


PRODUCT REVIEW by *nick sisley*

Skeet Shooting Review March 2009

Interview With Philip Pilla of HiDefSpex

For differing light conditions it pays to switch not to a different color but to lenses that cut down or increase the amount of light transmission going into the eye.

The material used for the older shooting glasses was/is CR-39, a material that was far superior to glass with regard to impact resistance. This material was/is easy to tint and easy to grind into most any prescription. Along came polycarbonate as a shooting glass lens material several years later. It was far, far superior in impact resistance compared to CR-39.

When polycarbonate lenses were first introduced, science had not figured out how to grind that material into Rx, but eventually they did. Poly is also easy to tint.

According to Philip Pilla at HiDefSpex, polycarbonate lenses are very inexpensive to make. He told me that more than 40,000 poly lenses could be made while he is making just one of his HiDefSpex lenses.

“Making lenses out of polycarbonate is great for high volume,” Pilla told me, “but our Ballistix lenses are made with a very slow process.”

Philip went on to explain that polycarbonate starts off as a solid material. Via quick heating that material is forced into an injection mold. Then that lens is quick cooled. According to Pilla this process puts a lot of stress on the poly, including distortion, and including the tiny marks on the injection mold being transferred to the lens itself. All this affects visual quality.

Ballistix lenses are made from a totally different patented material. Further, this material starts off as a liquid, which is then poured into a glass mold. The glass mold is im-

portant because that glass can be fine polished to take out the tiny imperfections. Pilla says grinding out tiny imperfections cannot be done with an injected-type mold not made of glass.

After the casting there’s a slow cure process to Ballistix lenses that eliminates the stress. Further, Philip’s lenses are not tinted; nothing can wear off. The pigment is within the lenses themselves. Pilla also says that his lenses are safer—even more impact resistant than polycarbonate.

For years a great number of shooting glasses were produced with many, many different lens colors. Pilla says this is a good selling point, but lots of different colors are unnecessary. For competition the idea is to bring out the orange as well as not reducing the color transmission your eyes see in other colors of the spectrum.

But the amount of light transmission is absolutely critical. For differing light conditions, it pays to switch not to a different color but to lenses that cut down or increase the amount of light transmission going into the eye. HiDefSpex does this with a number of different light transmission lenses—ranging from 6 percent to 99 percent light transmission. All the lens colors are the same. There is just more or less pigment in these differing lenses to control the amount of light transmission reaching your eyes.

The reason we need varying degrees of light in our shooting glasses is simply eye fatigue. If we went out and shot ten targets, we wouldn’t get tired regardless of the amount of light transmission in the glasses we used for that short shooting stint. But skeet shooters fire at 200 targets a day, and, if we’re lucky, there’s



Robert Paxton, perennial Skeet All-American, is a member of the HiDefSpex Advisory staff.

the shoot-off at the end, often in waning light conditions or under artificial lights.

During the day, light can vary significantly. If we shoot with too much light transmission, eye fatigue sets in over time. If we shoot with not enough light getting to our eyes, we can't see the targets as well as we should. So we work harder at seeing them and again, fatigue sets in over a long day of shooting.

Further, focus and visual acuity are directly related, i.e. to have both focus and acuity at their best, the eye needs to be relaxed. Squint and you lose your relaxed eye, and that affects your ability to focus. Further yet, you lose some depth of field when your eyes are not relaxed. So both focus and visual acuity are key to how much your shooting lenses are capable of helping you shoot better.

"The ideal," Philip begins, "is to have just the right amount of light coming into your eyes—not too little, not too much. I remember having one shooter come to me after shooting 100 sporting clays targets, 50 small gauge targets, 50 additional small gauge targets, plus he had entered other fun events. At the end of the day he came to me and said, 'Man my eyes are killing me.' I saw he was then wearing our 65 percent transmission HiDefSpex, but I asked him what

lenses he had been using all day. It had been super bright all day with not one cloud. When he affirmed that he was using those 65 percenters all day I told him no wonder he had eye fatigue. On a bright day like that he had too much light going into his eyes."

I've already talked about how the Ballistix HiDefSpex come out of the casting with more perfection than CR-39 or polycarbonate. One big bonus of these lenses with no imperfections, according to Pilla, is that depth of field is not lost, which can be lost with lens imperfections. "This is another reason our lenses have become so popular in sporting clays, where longer shots are so often presented. With longer shots you need the max in depth perception." He adds, "Depth of field is a result of our High Definition Color enhancing technology. Exceptional clarity helps with pure acuity for recognizing depth of field, but the hallmark of maintaining and being able to gauge depth of field is a function of our ColorTrast Technology; this is the high color/high contrast technology that is proprietary to HiDefSpex—the ability to recognize the color spectrum in detail provides enhanced depth of field."

Philip and his brother bought the company from their father, Carlo, in 2003. Carlo had started the company in 1995, when there was one lens and one frame. "Today we have about 2000 SKUs and our shooting glasses are sold worldwide, including such far off places as Russia and Australia," Pilla said. "All the recent world sporting clays and F.I.T.A.S.C. championships have been won by shooters wearing our glasses—they are that superior. Of course, many skeet championships have been won by shooters wearing HiDefSpex as well."

On the HiDefSpex Advisory Board are professionals like George Digweed, Richard Faulds, Ben Husthwaite, Anthony Matarese, Dan Carlisle, Will Fennel, Bruce Ney and

I have been shooting with HiDefSpex lenses for about two weeks. I am impressed. Look at a target laying on the ground through these lenses, and then look at that same target through any other colored lenses, the difference is dramatic. Orange targets jump out at you.

I have also used these lenses while pest pigeon shooting. I agree with Philip Pilla about the depth of field factor he described in the text. No matter the distance, pigeons stand out. This shooting takes place early in the day. Before sundup, if there's a little yellow reflecting off the clouds, the HiDefSpex change that color to a dramatic red/orange, so sun rises can be truly spectacular, which is not important to shooting, but is important to figuratively smelling the roses in life.

I also drive a lot with these HiDefSpex lenses, and find wearing them for long periods very relaxing, which I have not found to be the case when wearing other red or orange tinted lenses for long periods of time. — Nick Sisley

others in sporting clays, but also Robert Paxton and John Shima in skeet. "Every one who works in our office is a shooter," Philip said. "Among the employees, we shoot skeet, trap, sporting clays, and we are hunters."

In their Max Orange Collection there is a 600 percent increase in orange light transmission compared to a standard lens, yet depth of field remains. Pilla says theirs is a target specific lens and a division of their company concentrates on this market alone. HiDefSpex, however, has other divisions of the company that focus on proprietary High Definition lenses for the surgical community, golf, fishing, endurance sports, aviation, even a division of aviation that concentrates on remote control airplane flying.



Philip Pilla shooting with the Panther model of the HiDefSpex.

Currently, there are three HiDefSpex frames, the Panther, the Sebring and the Blade. The Panther model is the newest. George Digweed helped with this frame's development. Very technical, the Panther has adjustable temples and adjustable nose bars. The way the interchangeable lenses snap in and out of this frames is patented. There are over 30 parts to this frame. The Panther model can be had with a corrective lens insert (fits behind the

HiDefSpex lenses), thus if your Rx changes you only change that back portion. A lot of Rx can be built into the Panther frame lenses, including bi and tri-focals. This is a one-lens frame, i.e. not interchangeable.

The Sebring frame takes two interchangeable lenses. These lenses go in and out differently, and that feature is patented. You can buy the Sebring frame with one lens, a three lens set or a five lens set. They have an aviator-frame look, so they don't look like shooting glasses. Of course, they are available with prescription.

The Blade frame (see photo right), also available with Rx, is injected. Most frames of this type have a very narrow window for the shooter to look through and maintain great vision with the target. Pilla says this small window is typically only 3-5mm. With the Blade frame, however, that window expands to 26mm, obviously providing greater vision. With the Blade there are no visual



encumbrances to the left or right, plus there's very little hardware in the middle of the frame.

This company is on top of the latest technology. This year they have come out with a new trap frame. There is no front bar, temples and nose bar are fully adjustable, it's fully lens interchangeable, available in virtually all prescriptions, plus there are integrated blinders in the frame.

For 2009 HiDefSpex will offer 12 new frame styles, five new frames for interchangeable lenses, so the company is investing heavily in frame technology and further lens development. All the frames and lenses are made in Italy.

The company website is www.hidefspex.com.

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EACH ISSUE! Pros' Shotgunning Tips—Conservation

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colors and shapes.

Optometrist Dr. Jack Wills and his wife Joelle have been outfitting clays busters with eye wear since 1983. Traveling from their home in Virginia to clays events, they attend numerous skeet shoots every year. Randolph Ranger Classic frames are a number-one seller among the skeet crowd. Joelle usually handles the ordering and fitting end of the business and points out that there are some subtleties shooters may overlook when ordering custom shooting glasses. Color is important, and in the skeet world, one iconic shooter advises that shooters need only amber lenses.

"People with red/green color deficiency should use only vermilion, red, or pink lenses," Joelle told me. "Fit of frame is also important, so shooters should make sure they have the right frame size." Pupil distance—the distance between the pupils—is also an important consideration when ordering glasses. If it is not written on your prescription, an optician can measure it for you before making your lenses.

Even with the success of the Sebring and Panther frames, the folks at HiDefSpex have been churning out new designs for clay target shooters. According to HiDefSpex's Philip Pilla, "The sport continues to evolve, and we are evolving with it. Our system is completely different, and we focus on managing light that gets to the eye." The newest model, the Puma, was designed with the trap shooter in mind. "The Puma sold well at the NSCA Nationals, and many sporting shooters simply took the blinders off," Pilla said. "The Puma is demonstrably superior, the most resilient, and offers astounding clarity." The new Bender Hornet was also introduced in 2009. Named after skeet icon Todd Bender, the Hornet has been embraced by skeet shooters around the country.

For the sporting shooter, HiDefSpex's Panther design remains the top seller. The Panther is the choice of world champion George Digweed, who coined the company's byline,

"HiDefSpex are an unfair advantage." The Panther is available in three configurations. The base configuration has adjustable temple arms. The second has adjustable temple arms as well as a five-increment adjustable nose bridge that can provide up to 10mm of lift from the base position. The third configuration is for prescription wearers, featuring an Rx insert with a temple and nose adjustment built into the frame design.

The Panther Lens System uses HiDefSpex's Diamond Vision five-lens, non-prescription Light Management System ranging from 15% LTM (light transmission) for sunny conditions to 99% LTM for shooting under the lights. The lenses combine ColorTrast technology optimized for target shooting with NXT lens material for safety. The Panther Rx system entails a large prescription lens insert directly in front of the eye and behind the shield, allowing the prescription wearer to take full advantage of the Light Management System. As the prescription changes, the shooter needs only to replace the Rx insert. The Panther design incorporates the "Snap-Tec" three-snap system that allows quick-lens changes and attaches the lenses securely to the frame.

Decot Hy-Wyd Sport Glasses' vice president Sam Cherry realizes, "shooters want contrast, clarity, and the best optics out there." Decot's new Revel design offers stylish good looks while retaining the quality of its predecessor, the Decot



Decot Hy-Wyd Sport Glasses Revel

Classic Hy-Wyd. The wrap design has a closer form fit to the face and also fits higher on the face. The narrow lens design allows for proper ventilation and reduces fogging often associated with other wrap designs. The Revel frame is offered in two sizes, the standard 64 or the larger 68. The frame is finished in either silver or the popular black non-reflective. As with all Decot frame styles, the Revel's lenses are interchangeable.

Decot makes CR-39 or polycarbonate lenses to accommodate every shooter. Replacement plano, single-vision prescription, and bifocals are available for Randolph Ranger, Browning, Post 4, Serengeti, B&L Shooters, or Zeiss shooting glasses. Lenses are hard coated for scratch resistance and provide complete ultraviolet protection. Anti-reflective coating, Hi-Index, transition, and polarized lenses are also available. Of the 40-plus custom tints to choose from, Cherry reports that the V-Light Rose is the top seller.

Post 4 Optics is one place where old-school craftsmanship meets new-age materials and technology. Mike Rinard's Lewiston, Idaho, optics laboratory has been a family business since 1931. "You don't eat until the machines are cleaned," Rinard said, referring to a family adage that reflects the lab's unwavering attention to detail. Post 4 starts with Zeiss CR-39 hard resin polymer blanks and crafts lenses quite literally from scratch rather than pre-cast blanks.

"We are a truly custom shop," Rinard said. "We grind the optical center, power, and axis to match prescriptions exactly. For tinting, we use a chemistry process that includes filters as well as coloring. We also have the only frame with interchangeable lenses made of 100% titanium. The frames are light, durable, and retain their shape better than spring

HiDefSpex Panther

Sporting Clays

BERETTA

Industry Spotlight

By John Steinhorst

HiDefSpex

2004 article

Recipes for the most successful companies include large measures of dedication and hard work. However, this mix cannot be achieved unless there is one other essential ingredient—a love for what you're doing.

In 1999, HiDefSpex was created out of a lifelong passion for the shooting sports. Trap, skeet, and sporting clays were very personal to the founders of the company, whose original motivation was purely a selfish one.

"Let's see if we can find a perfect shooting lens for ourselves, therefore giving us a shooting advantage," was the way of thinking for founder Carlo Pilla. The product worked so well for his co-founder, Larry McIntire, that he became World Super Vet sporting champion at the age of 68.

HiDefSpex was born out of the necessity to develop a lens that was optimally formulated for the shooting sports. The name communicated the revolutionary optics of lens performance. HiDefSpex set out to produce a sight picture commensurate with the visual impact of high-definition television. The lenses produce clarity and sharpness of sight picture while increasing the contrast of the target color against the background for more rapid target acquisition.

The company spent two years working with an Italian lens physicist to create the technology. HiDefSpex developed a lens utilizing a material called CR-39 with the desired optical performance and sought to formulate a lens that produced extremely high contrast, amplifying and enhancing orange, yellow, and black targets while maintaining a high degree of clarity. The HDS15 lens did just that.

The final component was health related. The lens needed to provide 100-percent protection from UV rays as well as ballistic protection. The lenses have melanin infused in the lens material, acting as an important health benefit that helps prevent the onset of cataracts by blocking harmful rays that contribute to their formation.

Over the next few years, much time was spent road testing the lens, and in 2002, HiDefSpex received worldwide recognition that the product was indeed a success when top gun George Digweed won a world championship by personally choosing to wear HiDefSpex. The first time he shot with the glasses, he actually said it was an "unfair advantage." Since then, Digweed has added three more world championships to his trophy case and



The founder of HiDefSpex, Carlo Pilla, wears the classic 60mm Aviator with ColorTrast lenses at the sporting clays range.

a recent perfect score while wearing the glasses. In addition to Digweed, the company currently has six world champions and six US champions shooting with the revolutionary lens.

"For us it is very rewarding to see the lenses being used by top guns and world champions," said Carlo's son Philip, an avid shooter himself. "Shooters shoot HiDefSpex because it is a product that delivers."

In 2003, HiDefSpex received input from a number of shooters and found the need for a lens that allowed more light to pass through without compromising high contrast and color-enhancing capabilities. This brighter sight picture in low light was needed to address overcast conditions. After another year of development, the HDS25 was introduced.

Early on in the formulation of ideas, Philip joined the company as a consultant and marketing director. In January 2004, when the company formally emerged as HiDefSpex LLC, Philip and his brother Ryan took over for their father to run the business, now offering a wider, more diversified product and continuing to develop lens technology.

"During the last six months, the company has been working with world-renowned manufacturers of frame technology and continuing to develop color enhancement technology with our Italian lens physicist," stated Philip. "In 2005, the products will be 100-percent Italian engineered and manufactured.... HiDefSpex is now looking to develop sport frames with the same premium technology focus as our lenses."

As more and more young sportsmen get involved in clay target shooting, there has been a tremendous

Quick Shots



Philip Pilla, president of HiDefSpex, models the new Dino frame with Diamond Vision lenses guaranteed for life from breakage.

amount of inquiry for sport frames. Philip, at the age of 36, plans to bring a younger sensibility to the design of the products. The new lens technology and frame design offer performance and style for a potent combination.

"So we are pleased to announce the arrival of our High Definition Spex Sport line," said Philip. "We will be introducing a line of sport-styled frames married to a new lens offering from HiDefSpex called Diamond Vision. Our Diamond Vision lenses will be guaranteed for life from breakage. Diamond Vision is the marriage of NXT lens material and our High Definition ColorTrast formulation."

The new ColorTrast lenses are formulated to produce a crystal-clear picture with high contrast and heightened target color. HiDefSpex says NXT is the strongest lens material currently available and is literally bulletproof. In addition to the greater integrity of the material, the lenses will be 20 percent lighter than CR-39 and have superior optical performance to polycarbonate.

"We are very excited about this super premium line of shooting glasses," said Philip. "They offer superior eye protection while enhancing the same properties that have been appreciated by shooters. In addition to the new Sport line, we will offer Diamond Vision lenses in our classic 'Six Base' frames.... Our Diamond Vision lenses are lighter than other materials on the market, thus reducing the heavy nature of most traditional shooting frames. Ergonomics is very important. HiDefSpex has spent years optimizing the ColorTrast formulation and wanted the new frame design to fit perfectly. All our Sport frames will cut down on peripheral ambient light by utilizing wider temples in the frame."

In addition to the Diamond Vision Sport line, HiDefSpex will introduce the ColorTrast technology in the Classic line in a CR-39 base lens. The newly enhanced HDS15 and HDS25 ColorTrast lenses will be offered in the Aviator and Executive styles. In addition to all the current improvements, ColorTrast lenses will also be available in RX prescription.

"We had the usual challenges every small business faces with financing, product development, etc.," recalled Philip. "The biggest challenge out of the gate was getting shooters to believe in the promise of what the product could deliver."

The sport of shooting has plenty of elements, and every

shooter has to make numerous decisions about equipment from shot size to choke to target management. This depth of lens choice creates another equipment choice on game day. HiDefSpex set out with the mission to create one lens formulation capable of working with all conditions, eliminating the necessity to choose the "right lens" for the corresponding backdrop. When the target appeared, the result would be lightening-quick recognition and maximum target focus.


"Our biggest obstacle was the inertia created in the industry that a shooter needed five lenses for various conditions," Philip insisted. "It is our opinion that the frame and lens should be put on a shooter and forgotten about. The shooter should see targets with precise focus, not worry about whether he or she is wearing the right lens.... We came to the market claiming one lens could do it all. That needed to be proven with a lens that was capable of producing precise sight pictures with optimal target recognition. Our job over the course of a couple of years was to get the product on shooters. We needed the product to prove itself in the field.

"Having the various shooting champions using our glasses as their choice of eye wear validates our product.... Having a 13-time world champion shoot with our product says it all. George Digweed is a perfectionist, and he believes in our product. We have world and US champions who have chosen to wear our product. We have very respected instructors wearing our product. This is a very important strategy for our company. Having credible ambassadors for HiDefSpex is very important."

As the lenses have migrated into the hands of more shooters, they have received great feedback on the product performance for hunting. The tails of pheasant and a variety of game birds are often enhanced. The response from shooters is that they have never seen game as well as when they are wearing HiDefSpex. In the same breath, wingshooters claim that the orange hunters' clothing is also spotted immediately.

More and more shooters tried out the glasses to experience the difference, and increased sales soon followed. The company started with very limited funds, building the business within the sporting clays market. It has been able to deliver a product that performs with the help of knowledgeable and skilled research and development people.

"We believe, with the new product and lens development, we will continue to grow in sporting clays," assured Philip. "We also see the natural evolution into skeet and trap. Our goal is to be the performance optical company in shooting sports. We want to be behind every shooter who wants the edge to add a few birds to the scorecard. We deliver premium performance. Our product offers the opportunity to shoot better by seeing better. It's a direct relationship. Quicker acquisition makes for higher scores."

"However, the real impact to our side of the business has really been the focus on gun safety," stressed Philip. "With gun safety comes a higher focus on safety in general. We supply both a critical safety piece of equipment to shooters as well as a product that provides a competitive advantage.... Dad was always pounding gun safety into our heads. He maintained that if we knew how guns worked and what they were capable of doing, we would respect them and not be curious.... Today we are in the business of providing safety with a competitive advantage; it's very rewarding to be in a business that is related to a passion." 

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ng Tradition. A Family Tradition.

and conditions. Doing so helps us find, develop, and improve gear that we love to wear and use, and love to pass along to our customers. We usually get some pretty great product ideas when we're in the field or blind, from each other and from other hunters who let us know what they need to enjoy hunting in greater comfort and with more success.

Dave's Picks: *Orvis Catalog - Dave is Orvis Vice Chairman* HiDefSpex, Strap Vest, Gokey® Boots



HiDefSpex Shooting Glasses

These glasses are the best shooting glasses I have ever worn, bar none. Every shooting instructor will tell you that focusing on the bird is the most important thing you can do to improve your shooting. You will notice right off, the greater clarity and

contrast these glasses offer when you first put them on. This is critical for focusing on the bird or target and improving your shooting. HiDefSpex are also very lightweight and made of, literally, bulletproof lens material, for the best eye protection anywhere. Try them and start hitting more birds and targets yourself. (p. 39, item #88C1, \$539)

The Strap Vest complements the Ventile Upland Pants perfectly. The two together make a great lightweight combination that *keeps me cooler and more comfortable*. I can layer underneath the vest too, without bulkiness. And its easy spring-closure pockets are great to store gloves and glasses separate from my shells. (p. 9, item #69CE \$129)

The Gokey Wetlanders are by far my favorite all-around upland boots. They're so *lightweight*, I can hunt in them all day. They're *rugged* too, and 100% waterproof; and I mean *100% waterproof*. This is the go-to boot for hunting, from New England to Georgia to Montana. (p. 14, item #57PY \$298)



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