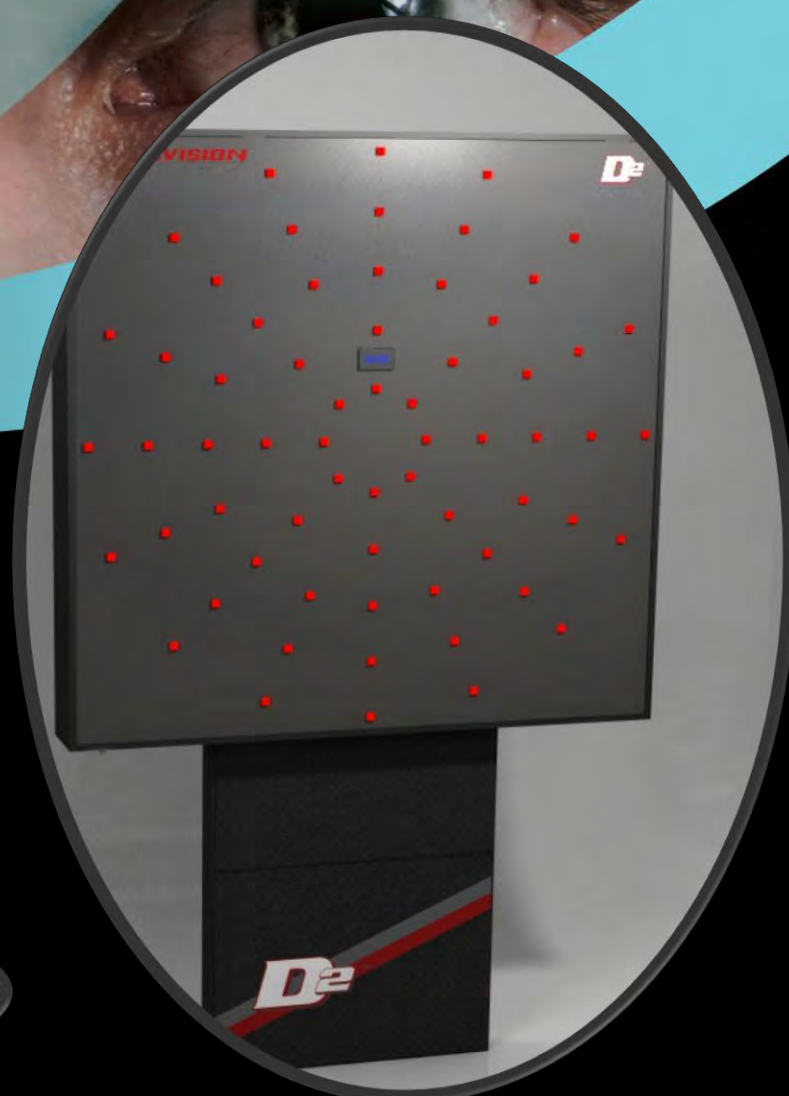


REACTIVE TRAINING





Dynavision D2 is a stand alone variable height visuomotor system for visual enhancement training of athletes.

A Range of Benefits

The ***Dynavision D2*** will help athletes with:

- Athletic High Performance Training*
- Dynamic Visual Skills Training*
- Visual Reaction*
- Mental Conditioning*
- Physical Work Out*

The ***Dynavision D2*** will help trainers with the analysis of their players and their performances captured by the ***D2*** system software :

- Farm System Evaluation and Training or Player/Personnel Decisions*
- Selection decisions based on Combining Reaction and Economy of Motion*
- Performance Under Pressure or rising Stress Levels*
- Athletic High Performance and Training*



Dynavision D2 Product Benefits

*The **D2** was developed to improve the visuomotor skills of athletes in all sports such as football, baseball, hockey, tennis, boxing, karate, basketball. **Dynavision D2** programs have been adapted to provide unique and specific training benefits to all athletes from various sporting disciplines.*

*The **Dynavision D2** provides athletes and trainers with a novel approach to visual training:*

Benefits include:

- Visual Motor Assessment/Training*
- Visual Cognitive Assessment/Training*
- Improved Eye – Hand Coordination*
- Improved Reaction Times*
- Increased efficiency to absorb visual information under a variety of cognitive demands.*
- Improved Speed and Span of Recognition*
- Improved Anticipation and Visual Reaction*
- Concentration under stress and fatigue*
- Improved Peripheral Awareness*
- Improved Dynamic Visual Acuity*
- Improved Visual tracking*



Dynavision D2 Product features & Benefits

❑ Large light board spanning 4 feet by 4 feet .(121.92 cm X 121.92 cm)

- ✓ This enables a true peripheral visual field for the athlete.
- ✓ Wide wing span reactive reach that simulates wide hand movements during active sports.

❑ Motorized height adjustment range of up to 24” (60.96 cm),” From Child to NBA Player”

- ✓ Unlike fixed systems this machine allows the athlete to position the **D2** for optimum visual height thereby obtaining a more realistic exercise experience.

❑ Extended LED lights with Rounded corners

- ✓ This feature allows for true peripheral recognition whereby the lights are protruding by 1/4 of an inch (0.635 cm) allowing the athletes to work their **Peripheral Vision without head movement.**

❑ Red and Green lights that allow for increased programmable exercise options.

- ✓ The use of a **random** ,different coloured light can be utilized in a no hit reactive **decision** which significantly increases the degree of **cognitive processing demands** for the athlete.



Dynavision D2 Product features & Benefits

❑ ***Patent Pending Tachtistoscope that increases the level of attention and forces the athlete to truly exercise their focus, concentration and peripheral vision.***

✓ The **Tachtistoscope** can be programmed to register numbers , objects at various programmable speeds for the athletes to call out while exercising their peripheral vision in registering hits on the illuminated lights.

❑ ***Fully computerized Netbook system controller to enable the athlete or trainer to program a wide combination of exercise routines .***

✓ This system enables the athlete or trainer to build a data base of **results to track history and compare** progress of the athlete.



Dynavision D2 Product features & Benefits

❑ ***Visual Reaction Analysis Software allows the Athlete or Trainer to easily interpret the resultant data from the exercise to then be able to change routines to enhance the weaker areas .***

✓ The Vision Reaction Software measures : *% of Lights hit , Missed Lights, Speeds , (Fastest, Median ,Slowest,) Best times in Quadrants/Rings (e.g. Q1 or Q3) , Slowest times in areas or Left side versus Right side , Run Time Performance , e.g. Fast finisher, movements becoming cumbersome with increased stress, phantom hits, flustered performance versus smooth economy of motion. The program tells the athlete and trainer what area needs to be worked on*

❑ ***Performance Analysis Software allows the Athlete or Trainer to track each session against the other and map out an improvement strategy as to when they should move to the next level .***

✓ Using the ***Dynavision D2*** proprietary algorithms the program automatically recommends to the athlete or trainer to then step up to more ***Intense Levels*** once they have attained a success rate at their previous exercise routines.



Dynavision D2 Measurements

- Number of Lights hit*
- Number of Lights missed*
- Speeds : Fastest, Median and Slowest*
- Best Times in Quadrants*
- Slowest times in Quadrants*
- Run Time Performance*
- Reaction Times*
- Fatigue Factor Times*
- Consistency of Performance*

The **DYNAVISION D2** gives the trainer the ability to measure all aspects of the athletes' performance and thereby use the data to plan the next sessions, change the routine to work on the weak areas and to measure progress **Objectively**. The **history** from the routines can be used to map out the progress of the athlete in relation to on field performance.



Dynavision D2 Operation

The **Dynavision D2** has a pattern of **64** lights that are computer controlled and fully programmable to control speeds and colours , each tailored to the individual user. There is a wide range of program modes that are **user friendly** and can be easily modified to simulate typical **responses** relative to the sport or used at the original factory setting .

The **Dynavision D2** utilizes a **Tachtistoscope** that is integral to the use of the system to optimize the athletes' Training. The **Tachtistoscope** allows the athletes to call out up to 7 digits and any variation of the 7, per example it could be the first and last digit of the 7 , or all 7 digits , or the sum of the first and the last , etc.

The trainer has an abundance of possibilities that can be **utilized** , together with programming the speed in which the **Tachtistoscope** flashes the digits. The combination of the **Tachtistoscope** and the lights teaches the athlete to be focused at the **Tachtistoscope** , at the same time exercising their **Peripheral Vision** to deactivate the lights.



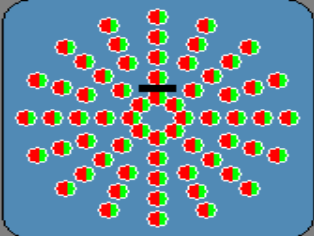
REACTIVE TRAINING™



Dynavision D2 Function Screens

Dynavision™

Configure New Program

Mode A	Flash Option Off	Change	Select Working Area Quadrants Full Mid Inner 
Mode B	Speed: 1.00 sec	Change	
Green Lights Area	Lights Speed: 5.00 sec	Change	
Center	All	Change	
Reaction Time	Run Time 60 Seconds	Change	
Notes			
Try It	Save Program	Cancel	



Dynavision D2 Function Screens

Dynavision™

Mode A

Started at 11:46, 3/16/2010 Chosen time: 30 sec Actual time: 30 sec
 Working Area: Quadrants - All Rings - Full
 Score: 22 hits

Reaction Times:

Fastest: 0.81 sec, Slowest: 3.67 sec, Average: 1.33 sec, Median: 1.09

Area	Lights	Hits	Percent	Avg Reaction
Quad UL	5	5	100	1.15 sec
Quad UR	4	4	100	0.97 sec
Quad LL	6	6	100	1.29 sec
Quad LR	7	7	100	1.71 sec
Ring 1	3	3	100	1.28 sec
Ring 2	2	2	100	1.45 sec
Ring 3	2	2	100	0.95 sec
Ring 4	4	4	100	1.95 sec
Ring 5	11	11	100	1.18 sec

Time/Score Breakdown

0-15 sec: 11 15-30 sec: 11

Digits	Correct	Digits	Correct	Digits	Correct	Digits	Correct
9	1	8	1	8	1	7	1
5	1						

Show Quadrant Graph

Done

Print

Date/Time

03/16/10 11
 03/16/10 11
 03/16/10 11
 03/16/10 11

View Data

/Hits

4/4

7/7



Dynavision D2 Function Screens

Dynavision™

Name: Decker, Desmond
Mode B
Started at 10:46, 3/22/2010 Chosen time: 60 sec Actual time: 60 sec
Lights: Speed - 5.00 seconds, Green: 30%, Area - Center
Working Area: Quadrants - All Rings - Full
Red score: 54 hits, 0 misses, 100% Green score: 7 hits, 0 misses, 100%

Reaction Times:
Fastest: 0.63 sec, Slowest: 1.58 sec, Average: 0.97 sec, Median: 0.94

Area	Red				Green		
	Lights	Hits	Percent	Avg Reaction	Lights	Hits	Percent
Quad UL	11	11	100	0.96 sec	3	3	100
Quad UR	13	13	100	1.03 sec	2	2	100
Quad LL	14	14	100	0.98 sec	0	0	0
Quad LR	16	16	100	0.92 sec	2	2	100
Ring 1	7	7	100	0.83 sec	1	1	100
Ring 2	5	5	100	0.95 sec	0	0	0
Ring 3	11	11	100	0.94 sec	3	3	100
Ring 4	14	14	100	1.04 sec	3	3	100
Ring 5	17	17	100	1.00 sec	0	0	0

{Quad UL}

2/2

{Quad UR}

Show Quadrant Graph

Done

Print



Dynavision D2 Function Screens

Dynavision™

Results by Quadrant

Average Reaction Time

Score/Lights

1.15

0.97

5/5

4/4

1.29

1.71

6/6

7/7

Date/Time	
03/16/10	11
03/16/10	11
03/16/10	11
03/16/10	11

View Deta

Show Text Report

Done

Print

/Hits

4/4

7/7



Dynavision D2 Function Screens

Dynavision™

Results by Quadrant

Average Reaction Time

0.96	1.03
0.98	0.92

Red Score/Lights

11/11	13/13
14/14	16/16

Green Score/Lights

3/3	2/2
0/1	2/2

Show Text Report

Done

Print



Dynavision D2 Function Screens

Dynavision™

Desmond Decker's History

Date/Time	Program
03/22/10 10:46a	* Mode B, Gr
03/22/10 10:51a	* Mode B, Gr
03/22/10 10:53a	* Mode B, Gr
03/22/10 10:54a	* Mode B, Gr

History Printing Options

Print What?

All Programs

Selected Program

Date Range

From: 22/03/2010

To: 22/03/2010

Include

List

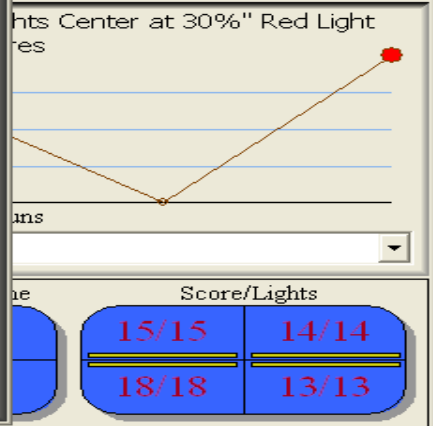
Graph(s)

- Red Light Score
- Average Reaction Time
- Green Light Score
- Upper Left Quad Red Light Score
- Upper Left Quad Average Reaction T
- Upper Left Quad Green Light Score
- Upper Left Quad Red Light Score
- Upper Left Quad Average Reaction
- Upper Left Quad Green Light Score
- Upper Left Quad Red Light Score

March, 2010

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3
4	5	6	7	8	9	10

Today: 22/03/2010





Dynavision D2 Function Screens

Dynavision™

Desmond Decker's History

Date/Time	Program	Score	Avg Reaction
03/16/10 11:46a	MODEA30-F1-1	22	1.33
03/16/10 11:48a	MODEA30-F1-1	27	1.09
03/16/10 11:48a	MODEA30-F1-1	21	1.35
03/16/10 11:49a	MODEA30-F1-1	28	1.04

View Details

Delete

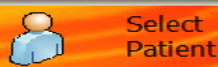
Print

Program "MODEA30-F1-1" Scores



Graph Score

Quadrant Results	Average Reaction Time		Score/Hits	
	1.15	0.97	5/5	4/4
1.29	1.71	6/6	7/7	





Dynavision D2 Function Screens

Dynavision™

Configure New Program

The screenshot displays the 'Configure New Program' interface. It features several control panels:

- Mode A:** A button labeled 'Mode A'.
- Flash Option:** A panel with 'Flash Option' set to 'Off', a 'Speed: 1.00 sec' indicator, and two 'Change' buttons.
- Select Working Area:** A panel with 'Quadrants' (Upper Left, Upper Right, Lower, Lower) and 'Working Area' (Full, Mid, Inner) options.
- Light Speed/Sec:** A central panel with a grid of speed values (5.0, 3.0, 2.0, 1.0, 0.75, 0.50, 0.40, 0.35, 0.30, 0.25), a central display showing '2.07', and '+ 0.01' and '- 0.01' adjustment buttons. It also includes 'OK' and 'Cancel' buttons and a 'Slower' to 'Faster' slider.
- Notes:** A text input field labeled 'Notes'.
- Navigation:** 'Try It', 'Save Program', and 'Cancel' buttons at the bottom, along with a 'Main Menu' button on the right.



Dynavision D2 Controls & Programs

- ❑ Programs can be saved for each user for further analysis or printed.
- ❑ The light speeds are all programmable from 0.25 sec to 5 sec or more .
- ❑ The light patterns are programmable.
- ❑ The lights can be programmed by Quadrant , by Inner / Mid / Outer Ring or any combination
- ❑ The lights can flash Red or Green and any combinational mix as per the defined program .
- ❑ The lights can be used in *Reactive* or *Proactive* modes.
- ❑ The Flash Speeds for the *Tachtistoscope* are programmable from 0.05 sec to 1.0 sec



Dynavision D2 Application Guide

The **DYNAVISION D2** should be used as a training tool , together with additional training routines for example ,the athlete can start a session with the **DYNAVISION D2** and then move on to weights and to cardio exercises and then return to the **DYNAVISION D2** to run a repeat of the first program . This will enable the athlete to measure how well they perform before and after physical fatigue . The training runs on the **D2** can be 30 second runs up to continuous , repeated consecutively or after other cardio, or weight training routines , the training can be done standing , sitting , with one hand or both hands or standing on a pivot board , there are endless possibilities. As in any sport as fatigue increases so does the lack of concentration and this can be the difference between success and failure , the **Tachtistoscope** on the **DYNAVISION D2** helps to train the athlete to focus and still be in control of their peripheral vision under stress and fatigue. Typically athletes should see an improvement in their alertness, reactions, concentration levels and pace off the mark improve after about 3 to 5 weeks, using 3 sessions per week on the **DYNAVISION D2**. The **DYNAVISION D2** is a great tool to promote competitiveness and it motivates and encourages athletes to compete against themselves and/or each other , a tool that each athlete can use to measure progress **“OBJECTIVELY”**



Dynavision D2 Application Notes

The **DYNAVISION D2** can also be a very useful **TOOL** to help the Physio Therapist/Trainer/Sports Doctor in the observation of an Athlete after a suspected concussion during a game. The standard process of the trainer is to administer the visual finger test to analyse whether the Athlete is cognitive and depending on the Athlete's response, they may or may not remain in the game. This is primarily a very subjective test as many Athletes memorize the finger test and will not respond objectively because they want to remain in the game. As in all contact sports, Football, Soccer, Hockey, Rugby players are subjected to very severe hits to the head that can cause mild to severe concussions and if the Trainers had an opportunity to send the Athlete to the dressing room to use The **DYNAVISION D2**, they would have a more Objective Analysis of the Athletes' cognitive response and that Data can be compared to his normal everyday **DYNAVISION D2** training results in his data base. The **DYNAVISION D2** should not be used as the sole source to determine whether a suspected injury is severe or not but it can be a helpful tool that can be used by the Doctor who then has the ability to compare past Performance Data to Data compiled after the injury. Additionally the **DYNAVISION D2** can be used to access the recovery of an Athlete 3 or 4 days after a mild concussion to review their performance on the **D2** in comparison to previous results stored in the Data base.

CAUTION:THE D2 BY NO MEANS IS A SUBSTITUTE TO SOUND PROFESSIONAL MEDICAL ANALYSIS



Dynavision D2 Application Modes

MODE A-Reactive

This is the Default Mode. One light will come on and remain stationary until the user contacts it. This initiates another light switch (in a random pattern) to turn on. The user reacts and turns out as many lights as possible during the (pre-set) length of the run. Refer to next page.

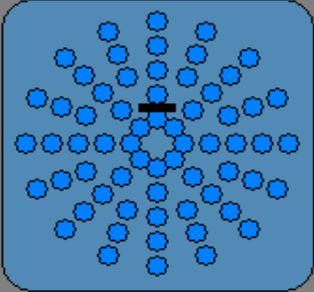


REACTIVE TRAINING™

MODE A SCREEN REACTIVE

Dynavision™

Configure New Program

Mode A Mode B Mode C Reaction Time	Flash Option Off <input type="button" value="Change"/> Speed: 1.00 sec <input type="button" value="Change"/>	Select Working Area Quadrants Upper Left <input type="button" value="Upper Right"/> Lower Left <input type="button" value="Lower Right"/> Full <input type="button" value="Mid"/> Inner <input type="button" value="Inner"/>
	Run Time 60 Seconds <input type="button" value="Change"/>	
	Notes	
	<input type="button" value="Try It"/> <input type="button" value="Save Program"/> <input type="button" value="Cancel"/>	



Dynavision D2 Application Modes

MODE B- Proactive

Press Mode B and you will see that an additional panel of buttons will appear. This will allow the operator to select the speed at which the lights will change. The lights travel in random patterns at various (pre-set) speeds. Depending on the users' skill level he/she will work at 5.0, 3.0, 1.0, 0.75 or 0.5 seconds. Each increasing speed puts more stress on the user. A large part of the program is to monitor the effect of these rising levels of stress on the physical responses of the athletes. Refer to next page.




REACTIVE TRAINING™

MODE B SCREEN PROACTIVE

Dynavision™

Configure New Program

Mode A	Flash Option Off <input type="button" value="Change"/> Speed: 1.00 sec <input type="button" value="Change"/>	Select Working Area Quadrants Upper Left <input type="button" value="Full"/> Upper Right <input type="button" value="Mid"/> Lower Left <input type="button" value="Inner"/> Lower Right <input type="button" value="Inner"/> 
Mode B	Lights Speed: 5.00 sec <input type="button" value="Change"/> No Green Lights <input type="button" value="Change"/> Green Area: Full <input type="button" value="Change"/>	
Mode C	Run Time 30 Seconds <input type="button" value="Change"/>	
Reaction Time		
Notes <input type="text"/>		
<input type="button" value="Try It"/> <input type="button" value="Save Program"/> <input type="button" value="Cancel"/>		



Dynavision D2 Application Modes

MODE C

Press Mode C and it will bring up the screen that is shown below. The lights travel around the outside circle at pre-set speeds. The Athlete/ trainer chooses light speed and program time. The program time is how long it will run the exercise and the light speed is how quickly the lights change position. The user initially stands back approximately 6 feet from the system and tracks the lights without moving the head. As he/she is able, they will move closer to the board. The lights will change direction every 15 seconds. This exercise strengthens the muscles that control eye movements. The more developed your eye muscles are the less likely you are to experience eye fatigue.

Refer to next page.

MODE C SCREEN

Dynavision™

Configure New Program

Mode A		
Mode B	Lights Speed: 5.00 sec <input type="button" value="Change"/>	
Mode C		
Reaction Time	Run Time 60 Seconds <input type="button" value="Change"/>	
Notes	<input type="text"/>	
<input type="button" value="Try It"/>	<input type="button" value="Save Program"/>	<input type="button" value="Cancel"/>



Dynavision D2 Application Modes

REACTION TEST MODE

This program actually contains six tests, three for the right hand and three for the left.

Note: The left hand should always move to the right and the right hand should always move to the left. THE TEST IS CARRIED OUT USING ONLY ONE HAND AT A TIME. After you press REACTION TIME, then START, the lights that are involved in the first test will flash sequentially 3 times. Hold down the lit light to the right (with your right hand) and position yourself in front of the row of lights that light up during the demonstration. 1 of those 4 lights will come on randomly within 5 seconds. The object of the test is to move your right hand from the initial light to the reaction light as quickly as possible. Interpretation of the score is explained below. You can do as many repetitions of each test as you like.. If you lift your hand off the initial light before the reaction light comes on you will score 0.00 on the score panel and printout. This prevents over- anticipation.

THERE IS NO TIME LIMIT TO THE NUMBER OF REPETITIONS OF EACH TEST, RECOMMENDED 4 REPS. PER TEST.

The first and second tests involve a LINEAR random target switch. The third and fourth tests are again random, unknown targets, which will appear along an ARC in one of 8 different planes. Tests five and six are a simple choice (i.e. 1 light).



Dynavision D2 Application Modes

INTERPRETING THE RESULTS

The first result is the Visual Reaction Speed, which is the amount of time it takes to identify the target and initiate a reaction. The second number is the Physical Response Speed, which is a measurement of the total elapsed time from the introduction of the target stimulus to the physical completion of the task (turning out the light).

Your overall Motor Response Time is the amount of time (measured in 1/100's of a second) it takes to physically respond to the target, after the initial visual reaction. The following equation illustrates this;

$$***PHYSICAL RESPONSE (PR) = VISUAL REACTION (VR) + MOTOR RESPONSE (MR)***$$

$$***PR = VR + MR*** also $***MR = PR - VR***$$$



The Power of the DynavisionD2

The ***Dynavision D2*** is unlike any other system whereby it offers the user the following differences:

- ❑ The raised Light Switches allow for a distinct ***Motor Movement*** whereby the user must lift their hand and hit the Light Switch versus using a simple sliding motion to deactivate the light as is used on other systems that utilize a flat screen. This sliding motion adds very little to the exercise of enhancing visual recognition in conjunction with motor skills..
- ❑ The span of the working area of the ***Dynavision D2*** truly replicates a peripheral challenge and is optimal for all levels of sporting situations whereby ***Peripheral Vision Awareness is paramount.***
- ❑ The adjustable height function is critical to the proper use of any vision training device, so that the user can properly position the display to suit their physical characteristics , whether it is a child or an adult. In this respect , one height does not fit all and therefore fixed height systems do not allow for appropriate training like the ***Dynavision D2*** with its automatic height adjustment feature.



The Power of the DynavisionD2

- ❑ The **Dynavision D2** requires the user to utilize their hands and not limited to finger pointing to deactivate the light stimuli as most other systems require, therefore creating a more relevant motor skill function.
- ❑ The **Dynavision D2** is the only system that has a **Baseline Reaction Test** , which is critical in analyzing and measuring the true cognitive response of the user .
- ❑ The **Dynavision D2** is the only system that utilizes a combination of fully programmable **Red** and **Green** Lights to create a better cognitive exercise in creating “ **Hit / Don't Hit**” scenarios. This is especially critical to measure the ability of the user to focus and react to various stimuli under stress .
- ❑ The **Dynavision D2** can also be utilized as a Physical Work Out machine that will test your stamina and concentration levels in its continuous mode.
- ❑ The **Dynavision D2** is designed to withstand the rigors of the athletic environment that allows a 320lb athlete to execute their routine as aggressively as required without holding anything back



The Power of the DynavisionD2

- ❑ The ***Dynavision D2*** software is incredibly user friendly ,whereby the user has the ability to generate an infinite number of programs to satisfy every need , sport or training preference.
- ❑ The user is able to define routines for specific training requirements, whether it is the right or left sides, top or bottom, centered or peripheral only , reduce areas by decreasing the width of the Light Rings so that children are accommodated as well as using the full board for NBA players.
- ❑ The software of the ***Dynavision D2*** has the ability to track and measure a wide scope of outputs and enable the user to fully analyze the results of their routine.
- ❑ The software has the ability to generate random Light programs or specific user defined light patterns as it relates to their needs.

Dynavision D2's Edge

Tachtistoscope is a device used to increase the speed of visual perception/ processing by displaying visual stimuli only extremely briefly.

- ❑ The ***Tachtistoscope*** (Patent Pending) allows for a more intense exercise and it is only available in the ***Dynavision D2***, no other systems incorporate a ***Tachtistoscope***
- ❑ The ***Tachtistoscope*** is programmable to allow from 1 to 7 digits to be displayed .
- ❑ The ***Tachtistoscope*** is programmable to allow Objects , Scrolling Messages, Words , Symbols etc. The library of inputs to the ***Tachtistoscope*** is endless.
- ❑ The flash speeds of the ***Tachtistoscope*** is fully programmable to allow speeds from 0.05 sec to 1.0 sec.
- ❑ Options for the Athlete or trainer:
 - ❑ The ***Tachtistoscope*** can be used as just numbers, or as simple mathematical functions while executing the Light routine.
 - ❑ The ***Tachtistoscope*** can be used to scroll messages that the Athlete must call out while executing the light routine



*“ Ideally the **Dynavision D2** should be integrated with full workout regimens. It should be placed in close proximity to the fitness area so as to be utilized as part of the workout session rather than a stand alone training device.*

*After years of experience in observing athletic training it is obvious that athletes will thrive on, take vision training seriously and continue to use, when it is integrated with all of their training and has a level of sophistication that mirrors other modern training techniques and devices..The **DynavisionD2** provides this and also adds the competitive element so that athletes can challenge themselves and also compete against teammates”*

VISUAL REACTION is the ability to **IDENTIFY** the target, **PROCESS** the information and **INITIATE** the response,

IPI

