

Vision  
**Assessment**  
Corporation <sup>TM</sup>

## **BASS-PL**

**Binocular Accommodative Saccadic Series PL**

P/N 1075PL

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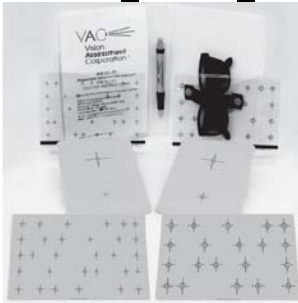


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## INSTRUCTIONS

## NOTES

Thank you for purchasing the Vision Assessment Corporation BASS -PL SERIES , **Binocular Accommodative Saccadic Series**, P/N 1075 PL.



### **INTRODUCTION**

The BASS -PL series is a highly sensitive measure of the relationship between Binocular alignment (fixation disparity) and Accommodative function (clarity) during a Series (stamina) of cognitively loaded Saccadic eye movements. This series is designed to be a more dynamic measure of binocular/accommodative function during a saccadic eye movement task using a sequence of saccadic identification targets at two different acuity levels. The larger targets reflect a lower acuity level to evaluate visual function and are designed to be more reflective of the visual demands of larger print books. The smaller targets reflect a higher acuity level to monitor visual binocular and accommodation functions that are more reflective of the reading demands at higher grade levels (i.e. smaller print books).

### **FAMILIARIZE YOURSELF WITH THE SYSTEM**

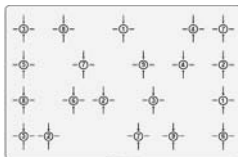
- System includes:
  1. 1 Large Fixation Disparity Target (LFD) 20/100



2. 1 Small Fixation Disparity Target (SFD) 20/63



3. 1 Randomized Large Fixation Disparity Target (RL) 20/100



the affect of the demand of horizontal saccadic eye movement is negated. To evaluate accommodative facility under associated conditions cover the crosses on the Vectograph to reveal only the far left or far right margin crosses allowing the patient to only view the vertically oriented stimuli.

### SCORING

- Each letter A -P on the bottom blue bar of each Vectograph represents one diopter (Base -In) (Divergence / Relaxing).
- Each number 1 -10 on the bottom blue bar of each Vectograph represents one diopter (Base -Out) (Convergence / Crossing).
- Each even number 10 -24 on the bottom blue bar of each Vectograph represents two diopters (Base -Out) (Convergence / Crossing).
- 40 diopter range of separation available.

### CARE/HANDLING & STORAGE

- Clean vectographic panels, guide, and silvered cards with a soft, damp, lint-free cloth. Dampen cloth using glass cleaner or mild detergent/water.
- **CAUTION: DO NOT IMMERSE THE VECTOGRAPHIC PANELS OR SILVERED CARDS IN WATER. DO NOT SPRAY CLEANER DIRECTLY ONTO PANELS OR SILVERED CARDS.**
- ☀️☂️ Store Vectographs and silvered cards in a dry place away from direct sunlight.
- Clean Polarized Viewers using lens cleaner and soft, lint-free cloth.
- If vectographic panels are removed from guide during cleaning, replace the panels in the guide placing the panel with the blue bar on top of the panel with the numbers/letters ensuring that the plastic portion of the guide is behind the panels.

### WARRANTY

- 1 year manufacturer warranty from date of purchase.

**Notice to User/Patient:** Any serious incident that has occurred in relation to this device should be reported to the manufacturer and to the competent authority of the Member State in which the user and/or patient is established.

- 1 Randomized Small Fixation Disparity Target (RS) 20/63

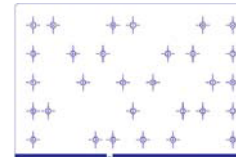


- 2 Polarized Variable Vectographs

- 1 Large Saccadic Polarized Variable Vectograph 20/100



- 1 Small Saccadic Polarized Variable Vectograph 20/63



- 1 Pair Standard Polarized Viewers



(NOT TO BE USED AS SUNGLASSES)

- 1 Instruction Manual

### ADMINISTRATION

#### • ASSESSMENT

#### A. NEAR POINT OF FIXATION DISPARITY (NPF)

1. Start with the NPF. The Near Point of Fixation Disparity (NPF) is classically performed in free space. It is administered in the same way as the Near Point of Convergence (NPC); however, the break point of the NPC is double vision, while the break point of the Near Point of Fixation Disparity (NPF) is the distance at which a Fixation Disparity is present and which cannot be resolved within a 1 -2 second time period.
2. Place the Polarized Viewers on the patient.  
**PLEASE NOTE:** Doctor should decide whether or not Polarized Viewers should be worn over patient's prescription glasses.
3. Begin with the silvered Large Fixation Disparity Target (LFD) which has 2 fixation disparity crosses positioned vertical to one another. The top target is the original fixation disparity cross used in the paper "Confusion Inside Panum's Area" ( See *Binocular Vision Dysfunction Diagnostic & Treatment System, P/N 1070-PL on last page of this manual*), and the large fixation disparity cross on the bottom is set at 20/100. The use of these vertically displaced fixation disparity crosses facilitates the comparison of binocular performance when using a lower versus higher spatial frequency or acuity demand.
4. Hold the LFD at approximately 50 inches (127cm) in front of the patient.  
**PLEASE NOTE:** A further distance may be required if the arrows are sliding at 50" (127cm) and beyond.

5. Have the patient look at the top cross. Start slowly moving the LFD Target toward the patient while asking the patient to try to maintain the Fusion Lock **E** as clear.
6. Ask the patient to indicate when the arrows *first* begin to slide or slip and/or the **E** begins to blur or become unclear. Note the distance at which they cannot be realigned in the time it takes to ask him/her "Are they still sliding?" This duration is approximately 1-2 seconds. Record this distance as his/her Break Point.
7. The NPFD recovery is determined by gradually moving the LFD Target away from the patient until the patient indicates that the arrows have realigned and the **E** is clear. These findings constitute the Break and Recovery Points of the NPFD and are recorded by distance.
8. Repeat Steps 5-7 now asking the patient to look at the bottom cross.
9. Ask the patient to compare what happened to the bottom cross arrows and clarity of the **E** vs. what happens to the top cross arrows and clarity of the **E**.
10. Repeat Steps 3-9 replacing the LFD with the Small Fixation Disparity Target (SFD). The top cross is the same as on the LFD, but the bottom cross is now set at 20/63. The use of these different size targets is useful for testing the difference in performance when the visual demand is altered.

## **B. ASSOCIATED VERGENCE MEASURES**

1. Use the LFD and SFD for Associated Vergence Testing at near (16"-18") (41cm-46cm). This testing is typically done with a Risley prism in free space; however, it can also be done behind the refractor with bilateral Risley prisms. Convergence or divergence prism demand is gradually increased. The divergence prism demand is classically administered before convergence demand. The prism demand that exceeds the ability for binocular function to compensate manifests as a Fixation Disparity that cannot be resolved within 1-2 seconds or the time it takes to ask the patient "Are they still sliding?" Record this Break Point in prism diopters.
2. During this testing it is important to ask the patient to attend to the clarity of the **E** Fusion Lock. This testing also allows the patient to compare his/her performance on one target versus the other without engaging a horizontal saccadic eye movement.

## **C. RANDOMIZED FIXATION DISPARITY SACCADIC TARGETS**

These targets are presented with five rows of saccadic fixation disparity crosses at two different acuity levels (20/100 & 20/63) and correspond to the two BASS-PL Vectographs.

1. Begin with the Randomized Large Saccadic Target, (RL) (Slivered Card beginning with #3, 20/100) without using any prism or lens addition.
2. Ask the patient to read aloud the two rows or more of numbers while paying special attention to only read each number when the arrows are aligned and the number is crisp/clear (without blur).  
*PLEASE NOTE:* The mirror image of the slivered target is imprinted on the back of the card for checking number accuracy.

3. Instruct the patient to stop if at any time either the arrows begin to slide, fade out or if the number begins to blur. Instruct the patient to continue upon recovery (when number again becomes crisp/clear and the arrows are again aligned). The verbal hesitations can be used as a reflection of what is happening visually.
4. Repeat Steps 1-3 now using the Randomized Small Saccadic Target, (RS) (Silvered Card beginning with #1, 20/63).
5. Once the clinical observations have been made, Steps 2-4 can be repeated with small amounts of BI and/or BO prism demand (1-2 Diopters) or with Plus and/or Minus Lenses to explore the nature of binocular function or dysfunction.

## **• TREATMENT VECTOGRAPHS**

1. Start with the Large Saccadic Polarized Variable Vectograph (Vectograph beginning with #3, 20/100).
2. Place the Polarized Viewers on the patient.  
*PLEASE NOTE:* Doctor should advise whether or not Polarized Viewers should be worn over patient's prescription glasses
3. Hold the Vectograph 16" (40cm) in front of the patient.
4. Begin by aligning the panels at "0" (Ortho) on the blue bar, and then ask the patient to read aloud the first two rows or more of numbers while paying special attention to only read the number when the arrows are aligned and the number is crisp.
5. Instruct the patient to stop if at any time either the arrows begin to slide, fade out or if the number begins to blur. Instruct the patient to continue upon recovery (when number again becomes crisp/clear and the arrows are realigned). The verbal hesitations can be used as a reflection of what is happening visually.
6. Optimum performance occurs when there is no significant sustained fixation disparity, no suppression (fading), nor blurring of the fusion lock number either initially or over time. Through the use of prisms, lenses and/or prism demand induced by Vectograph separation one can explore more sensitively the diagnostic profile of the binocular dysfunction and more effectively provide a therapeutic approach which can improve the patient's awareness of binocular alignment and accommodative control during saccadic eye movement.
7. Repeat steps 3-5 using the Small Saccadic Polarized Variable Vectograph (Vectograph beginning with #1, 20/63).
8. After the initial evaluation on the Vectographs is performed at the "0" (Ortho) position, a slight degree of BO prism demand, which can be more disruptive to Convergence Insufficiency, can be added by sliding the panels to the "1" or "2" position on the blue bar. Have the patient repeat steps 2-6.
9. A slight degree of BI prism demand, which can be more disruptive to Convergence Excess, can be added by sliding the panels to the "A" or "B" position on the blue bar. Have the patient repeat steps 2-6.
10. The Vectograph presentations are arranged so that the extreme left and right margin Fixation Disparity Cross stimuli are presented in a vertical line orientation. By having the patient only view the vertically oriented stimuli,