marks in one round                                |
| 8 Mark          | 8m                                  | 8 Marks in one round                                |
| 7 Mark          | 7m                                  | 7 Marks in one round                                |
| 6 Mark          | 6m                                  | 6 Marks in one round                                |
| 5 Mark          | 5m                                  | 5 Marks in one round                                |
| White Horse     | WH                                  | Marking 3 diferent unmarked<br>triples in one round |
| Hat Trick       | HAT                                 | Marking 3 Bulleyes in one round                     |

**Note: Darts thrown which hit numbered segments closed by all players do not count as marks.**

## STATISTICS

### Programming Mode

|                                    |   |
|------------------------------------|---|
| WHILE IN PROGRAMMING MODE, PRESS-- |   |
| GAMES or OPTIONS I buttons         | to scroll through OPTIONS.  |
| OPTIONS II button                  | to enter any changes.   |
| PROGRAM button                     | to toggle between different screens (the program button is located in the lower electronics door on the left side). |
| PLAYER CHANGE                      | to exit present mode.   |

#### To Enter Programming Mode:

- Press Test Switch S1 on Controller, tSt will show on the display. Scroll through programming options (tSt, StA, and Prg) using red GAMES Button or light blue OPTIONS I Button until Prg appears in Temporary Score display.
- Press blue OPTIONS II Button to Enter.
- Enter security code if different from factory preset security code. Display will read P01, and new menu will be in effect. Use red GAMES button or light blue OPTIONS I button to scroll through options P01 through P12.

- P01 SEL gA (GAMES)** This mode allows you to change the number of credits per game, the bullseye setting, and the round limit for any game.
- P02 SEL LAn (MESSAGE LANGUAGE)** This mode allows you to change the language of the game, or to return to the factory language default setting.
- P03 SEL Cn (COIN)** This mode allows you to change the number of credits per coin, and to program the counter advances value.
- P04 SEL SEC (SECURITY)** This mode allows you to change the operator security code.
- P05 SEL FEA (FEATURES PROGRAMMING).** This mode allows you to enable or disable all of the programmable features.
- P06 SEL RtC (REAL TIME CLOCK).** This mode allows you to set the day, date, and time in the game.
- P07 SEL HHP (HAPPY HOUR).** This mode allows you to set a happy hour slot for each day of the week. A bonus credit may be set also.
- P08 SEL CLt (CLUB TRAINING).** This mode allows you to set a time period each day for league practice.
- P09 SEL t-C (TIME PLAY / PRINTOUT).** This mode allows you to set the number of minutes per credit for time play and the cost for a feats printout.
- P10 SEL dor (DORMANT TIME-OUT).** This mode allows you to set the dormant time out from 0 to 90 minutes.
- P11 SEL nnC (MACHINE CODE).** This mode allows you to program an 8-digit number to identify the game.
- P12 SEL dPr (DATA PRINT TRANSFER).** This mode allows you to save or restore game settings to and from a DATAprint 3000.
- P13 SEL rPd (TIME OUT SETTING).** This mode allows you to set the time out timer between 2.0 and 9.0 seconds in half second increments.

## STATISTICS

### **P01 - SEL gA: Game programming mode.**

- Select SEL gA by scrolling through programming options using the red GAMES or the light blue OPTIONS I button. Press the blue OPTIONS II button to enter.
- Use the red GAMES or the light blue OPTIONS I button to select the game and options to program.
- To toggle between number of credits per game option and round limit option, use **PROGRAM** button (located in the lower electronics door, on the left side).
- To change number of credits per game (**CPg**). The number of credits per game will appear in the Player 2 score on upper display. To change current value, press any number from 1 to 9 on the target. The new value is shown in Temporary Score display. Press blue OPTIONS II to save.
- The current setting (**bE/ dbE**) will be shown in the Player 6 display. To change Bullseye/Double Bullseye setting, press segment 20 on target. Press the blue OPTIONS II button to save.
- To change current round limit, press PROGRAM button to change mode from **Cpg** to **rL**. Temporary Score will display game, Player 2 score will display the current round limit. Change round limit by pressing appropriate target segments using numbers 1-9 and bullseye segment for 0 (ex. if rL = 20, press 2 and bullseye segment). Press blue OPTIONS II to enter. To enter unlimited rounds, press bullseye on the target. Temporary Score will display 0. Press OPTIONS II to enter. Player 2 display will show **UL** for unlimited rounds.

**Note: All games are programmed in the same way. Select another game by pressing GAMES or OPTIONS buttons until desired game is highlighted on Game Select Panel.**

- To exit GAMES programming, press red PLAYER CHANGE button. Display will return to SEL P01.

# STATISTICS

## Factory Settings Table

Bullseye, Round limits and Credit(s) per player,

|                                     | Bull's Eye | Round-limit | Credit |
|-------------------------------------|------------|-------------|--------|
| 301                                 | dBE        | UL          | 1      |
| 301 Double In                       | dBe        | UL          | 2      |
| 301 Double Out                      | dBE        | UL          | 2      |
| 301 Double In / Double Out          | dBE        | UL          | 3      |
| 301 Master's Out                    | dBE        | UL          | 2      |
| 301 Double In / Master's Out        | dBE        | UL          | 3      |
| 501                                 | dBE        | UL          | 2      |
| 501 Double In                       | dBe        | UL          | 3      |
| 501 Double Out                      | dBE        | UL          | 3      |
| 501 Double In / Double Out          | dBE        | UL          | 4      |
| 501 Master's Out                    | dBE        | UL          | 3      |
| 501 Double In / Master's Out        | dBE        | UL          | 4      |
| 701                                 | dBE        | UL          | 3      |
| 701 Double In                       | dBe        | UL          | 4      |
| 701 Double Out                      | dBE        | UL          | 4      |
| 701 Double In / Double Out          | dBE        | UL          | 5      |
| 701 Master's Out                    | dBE        | UL          | 4      |
| 701 Double In / Master's Out        | dBE        | UL          | 5      |
| Cricket                             | dBE        | 25          | 2      |
| Cricket Chance It                   | dBE        | 25          | 2      |
| Cricket You Pick It                 | dBE        | 25          | 2      |
| Cricket Cut Throat                  | dBE        | 25          | 2      |
| Cricket Master's                    | dBE        | 25          | 2      |
| Cricket Chance It / Cut Throat      | dBE        | 25          | 2      |
| Cricket Chance It / Master's        | dBE        | 25          | 2      |
| Cricket You Pick It / Cut Throat    | dBE        | 25          | 2      |
| Cricket You Pick It / Master's      | dBE        | 25          | 2      |
| High Score                          | dBE        | *7          | 1      |
| Shanghai                            | dBE        | *7          | 1      |
| Eliminator                          | dBE        | *10         | 1      |
| Eliminator Double In                | dBE        | *10         | 2      |
| Eliminator Double Out               | dBE        | *10         | 2      |
| Eliminator Double In / Double Out   | dBE        | *10         | 3      |
| Eliminator Master's Out             | dBE        | *10         | 2      |
| Eliminator Double In / Master's Out | dBE        | *10         | 3      |
| Split Score                         | dBE        | *9          | 1      |
| Rapid Fire                          | dBE        | *7          | 1      |

The table at the right shows the factory set programming for your game

The empty fields can be used to document your own settings.

For reference:

BE=50 points  
Bullseye (inner and outer)

dBE = 25 Punkte  
outer Bullseye and  
50 point inner  
Bullseye

UL = Unlimited  
(rounds)

\*= These round limit  
settings cannot be  
changed.

## STATISTICS

### ***P02 - SEL LAn: Message Language Programming.***

**Note:** Your game has an English language factory setting. If you wish to retain the English version, omit the instructions below. If you would like to use a German, French, Italian, or Spanish version, follow the steps below.

- Select **SEL LAn** by scrolling through programming options using the red **GAMES** button or the light blue **OPTIONS I** button. Press blue **OPTIONS II** button to enter.
- Press the red **GAMES** button or the light blue **OPTIONS I** button to scroll through language options. When desired language is displayed, press the blue **OPTIONS II** button to confirm change, and exit Language Programming mode.

- **To return to One Step Factory Default Settings, select desired language. Press and hold PROGRAM button (located inside the lower electronics door, on the left side). Press OPTIONS II.**
- **Factory default are reset and game exits language programming mode.**

- To exit message language programming mode without making changes, press red **PLAYER CHANGE** button.

### ***P03 - SEL Cn: Credit per Coin/Counter Advances Programming mode.***

- Select **SEL Cn** by scrolling through programming options using red **GAMES** button or light blue **OPTIONS I** button. Press blue **OPTIONS II** button to enter.
- Display will read **DRP Cn**. Drop a coin to see current values. Player 2 display will show the number of credits per coin (**Cr**). Player 4 display will show coin channel number (**CHn**).
- To change the number of credits per coin, press a number from 0 to 9 on the target. The new credits per coin value will appear in Temporary Score display. Press blue **OPTIONS II** button to save.
- To program counter advances, press **PROGRAM** button (inside the lower electronics door on the left side).
- Player 2 display will show number of counter advances per coin (**CA**), and Player 4 display will show coin channel number (**CHn**).
- To change the number of counter advances per coin, press a number from 0 to 9 on the target. Press blue **OPTIONS II** button to save.
- To exit credit per coin/counter advances programming mode, press red **PLAYER CHANGE** button. Upper Display will return to **Cn SEL**.

## STATISTICS

### ***P04 - SEL SEC: Security Code Programming.***

- Select **SEL SEC** by scrolling through programming options using the red **GAMES** button or the light blue **OPTIONS I** button. Press blue **OPTIONS II** button to enter.
- Press and **hold PROGRAM** button (located inside the lower electronics door, on the left side).
- **While holding PROGRAM** button, enter current security code using target segments. If the correct current security code has been entered, upper display will read **ENT**. Release the **PROGRAM** button.
- Enter new security code using target segments. As segments are pressed, new code will appear in Player scores on upper display.

### **NOTE: New security code must consist of four numbers.**

- Press blue **OPTIONS II** button to save new security code, and exit from security code programming mode.
- To exit security code programming mode without making any changes, press red **PLAYER CHANGE** button.

### ***P05 - SEL FEA: Features Programming.***

- Select **SEL FEA** by scrolling through the programming options using the red **GAMES** button or light blue **OPTIONS I** button. Press blue **OPTIONS II** button to enter.
- Each feature will be displayed similar to the one shown below.



## STATISTICS

- Choose a feature to set by using the red GAMES button or light blue OPTIONS I button to scroll through to the desired feature (F01 - F09).
- Use the blue OPTIONS II button to toggle the feature setting on or off. Player 5 display will also indicate 1 = ON or 0 = OFF.
- Press the red PLAYER CHANGE button to exit the features programming.

### Description of Programmable Features

|                                    |              |   |
|------------------------------------|--------------|---|
| <b>F01: One Dart Out</b>           | <b>*ON</b>   | Display the segments to hit in order to win in one (1) dart.                                  |
|                                    | <b>OFF</b>   | No single dart out segment calculation displayed.   |
| <b>F02: Attract Mode Sounds</b>    | <b>*ON</b>   | Tones are enabled during attract mode.  |
|                                    | <b>OFF</b>   | Tones are disabled during attract mode.   |
| <b>F03: Dart Alarm</b>             | <b>*ON</b>   | Warning tone & over head lamp turns off, if a game is used before money is deposited.         |
|                                    | <b>OFF</b>   | No alarm.   |
| <b>F04: Power Fail Recovery</b>    | <b>*ON</b>   | Game will resume after an interruption in power.  |
|                                    | <b>OFF</b>   | Game will not resume after a power interruption.  |
| <b>F05: IR Sensor</b>              | <b>*ON</b>   | Infra-red sensor enabled.   |
|                                    | <b>OFF</b>   | Infra-red sensor disabled.  |
| <b>F06: Frozen Team Option</b>     | <b>LOSE</b>  | A frozen player reaching "0" during league play will lose the game.                           |
|                                    | <b>*BUSt</b> | A frozen player reaching "0" during league play will "bust" and the game will continue.       |
| <b>F07: Delay Time (IR Sensor)</b> | <b>SLO</b>   | Time between players set at three (3) seconds.  |
|                                    | <b>*FASt</b> | Time between players set at two (2) seconds.  |
| <b>F08: Skip Frozen Player</b>     | <b>ON</b>    | In team Cricket, a frozen player is automatically skipped.                                    |
|                                    | <b>*OFF</b>  | In team Cricket, a frozen player is not skipped.  |
| <b>F09: Time Play</b>              | <b>ON</b>    | Time play is allowed, as set in programming mode 'minutes per credit'. (See Programming, P09) |
|                                    | <b>*OFF</b>  | No time play.   |
| <b>F10: Fast Player Change</b>     | <b>ON</b>    | Set to immediately change to the next player.   |
|                                    | <b>*OFF</b>  | Times out as normal based on delay time set in F07.   |

\* Indicates factory setting.

## STATISTICS

### **P06 - SEL rC: Date And Time Programming.**

- Select SEL rC by scrolling through programming options using the red GAMES button or the light blue OPTIONS I button. Press blue OPTIONS II button to enter.
- Upper display will look similar to the diagram shown below. The year, month, current date, hour (24 hour clock), and minutes are shown in the cricket digits.

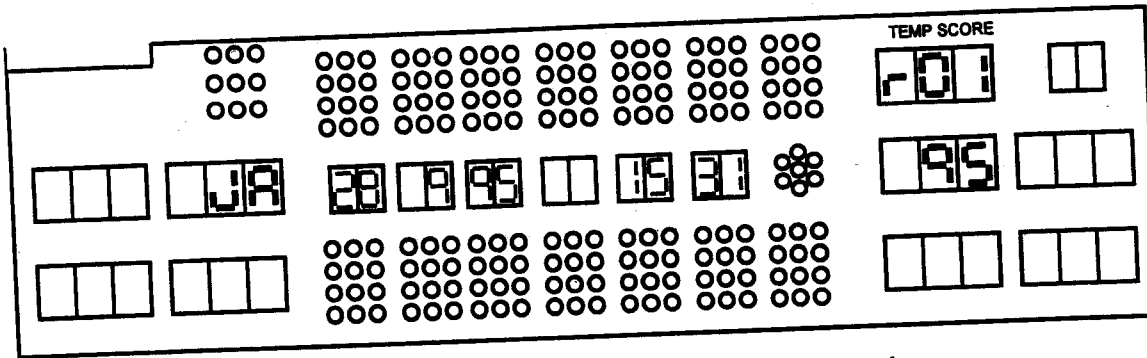


Figure 12: Example of a date/time display in programming mode

- Players 2 & 5 show the current item to program.
- Use the red GAMES button or light blue OPTIONS I button to cycle through: R01 - year (JA), R02 - month (nnO), R03 - date (dat), R04 - day of the week (tag), R05 - hours (St), and R06 - minutes (nnl).
- Use the target segments to enter a new value (as shown in the temporary score). Press OPTIONS II button to save the new value. The cricket digits will automatically update with the new value.
- Use the red PLAYER CHANGE button to exit date/time programming mode.

## STATISTICS

### **P07 - SEL HHP: Happy Hour Programming.**

- Select **SEL HHP** by scrolling through programming options using the red **GAMES** button or the light blue **OPTIONS I** button. Press the blue **OPTIONS II** button to enter Happy Hour Programming. Display will be shown as below:

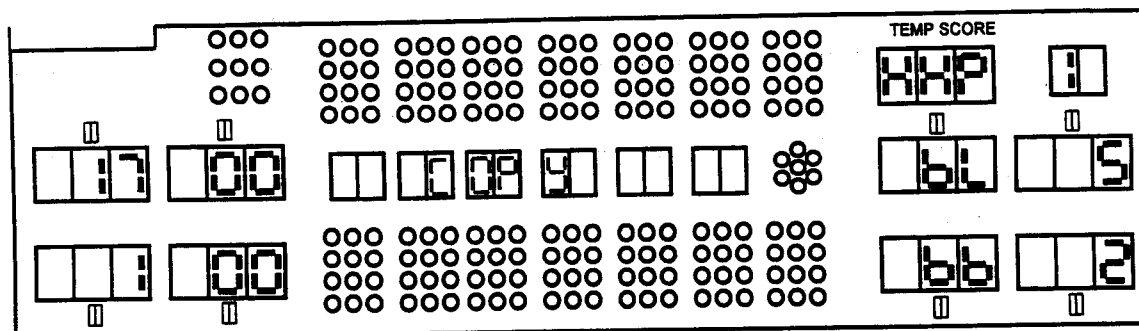


Figure 13: Example of a display in programming mode

- The left digit in the rounds display will begin flashing. This is the day of the week for the happy hour time slot. Use the red **GAMES** button or the light blue **OPTIONS I** button to cycle through the days of the week (1 = Monday through 7 = Sunday).
- Press the blue **OPTIONS II** button to save the day chosen.
- The indicator LED above start hour (player 1 display) will begin flashing. Use the target segments to select the start time. The new value will be shown in the temporary score. Pressing a target segment greater than 9 will cancel that day (shown with three (3) dashes - - -).
- Press **OPTIONS II** to save the starting hour.
- The indicator over the start minute will flash.
- Continue to use the target segments and **OPTIONS II** button to enter and save values (start hour, start minute, duration hour, duration minute, bonus level, and bonus adder).

**Note:** A bonus level and bonus adder must be set for every Happy Hour slot.

- Use **OPTIONS II** button to skip to the next value, or use the red **PLAYER CHANGE** button to back up. Using the **PLAYER CHANGE** at this point will flash the "day" value again. Pressing **PLAYER CHANGE** one more time will exit from Happy Hour programming.

**Note:** To copy one day's programming to another day:

- Choose the day with programmed time. Use the red **GAMES** button or the light blue **OPTIONS I** button to cycle through until "COPY" is shown in the Cricket display.
- Press the blue **OPTIONS II** button to select the copy function. The day indicator will flash. Use the red **GAMES** button and the light blue **OPTIONS I** button to select the day to copy to. Press **OPTIONS II** to make the copy. The game will beep to confirm the copy is complete.
- Use the red **PLAYER CHANGE** button to exit Happy Hour Programming.

## STATISTICS

### **P08 - SEL CLt: Club Training Programming.**

- Select SEL CLt by scrolling through programming using the red GAMES button and the light blue OPTIONS I button. Press the blue OPTIONS II button to enter Club Training Programming. Display will be shown as:

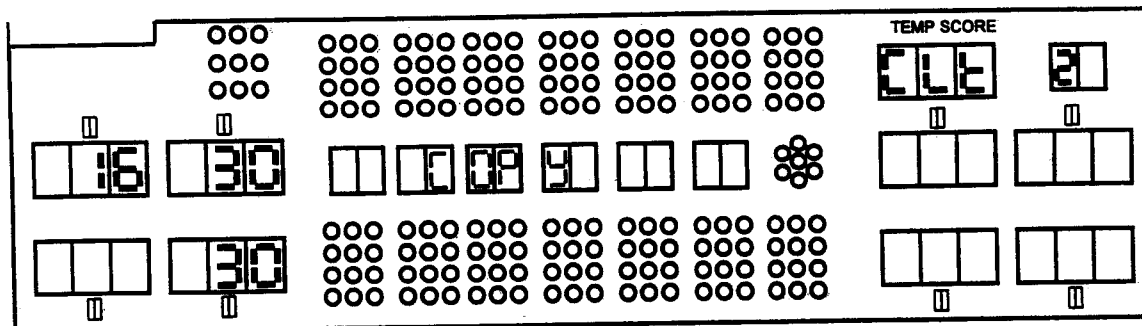


Figure 14: Example of a display in programming mode

- The left digit in the rounds display will begin flashing. This is the day of the week for the Club Training. Use the red GAMES button or the light blue OPTIONS I button to cycle through the days of the week (1 = Monday through 7 = Sunday).
- Press the blue OPTIONS II button to save the chosen day.
- The indicator LED above start hour (player 1 display) will flash.
- Use the target segments to select the starting hour. The new value will be shown in the temporary score.
- Press the blue OPTIONS II to save the starting hour.
- The indicator over the start minute will flash.
- Continue to use the target segments and OPTIONS II button to enter and save values for the duration hour and duration minutes.

### **Note:** To copy one day's programming to another day's slot:

- Choose the day with programmed time.
- Use the red GAMES button or the light blue OPTIONS I button to cycle through until "COPY" is shown in the Cricket display.
- Press the blue OPTIONS II button to select the copy function.
- The day indicator will flash. Use the red GAMES button and the light blue OPTIONS I button to select the day to copy to.
- Press blue OPTIONS II to make the copy. The game will beep to confirm the copy is complete.
- Use the red PLAYER CHANGE button to exit Club Training Programming.

# STATISTICS

You may fill in the settings used on your game in the tables provided below.

**Table Happy-Hour**

| Day<br>1-7  | Bonus |        | Start |        | Duration |        |
|---|-------|--------|-------|--------|----------|--------|
|   | Level | Credit | Hour  | Minute | Hour     | Minute |
| <b>Monday</b>   |       |        |       |        |          |        |
| 1   |       |        |       |        |          |        |
| <b>Tuesday</b>  |       |        |       |        |          |        |
| 2   |       |        |       |        |          |        |
| <b>Wednesday</b>                                      |       |        |       |        |          |        |
| 3   |       |        |       |        |          |        |
| <b>Thursday</b>                                       |       |        |       |        |          |        |
| 4   |       |        |       |        |          |        |
| <b>Friday</b>   |       |        |       |        |          |        |
| 5   |       |        |       |        |          |        |
| <b>Saturday</b>                                       |       |        |       |        |          |        |
| 6   |       |        |       |        |          |        |
| <b>Sunday</b>   |       |        |       |        |          |        |
| 7   |       |        |       |        |          |        |
| <b>Example: Wednesday from 4:45 P.M. to 7:00 P.M.</b> |       |        |       |        |          |        |
| 4   | 0     | 5      | 0     | 2      | 1        | 7      |
|   |       |        |       |        | 1        | 5      |
|   |       |        |       |        | 0        | 0      |
|   |       |        |       |        | 4        | 5      |

**Table Club-Training**

| Day<br>1-7   | Start |        | Duration |        |
|--|-------|--------|----------|--------|
|  | Hour  | Minute | Hour     | Minute |
| <b>Monday</b>  |       |        |          |        |
| 1  |       |        |          |        |
| <b>Tuesday</b>   |       |        |          |        |
| 2  |       |        |          |        |
| <b>Wednesday</b>   |       |        |          |        |
| 3  |       |        |          |        |
| <b>thursday</b>  |       |        |          |        |
| 4  |       |        |          |        |
| <b>Friday</b>  |       |        |          |        |
| 5  |       |        |          |        |
| <b>Saturday</b>  |       |        |          |        |
| 6  |       |        |          |        |
| <b>Sunday</b>  |       |        |          |        |
| 7  |       |        |          |        |
| <b>Example: Wednesday, from 16.45 P.M. to 19.00 P.M.</b> |       |        |          |        |
| 3  | 1     | 6      | 4        | 5      |
|  |       |        | 0        | 2      |
|  |       |        | 1        | 5      |

When club training time slots have been programmed, all 301 and 502 games (including options) will cost the same as a standard 301 game.

**Please Note:**  
Club training time periods must be set in order for this feature to be active. See programming section, P08, SEL CLt.

## STATISTICS

### ***P09 SEL t-C: Time Play Programming/Credit Per Printout.***

- Select SEL t-C by scrolling through programming using the red GAMES button and the light blue OPTIONS I button. P09 will be shown in the Temporary Score. Press the blue OPTIONS II button to enter the mode.
- Use the red GAMES button and the light blue OPTIONS I button to alternate between the values (1 or 2) for minutes per credit. The new value will be shown in the Temporary Score display.
- Press the blue OPTIONS II button to save the new value.

Note: Feature F09 (time) must be set to "ON" for time play.

### ***drU: Credit per printout.***

- Press the PROGRAM button. Player 1 will show "drU" and player 2 will show the cost of a printout.
- Use the red GAMES button and the light blue OPTIONS I button to scroll through the values (1-9) for the printout cost.
- Press the blue OPTIONS II button to save the new value.
- Use the red PLAYER CHANGE button to exit Time Play Programming.

### ***P10 SEL dor: Dormant Time-Out Programming.***

- Dormant time out refers to the amount of time that a game in progress can be idle (no darts thrown) before the dart game will reset itself so that a new game may be started. This feature can be set from 0 to 90 minutes in 15 minutes intervals.
- Select SEL dor by scrolling through programming using the red GAMES button and the light blue OPTIONS I button until P10 shows in the Temporary Score.
- Press the blue OPTIONS II button to enter.
- The current time value will be shown in the player 2 score. Use the red GAMES and the light blue OPTIONS I buttons to scroll through the values - (0 - 15 - 30 - 45 - 60 - 75 - 90). The new value will be shown in Temporary Score. A setting of "0" will disable the dormant time-out.
- Press the blue OPTIONS II button to save the new value.
- Press the red PLAYER CHANGE to exit.

### ***P11 SEL nnC: Machine Code.***

- The Machine Code is an 8-digit number that is unique to each game. This number can be programmed to any number desired, and will appear on any printout from the DATAprint.
- Select SEL nnC by scrolling through programming using the red GAMES button and the light blue OPTIONS I button until P11 shows in the Temporary Score.
- Press the blue OPTIONS II button to enter this mode.
- Use targets 1-9 and Bullseye (0) to enter the machine code numbers. Numbers will appear in the cricket display digits.
- Press the blue OPTIONS II button to save the new value.
- Press the red PLAYER CHANGE button to exit this mode.

## STATISTICS

### ***P12 SEL dPr: DATAprint Download / Upload.***

- This mode can be used with a NSM DATAprint 3000 to store game settings, features, and happy-hour and club training slots as well as to restore game settings from the DATAprint 3000. The date/time on the DATAprint can also be uploaded to the game. The machine ID is not saved on the printer.
- Select **SEL dPr** by scrolling through programming using the red GAMES button and the light blue OPTIONS I button until P12 shows in the Temporary Score.
- Press the blue OPTIONS II button to enter this mode.
- Use the red GAMES button or the light blue OPTIONS I button to choose between Download (d01) or Upload (d02) or Date/Time Upload (d03).
- **Download** will save game settings to the DATAprint.
  - To Download:
    - Press the blue OPTIONS II button when d01 shows in the Temporary Score. "dnL rdy" will appear in Player 2 & 5 scores.
    - Plug in the Data Print to the connector inside the cashbox.
    - The game will beep and then the DATAprint will beep at the end of the transfer.
    - Remove the DATAprint connector from the cashbox.
- **Upload** will transfer settings stored in the DATAprint to the game.
  - To Upload:
    - Press the blue OPTIONS II button when d02 shows in the Temporary Score. "uPL rdy" will appear in Player 2 & 5 scores.
    - Plug in the DATAprint to the connector inside the cashbox.
    - The game will beep and then the DATAprint will beep at the end of the transfer.
    - Remove the DATAprint connector from the cashbox.
- **Upload Date/Time** will transfer date and time from the DATAprint to the game.
  - To Upload:
    - Press the blue OPTIONS II button when d03 shows in the Temporary Score. "UHr rdy" will appear in Player 2 & 5 scores.
    - Plug in the DATAprint to the connector inside the cashbox.
    - The game will beep and then the DATAprint will beep at the end of the transfer.
    - Remove the DATAprint connector from the cashbox.
- Press the red PLAYER CHANGE to exit this mode.

**Note:** This requires a special DATAprint Program (Version V 3.4x).

### ***P13 SEL rPd: Time-Out Timer Programming.***

The Time-Out Timer is used for the „Time-Out Handicap“ feature. The value entered will represent the time required, in seconds, to „tick“ down all 21 LED's.

- Select **SEL rPd** by scrolling through programming using the red GAMES button and the light blue OPTIONS I button until P13 shows in the Temporary Score.
- Press the blue OPTIONS II button to enter.
- The current time value will be shown in the player 2 score. Use the red GAMES and the light blue OPTIONS I buttons to scroll though the values - (2.0 - 9.0). The new value will be shown in the Temporary Score.
- Press the blue OPTIONS II button to save the new value.
- Press the red PLAYER CHANGE to exit.

# STATISTICS

## **Statistics**

### **To Enter Statistics Mode:**

- Press Test Switch (S1) on Controller.
- Scroll through programming options using red GAMES Button or light blue OPTIONS I Button until STA appears in Temporary Score display.
- Press blue OPTIONS II button to enter Statistics Mode.
- Enter security code if different from factory preset security code. Display will read SEL Cn, and new menu will be in effect. Use the red GAMES button or the light blue OPTIONS I button to scroll through statistics options. Press blue OPTIONS II to enter.
  - **S01: SEL Cn (COIN STATISTICS)** This mode allows you to view number of coins deposited per channel, and total number of coins deposited for all channels.
  - **S02: SEL gA (GAMES STATISTICS)** This mode allows you to view game statistics.
  - **S03: SEL tP (TIME PLAY STATISTICS)** This mode allows you to view credit, bonus credits, and time used.

### **S01 - SEL Cn: To View Coin Statistics.**

- Scroll through using the red GAMES button and the light blue OPTIONS I button until S01 is shown in the Temporary Score.
- Press the blue OPTIONS II button to enter.
- Upper display will appear as follows:

|    |   |    |     |
|----|---|----|-----|
| Ch | 1 | XX | XXX |
|    | 2 | XX | XXX |

X = number of coins per channel, with 65535 being the maximum.
- Use red GAMES button to cycle through all programmed channels. Channel numbers will appear in upper display.
- To see the total (tOt) count of coins for ALL channels, press light blue OPTIONS button.
- To zero coin totals, hit Test Switch (S1) on controller. Upper display will return to Cn SEL.
- Press red PLAYER CHANGE button to exit.



## STATISTICS

### **S02 - SEL gA: To View Games Statistics.**

- Scroll through using the red GAMES button and the light blue OPTIONS I button until S02 is shown in the Temporary Score.
- Press the blue OPTIONS II button to enter Game Statistics Mode.
- Press red GAMES button until desired game is highlighted on GAMES Panel.
- Press the light blue OPTIONS I button to select options for the chosen game. Statistics for GAMES with OPTIONS will appear in upper display. Example: If 701 is selected, display will appear as follows:  
PXX           XXX  
CXX           XXX  
P = number of players.  
C = number of credits used, with 65535 as maximum.
- The display will also indicate in which mode the credits were used, either Credit Select (CS), or Time select (tS). Press the PROGRAM button to toggle between these two displays.
- Continue selecting GAMES and OPTIONS with the red GAMES button and the light blue OPTIONS I button. The display will update automatically to show the number of players and credits for that game.
- Press the red PLAYER CHANGE button to exit.

### **S03 - SEL tP: To View Time Play Statistics**

- Scroll through using the red GAMES button and the light blue OPTIONS I button until S03 is shown in the Temporary Score.
- Press the blue OPTIONS II button to enter Time Play Statistics Mode. The display will appear as follows:  
C XX  
b XX  
C = number of credits given for coins or bills inserted.  
b = number of bonus credits given.
- Press the red GAMES button. The display will appear as follows:  
C XX  
t XX  
C = total number of credits used in "Credit Play" mode.  
t = number of credits used in "Time Play" mode.
- Press the red GAMES button, again. The display now shows:  
t XX  
t = total time, in minutes, used in "Time Play" mode.
- Press the PLAYER CHANGE to Exit without clearing the totals.

# STATISTICS

## Printout Statistics NSM DATAprint

The totals displayed during the "StA" mode are also available for DATAprint 2000 and DATAprint 3000 output. The security code determines in which modes the DATAprint will be active:

Factory set security code (0000):

- During the attract mode.
  - During the test mode (tSt).
  - During the Bookkeeping mode (StA)
- Non-Factory set security code:
- The DATAprint output is active only during bookkeeping mode (StA).

When the output is active, printing will start when the DATAprint is plugged in to the 9-pin connector. While data is being sent to the DATAprint, the Temporary Score will show "dp". When the transmission is complete, the Temporary Score will show "End".

**Do not unplug the DATAprint until printing is complete and the unit is beeping.**

The information is printed as follows:

**Bookkeeping Stats** - Shows the totals for each coin channel, total of all coin channels, the total number of credits coined and bonused.

**Game Stats** - Shows the number of players for each game, the number of credits played for each game, and the programmed price for each game (credit and time play modes).

**Other Information:**

**Machine ID** - An 8-digit game identification number (see Programming mode, P11, to change the Machine ID.)

**Receipt Number** - Each time Statistics are printed this number is increased by one (cannot be changed by the operator).

|                           |          |
|---------------------------|----------|
| GAME NUMBER:              | 00000000 |
| RECEIPT #:                | 0        |
| <b>BOOKKEEPING STATS:</b> |          |
|                           | TOTAL    |
| COIN 1/                   | 327      |
| COIN 2/                   | 362      |
| COIN 5/                   | 0        |
| GRAND TOTAL               | 0        |
| CREDITS COINED            | 689      |
| CREDITS BONUSED 0         | 689      |
| TOTAL                     | 689      |

|                     |     |
|---------------------|-----|
| <b>CREDIT USAGE</b> |     |
| BY PLAYER           | 450 |
| BY TIME             | 183 |
| MIN PER CREDIT      | 1   |
| MINUTES             | 183 |

| GAME STATS | CREDIT MODE: | CRDTS | PP |
|------------|--------------|-------|----|
|            | PLYRS        |       |    |
| 301        | 29/          | 29/   | 1/ |
| 301DI      | 6/           | 12/   | 2/ |
| 301DO      | 5/           | 10/   | 2/ |
| 301IO      | 3/           | 9/    | 3/ |
| 301MO      | 9/           | 18/   | 2/ |
| 301IM      | 2/           | 6/    | 3/ |
| 301TOT     | 54/          | 84/   |    |
| 501        | 8/           | 16/   | 2/ |
| 501DI      | 7/           | 21/   | 3/ |
| 501DO      | 8/           | 24/   | 3/ |
| 501IO      | 5/           | 20/   | 4/ |
| 501MO      | 4/           | 12/   | 3/ |
| 501IM      | 2/           | 8/    | 4/ |
| 501TOT     | 34/          | 101/  |    |
| 701        | 8/           | 24/   | 3/ |
| 701DI      | 5/           | 20/   | 4/ |
| 701DO      | 4/           | 16/   | 4/ |
| 701IO      | 4/           | 20/   | 5/ |
| 701MO      | 3/           | 12/   | 4/ |
| 701IM      | 2/           | 10/   | 5/ |
| 701TOT     | 26/          | 102/  |    |
| ELM        | 8/           | 8/    | 1/ |
| ELMDI      | 6/           | 12/   | 2/ |
| ELMDO      | 7/           | 14/   | 2/ |
| ELMIO      | 4/           | 12/   | 3/ |
| ELMMO      | 2/           | 4/    | 2/ |
| ELMIM      | 4/           | 12/   | 3/ |
| ELMTOT     | 31/          | 62/   |    |
| CKT        | 8/           | 16/   | 2/ |
| CHCKT      | 8/           | 16/   | 2/ |
| YPCKT      | 8/           | 16/   | 2/ |
| CKTCT      | 6/           | 12/   | 2/ |
| CKTMS      | 5/           | 10/   | 2/ |
| CHCUT      | 6/           | 12/   | 2/ |
| CHMAS      | 3/           | 6/    | 2/ |
| YPCUT      | 15/          | 30/   | 2/ |
| YPMAS      | 4/           | 8/    | 2/ |
| CKTTOT     | 63/          | 126/  |    |
| HIS        | 5/           | 5/    | 1/ |
| SHI        | 9/           | 9/    | 1/ |
| SPL        | 8/           | 8/    | 1/ |
| RPD        | 10/          | 10/   | 1/ |

| GAME STATS | TIME MODE: | CRDTS | PP |
|------------|------------|-------|----|
|            | PLYRS      |       |    |
| 301        | 50/        | 78/   |    |
| 301DI      | 6/         | 19/   |    |
| 301DO      | 5/         | 14/   |    |
| 301IO      | 3/         | 17/   |    |
| 301MO      | 6/         | 14/   |    |
| 301IM      | 7/         | 59/   |    |
| 301TOT     | 77/        | 201/  |    |
| 501        | 8/         | 19/   |    |
| 501DI      | 8/         | 58/   |    |
| 501DO      | 4/         | 14/   |    |
| 501IO      | 6/         | 27/   |    |
| 501MO      | 4/         | 14/   |    |
| 501IM      | 2/         | 16/   |    |
| 501TOT     | 32/        | 148/  |    |
| 701        | 7/         | 24/   |    |
| 701DI      | 5/         | 21/   |    |
| 701DO      | 5/         | 25/   |    |
| 701IO      | 5/         | 26/   |    |
| 701MO      | 7/         | 29/   |    |
| 701IM      | 2/         | 11/   |    |
| 701TOT     | 31/        | 138/  |    |
| ELM        | 8/         | 9/    |    |
| ELMDI      | 6/         | 13/   |    |
| ELMDO      | 5/         | 11/   |    |
| ELMIO      | 5/         | 16/   |    |
| ELMMO      | 3/         | 7/    |    |
| ELMIM      | 4/         | 13/   |    |
| ELMTOT     | 31/        | 69/   |    |
| CKT        | 12/        | 27/   |    |
| CHCKT      | 7/         | 15/   |    |
| YPCKT      | 16/        | 39/   |    |
| CKTCT      | 15/        | 38/   |    |
| CKTMS      | 4/         | 9/    |    |
| CHCUT      | 5/         | 11/   |    |
| CHMAS      | 3/         | 7/    |    |
| YPCUT      | 2/         | 5/    |    |
| YPMAS      | 5/         | 11/   |    |
| CKTTOT     | 69/        | 162/  |    |
| HIS        | 8/         | 9/    |    |
| SHI        | 8/         | 9/    |    |
| SPL        | 19/        | 9/    |    |
| RPD        | 2/         | 5/    |    |
| G-TOT      | 478/       | 1223/ |    |

## DIAGNOSTIC ROUTINES

### SELF-CHECKING SOFTWARE

The following self-checking tests are done automatically by the software in the game.

1. **POWER-UP SWITCH TEST** - Used to check the five (4) front panel switches. If a switch is stuck closed, the three (3) character identification will be displayed and a tone will sound (see the next page for abbreviations).
2. **TARGET WATCH DOG** - Used to check target switches. If a segment is stuck closed, a "beep" will be heard while "StUC tArgEt" scrolls in the display, alternating with the location of the stuck segment. Front panel lamps will also flash.
3. **POWER UP RAM TEST** - Used to test RAM for valid data on power-up. If a problem with the data is found, the RAM will be reprogrammed with factory settings. In the attract mode, decimal points in the displays will indicate a reprogrammed ram. If this condition occurs replacing the RAM / battery is recommended.
4. **POWER UP REAL TIME CLOCK TEST** - Used to test the real time clock circuitry. If a problem is found, the game will display „RTC“ in the temporary score display and sound a failure tone. Otherwise, a single „beep“ is sounded.
5. **POWER UP COIN SWITCH/BILL ACCEPTOR SWITCH TEST**- Used to check the coin switch and bill acceptor inputs. If any of these inputs are stuck closed, it's location will be displayed and a tone will sound.
6. **POWER UP ELECTRONIC COIN MECH TEST**- If a coin mech with a faulty opto-isolator is detected upon power up, „coin bloc“ is displayed and a „beep“ will be heard.
7. **POWER UP SOFTWARE VERSION AND TIME OUT HANDICAP TIME BASE DISPLAY**- Used to display the version of software currently in use, as well as the current value, in seconds, of the maximum time available for Rapid Fire and „01 Game's Time Out Handicap“.

### DIAGNOSTIC ROUTINES

Each game has built-in diagnostic software. The scope of this software is to test the electronic hardware, to verify that the game is functioning properly, and to indicate problem areas.

There are two push button switches located on the upper right corner of the Controller board inside the electronics compartment:

- S2 top switch is a RESET button. Pressing this switch resets the game.
- S1 bottom switch is the TEST button. Pressing this switch puts the game in self-diagnostic mode.

## DIAGNOSTIC ROUTINES

The following **eleven tests** may be performed while in the TEST mode (tSt).

### To Enter Test Mode

Press the test switch (S1) on the controller card. Press the red GAMES or the light blue OPTIONS I button until 'tSt' is displayed in Temporary Score. Press the blue OPTIONS II button to enter test mode.

## DIAGNOSTIC ROUTINES

### Test One - t01 Push Button Switch Test

Once in Test Mode press the test switch once more to enter the T01 mode.

- Temporary Score will display t01 until the first switch is pressed. This test checks the operation of all the front panel switches. As each switch is pressed, the Temporary Score will display three (3) characters to identify it.

PROGRAM button (inside cabinet )

P-9

GAMES (red Button)

95L

OPTIONS I (light blue button)

OP1

OPTIONS II (blue button)

OP2

Player Change (red Button)

PLC

Press the test switch (S1) again to exit this test.

### Test Two - t02 7-Segment Display and LED Test

To activate, press the red GAMES button or the light blue OPTIONS I until t02 appears in Temporary Score display. Press the blue Options II button. Each display will cycle through digits 0-9, and the decimal point. After all segments and LEDs have been checked, the game will automatically return to the TEST mode (tSt). To exit this test, press the red PLAYER CHANGE button.

## DIAGNOSTIC ROUTINES

### ***Test Three - t03 Audio Test***

To activate, press the red GAMES button or the light blue OPTIONS I button until **t03** appears in Temporary Score display. Press the blue OPTIONS II button. A tone will be generated to check and adjust the volume of the audio circuit. The volume adjustment is located on the Controller board in the bottom left corner at location R30. To exit this test, press the red PLAYER CHANGE button.

### ***Test Four - t04 Target Segment Test***

To activate, press the red GAMES button or the light blue OPTIONS I button until **t04** appears in Temporary Score display. Press the blue OPTIONS II button. This test checks that each segment of the target will register darts thrown at it. As each segment is depressed, its value or designation will be shown in the temporary score display. A double or triple will be shown as a "d" or "t" preceding the number of the segment [i.e. a double 20 is d20]. To exit this test, press the red PLAYER CHANGE button.

### ***Test Five - t05 Lamp Test***

To activate, press the red GAMES button or the light blue OPTIONS I button until **t05** appears in Temporary Score display. Press the blue OPTIONS II button. Each lamp will light individually in the following order: Don't Throw, Throw, and Player Change. After each lamp has been checked, this test will automatically return to the TEST mode with 't05' displayed in the Temporary Score display.

### ***Test Six - t06 Cricket Display Test***

To activate, press the red GAMES button or the light blue OPTIONS I button until **t06** appears in Temporary Score display. Press the blue OPTIONS II button to begin test. The LEDs will cycle through Cricket LEDs, Bullseye LEDs, Player Indicator LEDs, and Dart LEDs. After each LED has been checked, this test will automatically return to the TEST mode with 't06' displayed in the Temporary Score display.

### ***Test Seven - t07 Burn-In Test***

To activate, press the red GAMES button or the light blue OPTIONS I button until **t07** appears in Temporary Score display. Press the blue OPTIONS II button. This test is a production burn-in test used to cycle through all the LEDs and their associated circuitry.

Press the red PLAYER CHANGE button. All player indicator LEDs and the Don't Throw, Throw, and Player Change lamps turn on. All other LEDs should be off.

Press the red PLAYER CHANGE button again. All Cricket LEDs and seven segment displays will light.

Press the red PLAYER CHANGE button once again to return automatically to the TEST mode with 't07' displayed in the Temporary Score display.

## DIAGNOSTIC ROUTINES

Note: For Tests Eight and Nine to function properly, be sure that the jumper at JP1 is in the correct position to enable the circuitry. We suggest that Test Three and Test Five be completed before attempting these tests.

**Your game is shipped to you with the Tru-Score II (Dart Sensor) and Infrared Sensor engaged.**

The Dart Sensor selection jumper is located on the Controller board at location JP1. To disengage it, move the jumper clip to the right covering the middle and right pins.

Note: Always disengage the Dart Sensor feature at the jumper clip and the Infrared Sensor in programming. **DO NOT** disengage by unplugging the cords or ribbon cable - unplugging **WILL NOT** fully disengage the circuits.

### ***Test Eight - t08 IR Sensor Test***

To activate, press the red GAMES button or the light blue OPTIONS I button until t08 appears in Temporary Score display. Press the blue OPTIONS II button to begin test. t08 appears in the Temporary Score display and the THROW DARTS lamp will light signifying the test is active. The programming feature F05 must be engaged for this test to function (see Programming section).

To test the IR Sensor, stand in front of the game at arm's length. The THROW DARTS lamp should be lit. Move your hand slowly upward towards the target. As your hand enters the IR sensor detection area (a few inches below the lower part of the dart catching ring), the THROW DARTS lamp should go out and the DON'T THROW lamp should light. Remove your hand and ensure that the DON'T THROW lamp goes out and the THROW DARTS lamp lights. If adjustments are necessary, refer to the „Infrared sensor adjustment procedure“.

Note: If you have a DATAprint, you may plug it in to the 9 pin connector (inside the cashbox) while in this test mode and receive a long printout of all features (see page 48).

To exit this test, press the red PLAYER CHANGE button.

### ***Test Nine - t09 Dart Sensor Test***

To activate, press the red GAMES button or the light blue OPTIONS I button until t09 appears in Temporary Score display. Press the blue OPTIONS II button to begin test. t09 will appear in the Temporary Score display and the THROW DARTS lamp will flash signifying the test is active. To test the dart sensor and its circuitry, tap the front panel and listen for an audible “Beep” from the speaker. The DON'T THROW lamp will flash as the “Beep” is sounded. If no “Beep” is heard, an increase to the sensitivity may alleviate the problem. The sensitivity adjustment is located on the Controller Card at R6 (see „Dart Sensor Adjustment Procedure“)

## DIAGNOSTIC ROUTINES

**Note:** If you have a NSM DATAprint, you may plug it in to the 9 pin connector (inside the cashbox) while in this test mode and receive a short printout of all features (see page 48).

To exist this test, press the red PLAYER CHANGE button.

### ***Test Ten - t10 Game Select Panel Test***

To activate, press the red GAMES button or the light blue OPTIONS I button until t10 appears in temporary score display. Press Options II button to begin test.

The LEDs on the Game Select Board will flash on in sequence, by columns from left to right.

To exit this test, press the red PLAYER CHANGE button.

### ***Test Ten - t11 Serial Loopback Test (factory use only)***

To activate, press the red GAMES button or the light blue OPTIONS I button until t11 appears in Temporary Score display. Press Options II button to begin test. Cricket digits will display "Loop Fail" Player 1 & 2 will show the channel (0-3) that is being tested.

Channel numbers correspond to the following connectors:

Chn0 = J17 (Data Print)

Chn1 = J18 (RS-232-1)

Chn2 = J21 (RS-232-2)

Chn3 = J22 (TTL Async)

To test the loop, put a jumper across the TXD and RXD pins of the connector to be tested.

The Cricket displays will now show "Loop good"

### ***To Return to Attract Mode***

Press the "RESET" button on the Controller Board or the red PLAYER CHANGE Button to return to the ATTRACT mode.

## DIAGNOSTIC ROUTINES

### Features printout:

```
01-12-96 / 12:50          PW T3.31
SET NUMBER

***RAM SETTINGS***

LANGUAGE: GERMAN

COIN PROGRAMMING:
CHANNEL /CREDITS /ADVS.
1:    2:    3:    4:
1     2     6     0
1     2     5     0

BILL PROGRAMMING:
CHANNEL /CREDITS /ADVS.
1:    2:    3:    4:    5:
12   24   0     0     0
10   20   0     0     0

GAME PROGRAMMING:
GAME    CR    RL    BE
301     1     UL    DBE
301DI   2     UL    DBE
301DO   2     UL    DBE
301IO   3     UL    DBE
301MO   2     UL    DBE
301IM   3     UL    DBE
501     2     UL    DBE
501DI   3     UL    DBE
501DO   3     UL    DBE
501IO   4     UL    DBE
501MO   3     UL    DBE
501IM   4     UL    DBE
701     3     UL    DBE
701DI   4     UL    DBE
701DO   4     UL    DBE
701IO   5     UL    DBE
701MO   4     UL    DBE
701IM   5     UL    DBE
ELM     1     10   DBE
ELMDI   2     10   DBE
ELMDO   2     10   DBE
ELMIO   3     10   DBE
ELMMO   2     10   DBE
ELMM    3     10   DBE
CKT     2     25   DBE
CHCKT   2     25   DBE
YPCKT   2     25   DBE
CKTCT   2     25   DBE
CKTMS   2     25   DBE
CHCUT   2     25   DBE
CHMAS   2     25   DBE
YPCUT   2     25   DBE
YPMAS   2     25   DBE
HIS     1     7    DBE
SHI     1     7    DBE
SPL     1     9    DBE
RPD     1     7    DBE

**FEATURE SETTINGS**
17 01 00 00

F01    ON      F02    ON
F03    ON      F04    OFF
F05    ON      F06    OFF
F07    OFF     F08    OFF
F09    ON

RAM CRC: 91CB

REAL TIME CLOCK:
12.01.96      10:11

END OF TEST

62270 BYTES FREE
```

**While** in the test mode and in the test 't08', insert the DATAprint cable into the 9-pin connector.(inside the cashbox). The **full printout** will begin immediately.

The printout shows  
(see Programming/Bookkeeping sections):

-The current feature settings (F01 - F09).

-The current settings for the games.

-The coin and bill acceptor channels.

- The counter advance value.

-The real-time clock setting.

-The credit card cost, round limit, and Bullseye setting for all games and options.

**While** in the test mode, and in the test 't09', insert the DATAprint cable into the 9-pin connector (inside the cashbox). the **short printout** will begin immediately.

```
01-12-96 / 12:53          PW T3.31
SET NUMBER                3

***SERIAL PORT TEST***

**FEATURE SETTINGS**
17 01 00 00

RAM CRC: 91CB

REAL TIME CLOCK:
12.01.96      10:11

END OF TEST

62270 BYTES FREE
```



## DIAGNOSTIC ROUTINES

### **Infrared sensor adjustment procedure**

1. Put the game in the TEST mode by pressing the Test Switch on the controller board inside the electronics compartment.
2. Select Test 8 (t08) using GAMES or OPTIONS I buttons. Press OPTIONS II to enter.
3. Access the potentiometer through the hole on the right side of the Infrared (IR) sensor housing with a small blade screwdriver. The sensitivity is decreased by turning the screwdriver in a clockwise direction and is increased by turning in a counter clockwise direction.

**Note:** Stand to the side of the game when performing the following steps. Be sure there are no darts in the target or dart catching ring and the target door is in place.

4. Turn the potentiometer back and forth to find the sensitivity threshold of the sensor. This is the point at which the "THROW DARTS" lamp goes out and the "DON'T THROW DARTS" lamp lights.
5. Slowly turn the potentiometer until the "THROW DARTS" lamp comes on.
6. Verify the adjustment:  
Stand in front of the game at arms length from the target. Starting at the logo below the target, move your hand upward towards the IR Sensor. The threshold point should be at a level where the hand passes between the dart catching ring and the bottom of the door.
7. Repeat steps 3 through 5 until the IR sensor is properly adjusted.

## DIAGNOSTIC ROUTINES

### **Dart sensor adjustment procedure**

**Note:** Set up and test should be done on site.

- 1 Put the game in the TEST mode by pressing TEST Switch on the controller board inside the electronics compartment.
- 2 Select Test 9 (t09) using red GAMES or blue OPTIONS I buttons. Press OPTIONS II to enter.
- 3 Open lower electronics door to expose the Controller Card.
- 4 Start with the lowest sensitivity setting on the potentiometer, R6 on the Controller board, by turning fully clockwise to 7 o'clock.
- 5 Turn the potentiometer, R6, counterclockwise to 6 o'clock setting.
- 6 Tap darts on target door or throw bar darts at all areas on the door. (Bar darts have the lightest weight.) Dart detection is indicated by a short tone and a flashing DON'T THROW lamp.

**Note:** Upper right corner of target door is least sensitive. Test here first, and then test rest of target door.

- 7 Repeat this procedure, using small increments to turn up the potentiometer R6, counter clockwise until all darts thrown with reasonable force at the door are detected by the **Missed Dart Sensor**.
- 8 This unit may subtract darts due to electrostatic discharge.

**Caution: Do not oversensitize!**

An oversensitive Dart Sensor may result in darts being taken away accidentally. In addition, loud music may cause an oversensitive Dart Sensor to deduct darts. However, when properly adjusted, the Dart Sensor can operate correctly up to 110 decibel sound level.

**Note:** If you choose to disengage the Dart Sensor: **leave the dart sensor plugged in and disengage the circuit by moving JP1 to the LOCKOUT position** (the clip will cover the middle and right pins of JP1). If this method of disengaging this feature is not followed, the potential for game performance problems exists.

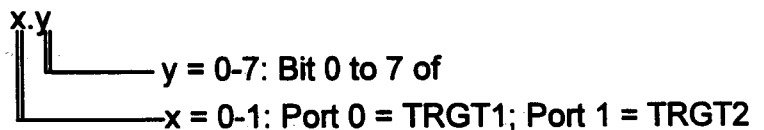
# GENERAL MAINTENANCE

## GENERAL MAINTENANCE

### Arrangement of the standard target matrix

| Target Matrix |         |         |         |                | HB8 Controller |                |            |                    |
|---------------|---------|---------|---------|----------------|----------------|----------------|------------|--------------------|
| Quadr. 1      | Quadr.2 | Quadr.3 | Quadr.4 | Tail connector | J2             | Target<br>x.y* | Sel QUAD X | U 29<br>Target PAL |
|               |         |         | Q4      | 1              | 1              |                | 1          | 19                 |
|               |         |         | Q3      | 2              | 2              |                | 2          | 18                 |
| d2            | d4      | d16     | d12     | 3              | 3              | 0.0            |            |                    |
| 2             | 4       | 16      | 12      | 4              | 4              | 0.1            |            |                    |
| d15           | d18     | d7      | d9      | 5              | 5              | 0.2            |            |                    |
| 15            | 18      | 7       | 9       | 6              | 6              | 0.3            |            |                    |
| d10           | d1      | d19     | d14     | 7              | 7              | 0.4            |            |                    |
| 10            | 1       | 19      | 14      | 8              | 8              | 0.5            |            |                    |
| d6            | d20     | d3      | d11     | 9              | 9              | 0.6            |            |                    |
| 6             | 20      | 3       | 11      | 10             | 10             | 0.7            |            |                    |
| d13           | d5      | d17     | d8      | 11             | 11             | 1.0            |            |                    |
| 13            | 5       | 17      | 8       | 12             | 12             | 1.1            |            |                    |
| BE            |         | DBE     |         | 13             | 13             | 1.2            |            |                    |
| t2            | t4      | t16     | t12     | 14             | 14             | 1.3            |            |                    |
| t15           | t18     | t7      | t9      | 15             | 15             | 1.4            |            |                    |
| t10           | t1      | t19     | t14     | 16             | 16             | 1.5            |            |                    |
| t6            | t20     | t3      | t11     | 17             | 17             | 1.6            |            |                    |
| t13           | t5      | t17     | t8      | 18             | 18             | 1.7            |            |                    |
|               |         |         | Q1      | 19             | 19             |                | 3          | 17                 |
|               |         |         | Q2      | 20             | 20             |                | 4          | 16                 |
|               |         |         |         |                | 21             |                | 5          | 15                 |
|               |         |         |         |                | 22             |                | 6          | 14                 |
|               |         |         |         |                | 23             |                | 7          | 13                 |
|               |         |         |         |                | 24             |                | 8          | 12                 |

\* = Ports shown of the CONTROLLERS:



The table shows the arrangement of the standard target matrix. with the aid of this table, you can troubleshoot target problems easily.

The matrix control lines are arranged in a 4X 16 table. The table also shows the connector pin-assignments on the Controller Board.

The 4 strobe lines are from the Target PAL U29 pins 12-17. the 16 input lines are identified in two 8bit ports, TRGT1 and TRGT2 (see the AA3 Controller Card Schematic). Continuity checks on the signals can be done with a Multi-meter.

# GENERAL MAINTENANCE

## **Remove debris and tips from the target**

- **Turn the game off.**
- **Open the lock on the Cabinet Top Dart Door.**
- **Remove the door.**
- **Flip down the right and left latches in the upper corners of the Spider DCR Board.**
- **Carefully lower the Spider DCR Board and remove debris and tips.**

## **Replacing Fuses**

### Type of Fuse

Autofuse  
231-0006

5mmX20mm

### Location

Controller Board F1,F2,  
and F3

Power Supply - internal

### Replace with

Autofuse (Tan)  
32V/5A

250V/4A

## ACCESSORIES

### **ACCESSORIES**

#### **NSM DATAprint**

The game is equipped with a connector (located in the cashbox, left side) to interface with the NSM DATAprint. The printout contains the following information:

- Statistical printout of all the important bookkeeping data and game settings (see programming section).
- Technical printout of the feature settings, coin (or bill) credit information, coin channel settings, bullseye settings and the clock settings (see features programming).

**NSM DATAprint 3000**

**PART # 117310**

**NSM DATAprint 3000 S**

**PART # 118504**

#### **NSM DATAcontact**

The software package DATAcontact is used for continued processing of the data from the DATAprint, in combination with a personal computer.

#### **NSM BILL ACCEPTOR**

The game can be equipped with a Bill Acceptor.

**Bill Acceptor Retrofit Kit**

**PART # 153 476**

**Bill Acceptor Installation/Mounting Kit**

**PART # 908 474**

#### **LEO (PLAY THE COMPUTER)**

This feature can be used for training or practice with single players or LEO can play on a team.

**LEO KIT**

**PART # 120 119**

#### **RS232 INTERFACE**

An external RS232 peripheral connector/test is available for installation on the back of the game.

**RS232 Retrofit Kit**

**PART # In Preparation**

#### **CASH COUNTER**

A resetable electro mechanical counter to be installed behind the cash box door.

**Cash Counter Kit**

**PART # In Preparation**

#### **CASH BOX LOCKING BAR**

An additional bar to secure the cash box internally with a pad lock.

**Cash Box Locking Bar**

**PART # 153 945**

## ACCESSORIES

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