

Learning to Use your Bioptic for Driving

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What are bioptics and how do they help driving?

Bioptic telescopes are eyeglasses that contain miniature telescopes mounted toward the top of the eyeglass lens. They function in much the same way as binoculars by enlarging the image, allowing the visually impaired to see much further ahead. Drivers using bioptics look through their regular eyeglass lenses (carrier lenses) most of the time, and only sight through the telescope for short periods of time, similar to the use of rear and side-view mirrors in the car.

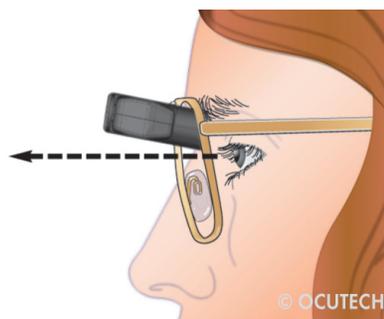
Carrier lenses:

Carrier lenses are the conventional eyeglass lenses that are mounted into the eyeglass frame of the bioptic telescope which contain the user's distance (and sometimes bifocal) prescription (if required for best distance vision). Most driving is performed while looking through the carrier lenses.

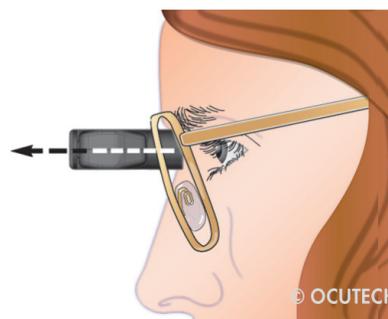
Looking through your bioptic

The "I" Movement

The most common method for using the bioptic telescope is called the "I" movement. This is a straight up and down movement of the head. While you are looking directly at what you want to see more clearly, dip your head down slightly to look into the telescope eyepiece (this is called translation). When looking through the bioptic you should be seeing the same object larger and more clearly.



Looking through the carrier lenses

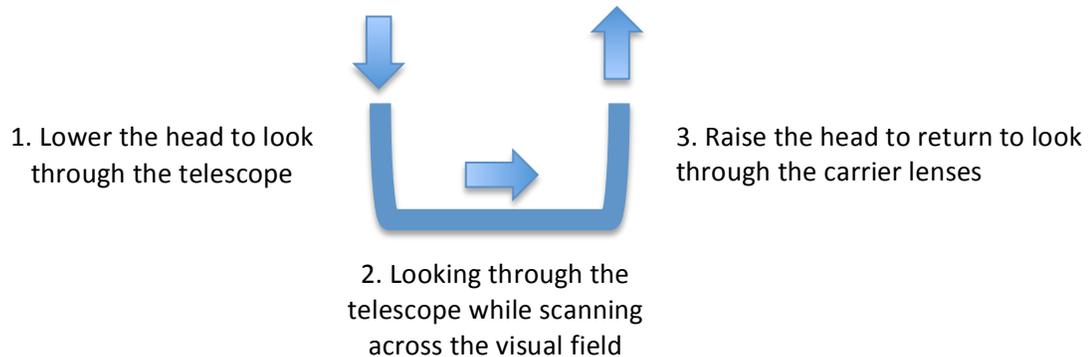


Dipping the head to look through the bioptic

If you are not seeing the same object when looking through the bioptic, practice at home switching from the carrier lenses to the telescope eyepiece while looking at small targets about the room such as light switches, doorknobs, or a clock for instance. Continue until finding what you are looking for when alternating between the carrier lenses and telescope eyepiece becomes quick and easy.

The “U” Movement

The “U” movement is used to scan across the field of vision while looking through the telescope. Drop your head slightly to look through the telescope (1), and then sweep your visual attention across the visual field (2), moving the eyes and head together as one unit, after which you raise your head and return to viewing through the carrier lenses (3).



Adapting to the narrow field of view of your bioptic

Don't let the narrower field of view through your bioptic worry you! It's surprising how easy it is to get used to it! Once you've learned to alternate your vision from the carrier lenses to the telescope eyepiece, you'll hardly notice it at all! In fact, our brains will learn to combine our regular vision through the carrier lenses with the telescopic view into a single visual experience.

Just as you became accustomed to the small fields of view while using your car's rear and side-view mirrors, you will also quickly adapt to the narrower field of view of your bioptic telescope while driving. And, just as you use the car's mirrors for brief periods of time to see to the side and behind you, you'll use your bioptic only briefly to look further ahead.



Highway sign using 3x Keplerian Bioptic (simulated)

Watch our Bioptic Driving Video at: <https://ocutech.com/driving-with-bioptics/>



Spotting Techniques: There are four spotting techniques you will need to master

Spotting stationary targets

While sitting or standing still, locate a small object through the carrier lenses, straighten your head posture so that your nose is pointing directly at the object, then lower your head down slightly to look through the telescope using the “I” motion to find (locate) and identify the object. Your goal is to be able to perform this task accurately and quickly and in less than 2 seconds.

Spotting moving targets

While sitting or standing still, locate a moving object (for instance a car, truck, person). Lower your head to look through the telescope and track them across the visual field while continuing to look through the telescope.

Spotting stationary targets while moving

Once you have mastered spotting and scanning while stationary, you will now start to spot stationary objects while you are moving. While a passenger in the car, find signs with your vision through the carrier lenses drop your head to find them through the telescope and track and try to read them while your vehicle moves along. This activity may be more challenging as any motion of you or your vehicle will be exaggerated by the magnification power of the telescope.

Spotting moving targets while moving

It is important to learn to accurately and efficiently spot and track moving objects while you are moving. Always start by locating the object with your vision through the carrier lenses and then transfer your visual attention to look through the telescope to find, scan and identify the object. This activity should also take only 2-3 seconds before returning to look through the carrier lenses.

Basic Principals of Using a Bioptic While Driving

1. Objects appear closer:

The magnification of the telescope makes everything appear to be closer. The benefit to the user is that it allows you to see further ahead by a factor of the power of the telescope.

2. 95% of driving will be done while looking through the carrier lenses:

Since the field of view through the telescope is narrow, the telescope is used only for brief periods of time to enhance distance vision.

3. Movement is also magnified:

Objects will appear to move more and faster due to their magnification and from motion from your head and the vehicle.

4. Focusing:

Non-focusing bioptic telescopes are already set for distance viewing. Focusable telescopes should be pre-focused at targets that are more than 20 feet (6 m) away before starting to drive and should not be readjusted while driving.

5. Lead with your carrier vision:

After confirming that you bioptic is performing properly, always start driving while looking through the carrier lenses. Look through your bioptic only when there are objects that need to be seen more clearly.