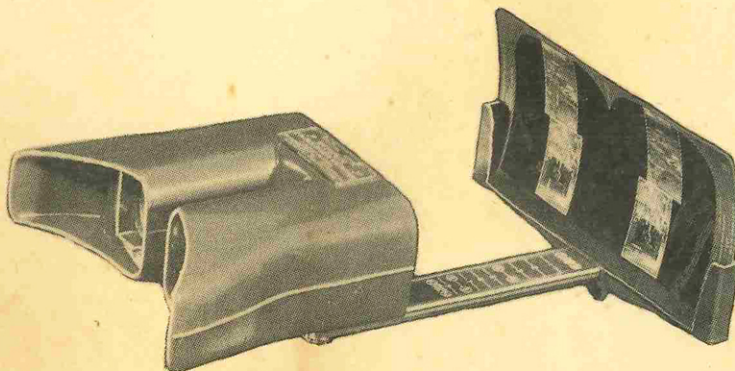


# **KEYSTONE HOME-TRAINING MANUAL**

**DELTA UNIT BASE-OUT**

**As Used with the  
KEYSTONE STEREOSCOPE No. 50**



**KEYSTONE VIEW COMPANY  
Meadville, Penna.**

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## GENERAL INSTRUCTIONS AND COMMENTS

### *READ CAREFULLY BEFORE YOU BEGIN THE EXERCISES*

#### *Why You Have Two Eyes*

In all your seeing your eyes, each looking from a different position in your head, give you slightly different pictures of an object. Mentally, you combine these pictures into one. The difference in the impressions received by your eyes enables you to see an object in three dimensions and to judge more accurately *where* it is. This ability to see things *as* and *where* they are is one of the main purposes of two-eyed seeing. Only a few animals besides man possess it. Technically, this kind of three-dimensional seeing is known as "stereopsis."

The stereographs in your set reproduce the conditions of normal seeing by presenting slightly different pictures to your eyes. The result is that when you look into a stereoscope you marvel at the reality of the scene. More important, stereographs provide the most effective known means of correcting visual difficulties, such as yours.

#### *You Demand Four Things of Your Eyes:*

1. Single vision, that is, no doubling of objects.
2. Clear vision, that is, no noticeable blurring.
3. Comfortable seeing, particularly at close range.
4. Efficiency, that is, the ability to see fast and accurately.

Many pairs of eyes are not properly coordinated to perform satisfactorily under the close and prolonged application required in the schoolroom, by many manufacturing operations, and in much clerical work, or even for doing a moderate amount of sewing or reading for pleasure. Adequate visual achievement requires that the two eyes perform as though they were a single organ. This they do not do when you have to force yourself to use them.

When properly prescribed glasses do not eliminate entirely the cause of the visual difficulty, it becomes necessary to train the eyes for better teamwork. These exercises simulate the everyday demands upon your eyes. As you proceed with your training, you will be especially interested in noticing how the exercises are teaching you to maintain *single* and *clear* vision under various handicaps, and the increasing speed and ease with which you can now

perform previously difficult training assignments. You will notice a definite improvement in the ordinary use of your eyes and a lessening or disappearance of any discomfort.

Do not stop training as soon as your symptoms have disappeared. You should master the entire series of exercises in order to establish soundly your newly learned visual skills.

### *What Is Fusion?*

The mental ability to combine two pictures into one is, in the language of your doctor, called *fusion*. One important part of your training is to see the right and the left picture of each stereograph as one. When you are asked to "fuse" them, that is what is meant.

### *What To Do*

*In all the exercises* you are to make every effort to see each object at which you are instructed to look, clearly and AS ONE. Do not continue any exercise beyond the point where you can maintain *clear fusion*. Persistent blurring or doubling indicates failure.

The immediate purpose of these exercises is to teach you to obtain and retain clear fusion of all specified details, at the indicated positions on the shaft of the stereoscope. To achieve this ob-

jective, the card holder is moved IN or OUT, or IN *and* OUT, as the case may be, to the limits of clear fusion. To "*trombone*" means to move the holder, slowly and evenly, IN *and* OUT, to the position where you experience either a strong "*pull*" or blurring or doubling, whichever occurs first.

The direction in which you are asked to record your daily performance, IN or OUT, indicates, also, the direction in which you are to make a special effort to maintain clear fusion. For example, you will probably obtain fusion of the upper pair of pictures of *EC 45* rather easily when the holder is at 0-0, but will experience some difficulty at 10 on the shaft. On the other hand, you will no doubt find it easier to fuse the lower pair of pictures of *EC 45* at some distance nearer than 0-0. The goal, then, is to attain clear fusion of the upper pair of pictures at 10, and of the lower pair at 0-0.

Unless otherwise stated, clear fusion should be attained at all positions between 0-0 and 10 before an exercise may be considered adequately mastered.

The speed and accuracy of your distance judgment will be improved if you form the habit of noting the relative locations of the features of the land-

scape and of numbers and letters in the various stereographs.

In the center of each stereograph is a number preceded by EC, which identifies the selection for each exercise.

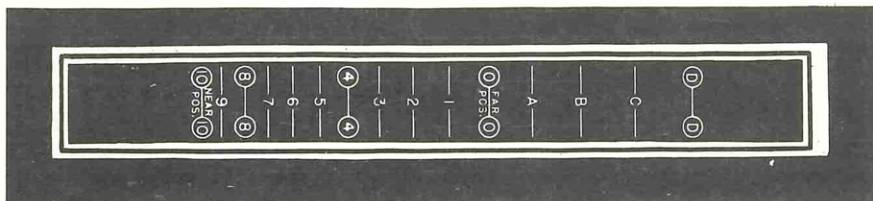
### *How To Proceed*

Generally speaking, a daily schedule of six different exercises is sufficient. It is not the intention to require you to complete any given exercise, or group of exercises, before allowing you to go on to the next step or several steps. Although it is true that the first steps of these exercises have been arranged in

the order of their severity for your type of problem, the *tromboning* method, which is used in nearly all the procedures, intensifies the initial demand for clear fusion and creates situations that become progressively more difficult than the starting point of some of the procedures that follow.

To obtain the maximum benefits from these exercises, it is of greatest importance that you follow the instructions for any given step explicitly and that you are finally able to maintain *clear fusion* at all distances specified without conscious effort.

### *SHAFT MARKINGS*



0-0 on the shaft, as you will notice, is marked "Far Position." This means that when the stereograph is at 0-0, the scene is far away, as though you were looking to the horizon. 10, marked "Near Position," is equivalent to reading distance.

If you wear bifocals, you will not be able to obtain clear vision through your distance glasses in to 10 on the shaft of

the stereoscope. You need not bring the holder in to the point where you experience blur, because your doctor

has prescribed bifocals to enable you to see clearly at close range.

If necessary, ask your doctor for further instructions.

### *The System of Scoring Results*

It is important that you keep a complete record of your progress. Your doctor needs that information to gauge your improvement and to guide him in giving your eyes the most effective care. Also, as you keep the score from day to day, your work will become a game, to be played with greater effort and determination.

1. When you are asked to record **"RESULTS,"** that is when you have been able to retain clear fusion of, say, every number or letter in a specified group, write **"V"** in the proper column of the record form; when you have failed to maintain clear fusion, write **"X"** where indicated.

2. When you are asked to record **"IN"** or **"OUT,"** write in the indicated column the number on the shaft in front of the holder.

3. If you have been unable to obtain clear fusion at any position on the shaft, record **"X."**

### *Purpose of the Control Marks*

Stereographs designed for visual training are usually provided with control marks for checking whether both eyes are seeing at the same time. In some a horizontal white line is placed upon one picture and a vertical white line upon the other. The result is that when both eyes are seeing normally, that is at the same time, these lines form a plus sign. Other stereographs may have a small white globe before each eye. These globes, when seen at the same time, are fused into one globe, which stands out in three dimensions. Always be sure that you see the control marks superimposed.

### *Operation and Care of the Stereoscope*

Keep the lenses clean.

Be sure that the stereograph is level in the holder.

When instructed to move the holder back and forth, the movement should be smooth and at a speed gauged to your ability to perform the given exercise.

### *Good Lighting*

Good lighting means that you have sufficient light to see clearly without effort and without glare. Poor light-

ing is often the cause of severe eye discomfort. Be sure that you have good light falling on your stereographs.

### *Time To Be Given To Training*

The benefits to be derived from these exercises will be increased by their frequent performance. Two or three five-minute sessions a day are preferable to one fifteen-minute period. The best results will be obtained when you are not tired. Allow nothing to interfere with the time set aside for these important assignments.

### *Practice! Practice! Practice!*

Learning to see well places the same demands upon the learner as does the acquisition of any other skill: practice, practice, practice. You must practice regularly and follow the instructions carefully. You must practice with high expectations of success, with concentration, and with persistent determination.

### *Rest Periods*

Do not allow yourself, in your enthusiasm, to overdo at first. You may find these exercises a bit strenuous, due to the condition of your eyes. When fatigue or discomfort is experienced, close your eyes or look out the window

and relax completely for a few moments.

### *Anagrams*

The parlor game of *anagrams* is familiar to nearly everyone. Where the stereographs contain words or letters, these may be appropriated for playing the game as a part of the visual exercises prescribed for you. The procedure will be to construct new words from the letters or from the letters of the words placed in the stereograph. The intellectual interest aroused by the search for new words stimulates interest in the exercises and increases their effectiveness.

The simplest method of playing the game is first to find words that begin with "A," then "B," ect. A certain letter may be used only as many times as it appears in the available group of words or letters.

If the game interests you, you will have no difficulty in finding ten or more words a day. It is suggested that you keep a complete record of your *anagrams* by writing down the words in numbered sequence, and that you attach the list to your Daily Progress Report for your doctor's inspection. Each group of words should be identified by the number of the stereograph from which it was taken.

## THE TRAINING PROGRAM

**REMINDER:** *Before training is completed, clear fusion is to be attained in each of the following steps, at all positions between 0-0 and 10 on the shaft of the stereoscope, unless otherwise stated.*

### STEPS:

1. **EC 45.** Find the position on the shaft where you can fuse (bring together) the upper pair of pictures, and where they are in sharp focus. The black lines should cross.

Disregard the lower pictures for the present; they are probably doubled when you fuse the upper pair. You are not expected to be able to fuse both pairs at the same time.

**Trombone** ten times. Remember that you are to maintain *clear fusion* at all times; that is, the details at which you look must not become blurred or doubled. It is best to move the holder only to the point where you feel a strong "pull." Record the IN position (the nearest number on the shaft, in front of the holder, where you can maintain clear fusion) in column 1 of the Daily Progress Report, found in the back of the manual.

The game of ANAGRAMS is suggested here. Use only letters that appear around the upper picture.

2. **EC 45.** Find the position where you can fuse the lower pictures. Repeat the procedure in Step 1. Record the OUT position (the farthest number on the shaft where you can maintain clear fusion) in column 2.

3. **EC 45.** Find the position where you can *alternately* fuse the upper and the lower pair. As you look at each one, in turn, long enough to see it clearly and singly, *trombone* five times. Record the OUT position in 3-a and the IN position in 3-b.

4. Focus **EC 42** sharply.

You are looking down on the Capitol, Washington, D.C. The white, wedge-shaped structure, beyond the Capitol, is the House of Representatives Office Building. The Library of Congress is to the left of the Capitol grounds. The white building, this side of the Library, houses the Supreme Court. Right below you is the Senate Office Building.

Look, alternately, at some feature

- of the landscape and, in turn, at the letters and numbers suspended in mid-air, as you *trombone* ten times. Record the IN position in column 4.
5. Focus *EC 46* sharply. Fuse the *upper* pair of pictures. Repeat the procedure in Step 1. Record the IN position in column 5.
  6. *EC 46*. Fuse the *lower* pictures. Repeat the procedure in Step 1. Record the OUT position in column 6.
  7. *EC 46*. Find the position where you can alternately fuse the upper and the lower pair. Fuse them, in turn, as you *trombone* five times. Record the OUT position in 7-a and the IN position in 7-b.
  8. *EC 41*.  
 From a plane you are looking down upon the tallest building in the world, the EMPIRE STATE, New York.  
 See how many new words you can compose from the letters around the oval, as you *trombone* very slowly. Record the IN position in column 8. This may prove to be one of the most difficult exercises to master.
  9. *EC 47*. Fuse the boy dressed in a goatskin and a smile. Repeat the procedure in Step 1. Record the IN position in column 9.
  10. *EC 47*. Fuse the lower pictures. Repeat the procedure in Step 1. Record the OUT position in column 10.
  11. *EC 47*. Repeat the procedure in Step 3. Record the OUT position in 11-a and the IN position in 11-b.
  12. Focus *EC 43* sharply. How clearly you can see the formations of the HOOVER DAM and the shapes of the distant mountains.  
*Look:*
    - a. From the sign NEVADA SIDE to the top of the dam, and from the sign ARIZONA SIDE to the intake tower at the far end of the white line extending from the sign INTAKE TOWER. You are probably aware of two white lines which meet at the tower and that, as your eyes move toward the sign, the lines cross at whatever point your eyes are fixing at the moment. Shift your gaze back and forth between the tower and the sign, five times. Record your success or failure to maintain clear fusion, alternately, on the tower and the sign, in 12-a.
    - b. From the lake, along the white line, to the sign LAKE MEAD. Repeat the procedure in 12-a. Record performance in 12-b.
    - c. From the top of the dam, along

the white line, to the sign CREST 726 FT. HIGH. Repeat the procedure in 12-a. Record performance in 12-c.

13. **EC 48.** Find the position where you can fuse the upper pictures. Note the exquisite beauty of this rarest of orchids. Repeat the procedure in Step 1. Record the IN position in column 13.
14. **EC 48.** Fuse the lower pictures. Repeat the procedure in Step 1. Record the OUT position in column 14.
15. **EC 48.** Repeat the procedure in Step 5. Record the OUT position in 15-a and the IN position in 15-b.
16. **EC 44.** Spend some time in studying the stereograph before attempting exercises. Try to "feel" the distances between points, the height of the falls, the depth of the gorge, the height of the bridge above the river.  
Fix alternately on some feature of the landscape and on each of the letters, as you *trombone* slowly. Record the IN position in column 16.
17. **EC 49.** Fuse the upper pictures. Do you see the girl and the dog a considerable distance beyond the "window"? Notice how the letters project almost horizontally, from behind the picture to well out in front. Repeat the procedure in

Step 1. Record the OUT position in 17-a and the IN position in 17-b.

18. **EC 49.** Fuse the lower pictures. Repeat the procedure in Step 1. Record the OUT position in column 18.
19. **EC 49.** Repeat the procedure in Step 5. Record the OUT position in 19-a and the IN position in 19-b.
20. Focus **EC 50** sharply.

You are looking up a mountain road that leads to one of the richest silver mines in Colorado. Take time to let your eyes roam over the beautiful winter scene. How clearly you can see every shape! Look at the scene with only one eye for a moment and then appreciate anew why we have two eyes.

While looking at the scene, you noticed two white lines, extending from near you to the dark forest, high on the mountain, and appearing beyond the distant ridges. Can you bring the two 5's together? If necessary, move the holder closer. The white lines should meet at 5. Now fuse 4, 3, 2, and 1, in that order. Notice that except at 5 and 1 the white lines meet some distance beyond the number you are fusing. Record, daily, in column 20 the nearest number that you can fuse at 0-0.

Look at the sign above number 5. Do the lines of print appear to be the same distance from you? Study them carefully.

When you have mastered these

exercises, you should present your scoring record to your doctor and give him your own evaluation of what the course of training has accomplished in increasing your visual efficiency and comfort.









