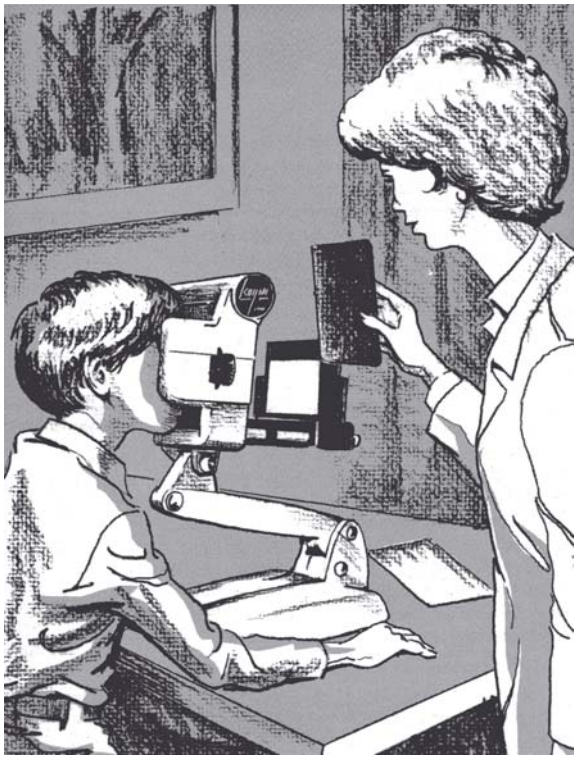
Physician' Visual Rating System

Instruction Manual



A significant aid to the detection of vision problems as they affect perception, child development, and general health.

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INTRODUCTION

No skill is so important to individual as the skill of *vision*. It gives him/her control over his/her relation to his/her space world. According to the late Dr. Arnold Gesell, founder of the Gesell Institute of Child Development, "Vision is the dominant factor in human development."

The consideration of vision as a factor of both health and behavior is, therefore, well within the purview of the psychologist, the pediatrician, and the physician in family, industrial, or public health practice…as well as the ophthalmologist and optometrist.

Visual efficiency

Vision-the complete act of seeing and integrating/interpreting what is seen-is an ability that develops as the individual develops. Dr. Gesell put is simply: "Vision," he said, "is learned."

As a result, visual efficiency is only *partially* dependent on the health of the component tissues and the refractive status of the eyes. Of equal or greater significance is the ability of the individual to adequately develop eye teaming, eye-movement, and related elemental skills.

This means that even in the absence of pathology or refractive disorders, a problem of vision may exist. And visual problems, just as vision itself, are *acquired*. Studies at the University of Chicago Hospital indicates that only 2%-2 ½ % of *infants* have organically defective eyes. Yet it has been reliably estimated that at least 40% of the U.S. population is handicapped by some visual dysfunction.

The examination of vision

Because the entire organism is at some point involved in the visual act, vision problems cannot be considered as existing in isolation. The visual mechanism, therefore, cannot be effectively examined as if it was a fixed system. Neither the eye nor the associated neuromuscular tissues are static in nature.

To be significant, any examination of a patient's vision should include various tests of *functional skills* as well as a search for pathology and a determination of end-organ defects (refractive problems).

These functional factors are considered essential: Ocular motility, fixations, accommodative ability, convergence skill, binocularity, fusion, stereopsis, and the eyes' relative posture. A check for suppression should also be made, and a survey of color discrimination is desirable.

Eye movement, fixations, accommodation, and convergence may be simply tested using only a pencil or penlight for the patient to follow. The other tests, however, require more sophisticated instrumentation…although they need not be either elaborate or time-consuming. This is why the Keystone Vision Screening Test Set was developed.

Keystone visual skills screening

The visual mechanism can be most accurately measured when it is acting in response to normal environmental demands. For this reason, the Keystone test set *optically approximates* those conditions of seeing normally faced in daily living.

It checks key visual skills, including acuity. It determines if suppression exists and gives some indicators of refractive problems. (Supplemental test materials are available for the evaluation of far-sightedness and astigmatism.)

Unlike wall-chart testing, Keystone tests are *binocular*, requiring the two eyes to work together. All tests are conducted with both eyes open and seeing, even when only one eye is being checked. Thus, any cases of suppression and/or imbalance-often undetected by conventional methods when one eye is occluded-are more easily determined.

In addition, many of the stereo test targets have three-dimensional properties. By correctly locating objects in the targets, the patient demonstrate his/her total skill in judging spatial relationships.

General test procedure

Keystone vision screening tests are easy to administer. The test subject is seated in front of a Telebinocular® test instrument. He/she looks into the instrument and views a series of stereroscopic test target slides. The examiner explains each target and the subject reports what he/she sees. His/her responses are checked on a record form.

Testing is rapid…and it's enjoyable for all ages. Children, in particular, appreciate being given a fair chance to demonstrate their visual performance.

Near-point and far-point information

Keystone screening tests measure visual skills at both *far point* and *near point*. Far point, often indicated by the symbol "∞", is the equivalent of an actual distance of six meters (approximately 20 feet). Near point is the equivalent of 40 centimeter (about 16 inches) and is the normal working/reading distance.

The Telebinocular produces both distances *optically* by means of lenses and precision-scaled target slides. This not only conserves space, but also makes Keystone tests particularly valuable in checking the vision of person who must make a heavy demand on their eyes in reading at near point.

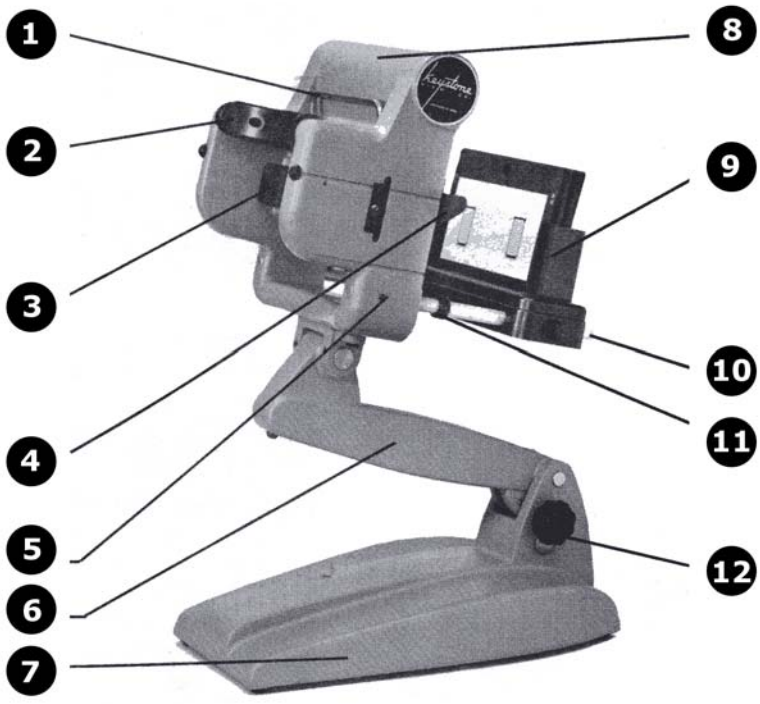
Test significance and accuracy

Please bear in mind that the Keystone tests are designed for rapid *screening* purposes only: To determine the possible need for a professional analytical examination. They are not intended to provide detailed diagnostic data…and should not be compared test-by-test with clinical findings obtained in an ophthalmologist or optometrist's office.

Yet the tests are accurate and dependable. All are objective and psychologically sound, and all are given under standardized conditions. Overall results show very high validity. In fact, the tests are so reliable that thousands of vision specialists use them to assist in diagnosis.

THE TELEBINOCULAR

The Keystone Telebinocular is the accepted pioneer of modern binocular vision testing instruments. Completely self-contained, it is designed for simplicity of use. Because it weighs less than fourteen pounds, it can be easily carried to any convenient test location. And it requires only one square foot of desk or table area wherever it is used.



1. Carrying handle-makes moving the Telebinocular easy. Retracts into the viewing head when not in use.

2. Headrest-tester's forehead should rest lightly against this strip. Disposable tissue headrest cushions are available as an accessory.

3. Professional-quality lens system-Achromatic prism lenses are accurately postioned for use by anyone without adjustment.

4. Occluders- Permit testing one eye at a time to check the possibility of visual suppression.

5. Viewing head

6. Support arm

7. Base

8. Light-Lamp at top of viewing head provides even, non-glare illumination of targets. Uses readily available, standard-type bulbs.

9. Cardholder-Accommodates twenty test targets, locks in place to prevent slippage during testing. Open design allows use of a pointer from the top *or* the sides.

10/11. Test distance pre-calibrated-Far point (equal to 20 ft.) and near point (equal to 16 in.) are produced precisely by optical means. To establish distance, move holder to near or far stops on twin shaft.

12. Locking knob-Prevents movement of viewing head during tests. Height of head is easily adjustable for each tester through a 6-¼ inch range.

How and why the occluders are used

The Telebinocular includes two occluders-one for each eye-so *monocular* testing can be performed if desired.

The occluders are wing-like plastic plates that pivot up and down at the rear of the viewing head. To block the vision of either eye, simply push down on the projecting tip of the appropriate occluder. (In normal binocular testing, the tips of the occluders are pushed *up* as far as they will go.)

A major function of the occluders is in determining the existence of visual *suppression*: The mental blocking out of the image seen by one eye, so that the *only* image which registers in the mind is the one seen by the two eyes are fused into a single, integrated image in the mind.

The danger signal indicating possible suppression is a report by the test subject that the image, which should be visible to one of his/her eyes, does not appear.

In such cases, use the occluder to block the vision of the opposite eye. This will usually stimulate the “non-seeing” eye to work sufficiently hard so the “missing” image becomes visible. If this technique does not cause the “missing” image to appear, it may be concluded that all functional vision has been lost in that eye.

Telebinocular maintenance

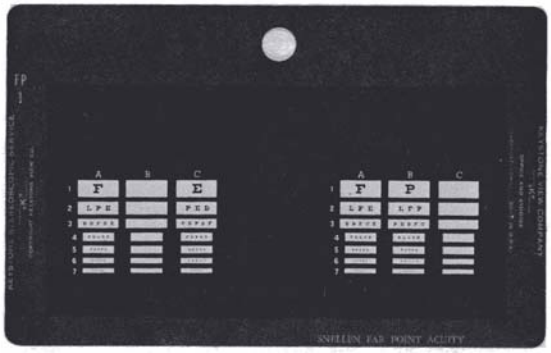
Under normal conditions of use, the Telebinocular needs no maintenance except for the occasional replacement of the lamp bulb. To minimize cleaning, the instrument should be protected by the dust cover when not in use.

Periodically, however, some cleaning will be necessary. The body of the Telebinocular should be dusted from time to time with a soft cloth or brush…and the lenses cleaned with a lens cloth or tissue. If the unit has become very soiled, it may be washed with a mild soap-and-water solution.

THE TEST TARGETS

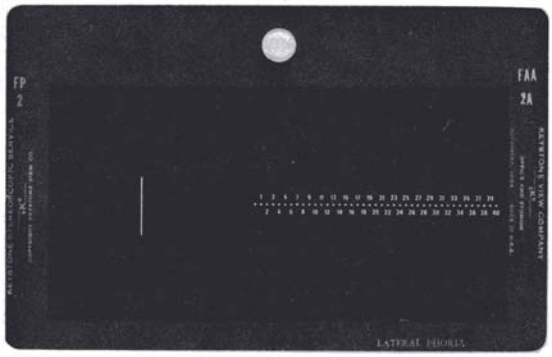
Test #1: Far Point Visual Acuity

Without occluding either eye this target will measure the acuity of the left eye, right eye and both eyes. Because both eyes are open, a visual suppression will be readily evident. Levels of acuity: 20/200 to 20/20.



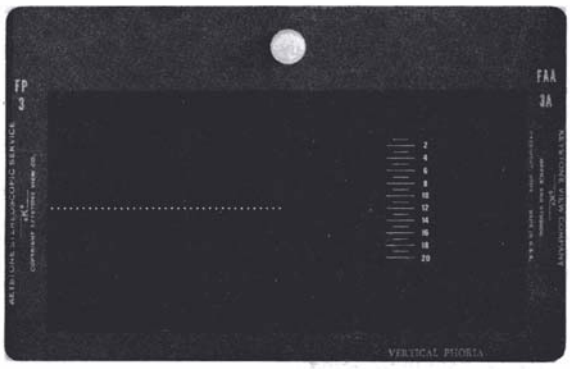
Test #2: Lateral Phoria

This target measure horizontal binocular coordination, or muscle balance. Complaints of visual fatigue or headache are sometimes a result in part by an unusually high phoria, either lateral or vertical (see Test #3.) A normal range for Lateral Phoria is six (6) diopters or less of either esophoria or exophoria.



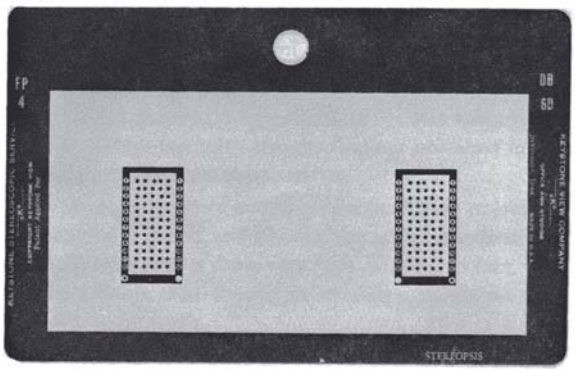
Test#3: Vertical Phoria

Similar to Test #2, this target is used to measure binocular coordination, but in the vertical plane. Seldom will anyone report a result other than “12” (orthophoria) on this test. A normal range is within one diopter of orthophoria, from “11” to “13”.



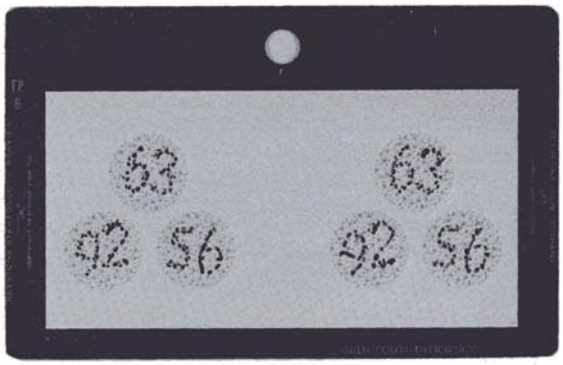
Test#4: Stereopsis

This target measures stereopsis, or pure depth perception. Individuals with acceptable acuity and binocularity should perform well on this test. One symbol in each row stands out, appearing closer to the viewer. Each row is progressively more difficult in degree of stereopsis.



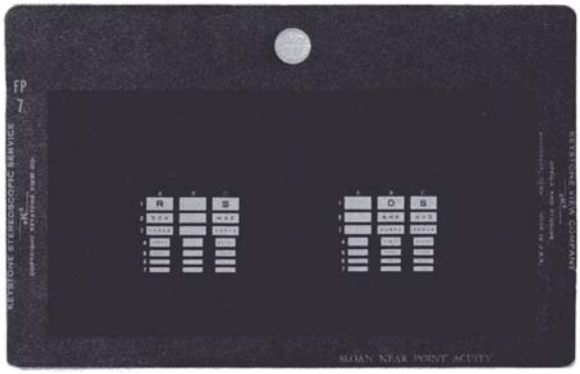
Test #5 and #6: Color Vision

Two far point targets present three red/green and three blue/violet isochromatic symbols. Presence of severe or mild color deficiency is indicated by the inability to rapidly identify the number presented.



Test #7: Near Point Acuity

Presented with the cardholder set at Near Point, this tests acuity for a sixteen-inch distance. Without occlusion, readings for the left eye, right eye and both eyes are obtained.



THE RECORD FORM

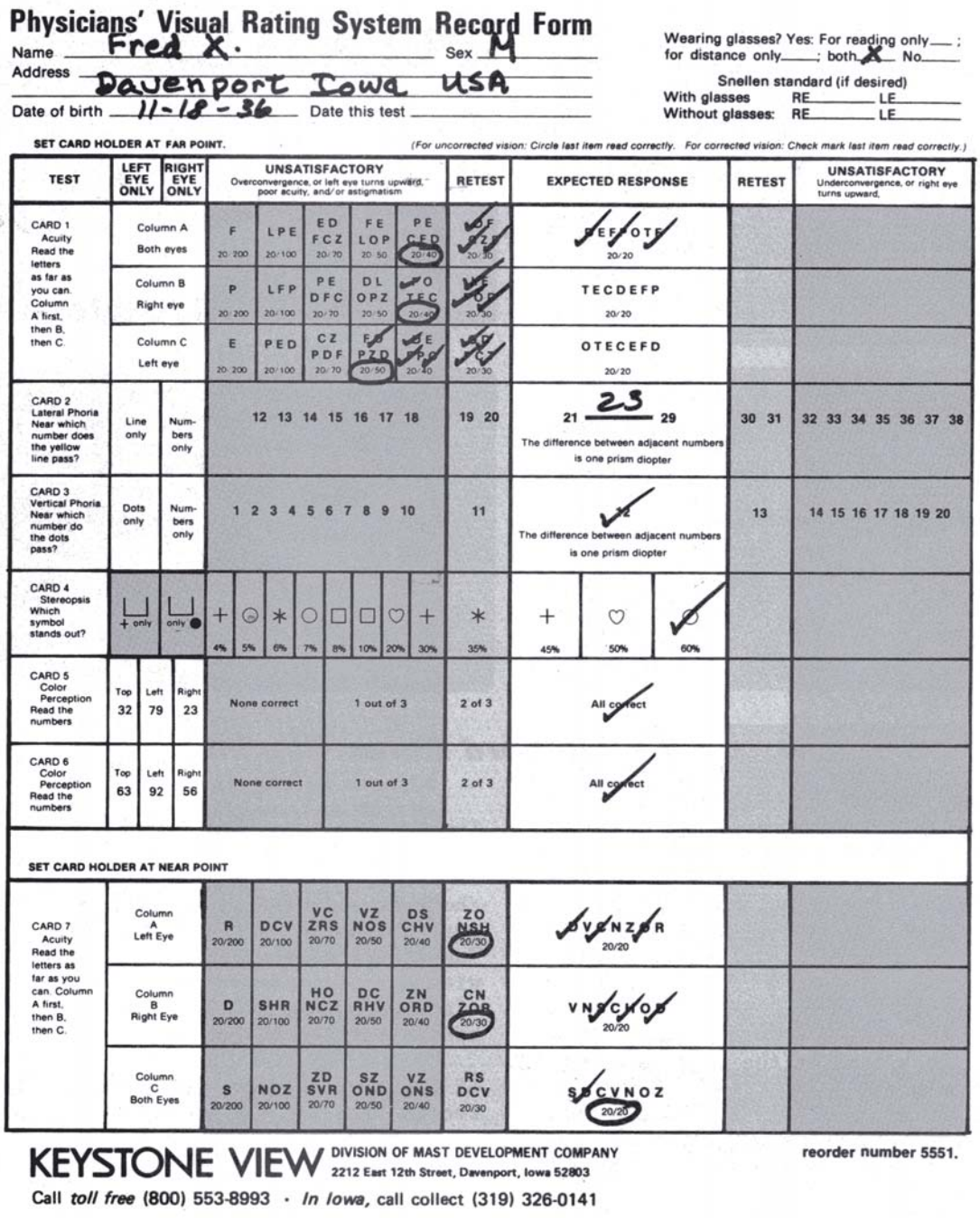
The Keystone record form #5551 shown here simplifies recording and interpreting the results of the vision screening examination. The charts create a permanent record of a patients "visual profile" making it very easy to compare visual skills as time passes.

Scoring the tests is self-explanatory. A simple check mark at the last successful response is all that is done. To record uncorrected visions simply circle the last correct response; for correlated vision use a check mark. This helps you determine if one's correction is doing its job.

The form is organized with a white "expected response" column in the center, with light gray and dark gray columns to both the left and right. As indicated, light gray indicates "Retest" and dark gray "unsatisfactory" responses. Individuals with unsatisfactory results may have a visual problem, and referral to a vision specialist should be made.

If referral is made, send a copy of your record form for the specialist to refer to.

*When retesting is indicated, the patient should not be rechecked immediately, but sometimes within a two-week period. If most scores indicate satisfactory visual skills, you may retest the patient only in those areas checked on the form as "doubtful".



Physicians' Visual Rating System Record Form

Name Fred X. Sex M

Address Davenport Iowa USA

Date of birth 11-18-36 Date this test

Wearing glasses? Yes: For reading only ; for distance only ; both X No

Snellen standard (if desired)

With glasses RE LE

Without glasses: RE LE

SET CARD HOLDER AT FAR POINT. (For uncorrected vision: Circle last item read correctly. For corrected vision: Check mark last item read correctly.)

TEST	LEFT EYE ONLY	RIGHT EYE ONLY	UNSATISFACTORY Overconvergence, or left eye turns upward, poor acuity, and/or astigmatism	RETEST	EXPECTED RESPONSE	RETEST	UNSATISFACTORY Underconvergence, or right eye turns upward,
CARD 1 Acuity Read the letters as far as you can. Column A first, then B, then C.	Column A Both eyes		F 20/200 · LPE 20/100 · EDFCZ 20/70 · FELOPZ 20/50 · PECFD 20/40	DFPZT 20/30	DEFPOTE 20/20		
	Column B Right eye		P 20/200 · LFP 20/100 · PEDFC 20/70 · DLOPZ 20/50 · TOTEC 20/40	TECDFP 20/30	TECDEFP 20/20		
	Column C Left eye		E 20/200 · PED 20/100 · CZPDF 20/70 · FDPZD 20/50 · FEDPC 20/40	EDFCZ 20/30	OTECEFD 20/20		
CARD 2 Lateral Phoria Near which number does the yellow line pass?	Line only	Numbers only	12 13 14 15 16 17 18	19 20	21 23 29 The difference between adjacent numbers is one prism diopter	30 31	32 33 34 35 36 37 38
CARD 3 Vertical Phoria Near which number do the dots pass?	Dots only	Numbers only	1 2 3 4 5 6 7 8 9 10	11	12 The difference between adjacent numbers is one prism diopter	13	14 15 16 17 18 19 20
CARD 4 Stereopsis Which symbol stands out?	+ only	only ●	+ 4% · ◎ 5% · ✳ 6% · ○ 7% · □ 8% · □ 10% · ♡ 20% · + 30%	✳ 35%	+ 45% · ♡ 50% · ○ 60%		
CARD 5 Color Perception Read the numbers	Top 32	Left 79 · Right 23	None correct · 1 out of 3	2 of 3	All correct		
CARD 6 Color Perception Read the numbers	Top 63	Left 92 · Right 56	None correct · 1 out of 3	2 of 3	All correct		
SET CARD HOLDER AT NEAR POINT							
CARD 7 Acuity Read the letters as far as you can. Column A first, then B, then C.	Column A Left Eye		R 20/200 · DCV 20/100 · VCZRS 20/70 · VZNOS 20/50 · DSCHV 20/40 · ZONSH 20/30		DVCNZSR 20/20		
	Column B Right Eye		D 20/200 · SHR 20/100 · HONCZ 20/70 · DCRHV 20/50 · ZNORD 20/40 · CNZOR 20/30		VNSCHOD 20/20		
	Column C Both Eyes		S 20/200 · NOZ 20/100 · ZDSVR 20/70 · SZOND 20/50 · VZONS 20/40 · RSDCV 20/30		SDCVNOZ 20/20		

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reorder number 5551.

PREPARATION FOR TESTING

Readiness of the Equipment

Normally, the Telebinocular should be placed on a desk or table providing sufficient room for the instrument, any accessories to be used, and the record form. (A table height of from 26 to 30 inches is recommended.) Place the Telebinocular near the edge of the table…and be sure that adequate knee

room beneath the table is provided for the tester. Chairs for both tester and examiner should be straight-backed.

In the case of smaller children (through the ages of seven or eight), it may be desirable to have them *stand* during testing. A somewhat higher-than-normal table may be required, but most problems of posture can thus be eliminated.

Before testing begins, check the Telebinocular to make sure it is in proper working order. The unit should be connected to a standard 110-120 volt a.c. outlet and the lamp should light when the switch is turned on. (If necessary, the instrument should be dusted and the lenses cleaned with a soft lens tissue.) Check the test targets in the cardholder, too: The targets should be in proper sequence and the back plate of the holder moved far enough forward to keep the targets upright but not too tight to prevent easy change.

General test conditions

Whenever possible, Keystone vision-screening test should be given in a quiet room with the lighting subdued and brilliant sunlight excluded. Testing can be performed in any area where traffic, noise, glare, or interruptions do not disconcert the tester or the examiner…and do not interfere with the accuracy or speed of the tests.

The examiner should be seated along the side of the table to the right of the test subject. It is important that he/she be able to face the subject, yet see and manipulate the targets in the cardholder. Remember, too, to provide sufficient table space in front of the examiner for the record form.

Posture of the test subject

Good body postured is important to good vision. So it is vital that proper posture be maintained during testing. An uncomfortable position will cause strain and distract the tester.

Seat the test subject in front of the Telebinocular and close enough to it so that his/her back and head are erect and his/her shoulder level, but relaxed. His/her feet should either be flat on the floor or comfortably placed on a rung of his/her chair or stool.

If a younger child is to be tested while standing, be sure that he/she remains erect…with his/her shoulders back and head held straight.

Adjust the height of the Telebinocular viewing head so the desired posture can be maintained throughout testing. It may be necessary to loosen the large black knob at the back of the support arm so the viewing head will move smoothly. (The knob may be tightened to lock the instrument in exact position, although this is not necessary during normal testing.)

The tester's forehead should rest lightly against the Telebinocular headrest and this position maintained throughout the test period. Do not allow him/her to pull back or away from the instrument between individual tests. And caution him/her against tilting his/her head at any time during testing.

If the test subject wears glasses

If the tester wears glasses, the tests should be administered with his/her glasses on as usual. In the case of glasses worn *only* for reading or *only* for seeing at a distance, they should be removed when testing that type of vision for which they were not prescribed.

Should bifocals be worn by the tester, special instrument adjustments may be necessary: It is important that both the Telebinocular and the glasses be adjusted so the tester's line of vision may pass unobstructed through the *bottom* of his/her bifocal segments for all *near-point* tests.

Caution should be also be exercised when testing a subject who has recently been fitted with new glasses. Many eye specialists do not fit a patient with full-correction lenses, but rely on the patient to help him/herself as time progresses. Poor scores on Keystone tests shortly after such a fitting may, therefore, not be truly significant. A retest after approximately two months is recommended.

TEST ADMINISTRATION

When Keystone vision-screening tests are administered, it is important that an organized procedure be followed…and that standardized questions be used. Only in this way can consistent results be assured. The sequence of the tests and the instructions given the tester can both affect his/her responses.

The questions listed for each test have been found to evoke a quick response from the average test subject. However, as the individual examiner becomes experienced in administering tests, he/she may wish to adapt the specific working of each question to suit his/her own style.

Responses should be prompt. After each questions is asked, allow five to ten seconds for the test subject to become oriented to the target scene and report what he/she sees. An obvious hesitation indicates an effort to guess. There is no "penalty" for reporting an "incorrect" answer, so encourage the tester to be as frank as possible in telling what he/she really sees.

It is well to acknowledge each response the subject gives…but be careful not to indicate approval or disapproval, praise or chastisement. And do not "lead" the test subject into giving the type of response you wish.

Keeping the amount of conversation during testing to a minimum will also help preserve the objectivity of the tests and will serve to save time for the examiner.

Recording the findings

Speed of recording will depend entirely on the examiner's familiarity with the test targets and the record form. The form is carefully designed to show both expected and abnormal responses, so that scoring can be done by simply checking the appropriate space.

If undesirable visual characteristics are noted, responses will usually be slower and the examiner should allow more time. But even in such cases, the complete examination should take no more than from three to five minutes.

Help the test subject give his/her best performance

The visual skills rating of any test subject can be significantly altered by the attitude of the examiner. It should be the examiner's purpose to evoke the best performance the subject is capable of giving.

It is assumed that in normal living, the subject makes the best possible use of his/her visual skills and does not live under the handicap of his/her worst moments.

With a younger child, be sure he/she does not say "right" when he/she means "left", and vice versa. It may be advisable for the child to hold up the appropriate hand rather than use words.

Using a pointer

With small children (and illiterate persons), the free use of a pointer is recommended. Pointers can be especially helpful in tests of acuity.

Always point from the top of the test target. And, to determine where the left-eye image is seen in relation to the right-eye image, point always on the right side of the target.

Please note: While a pencil may provide a convenient pointer, avoid the use of a ballpoint pen: It can permanently mar a target with one slip of the examiner's wrist. A knitting needle would be preferable.

Handling test targets

Targets are normally left in the Telebinocular cardholder between the testing of different persons. Targets should always be upright, but not held so tightly they cannot be easily slipped out of the cardholder.

At the completion of each specific test, slide the target up and out of the cardholder and insert it at the rear of the "deck" of target slides. This keeps the targets in proper sequence at all times. Use the finger grip at the top of the target to help in rapid handling.

Recording form identification section

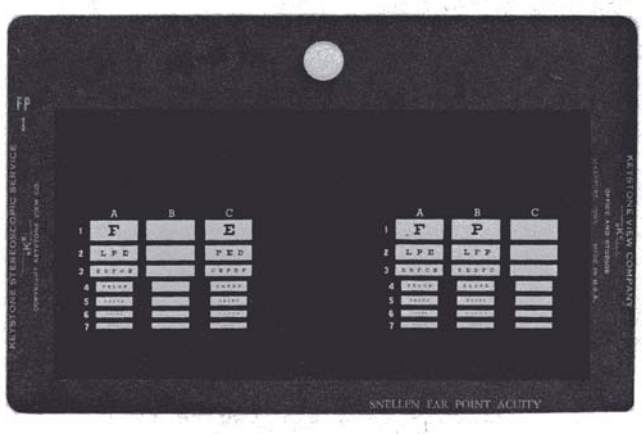
The top right section of the record forms provides space for noting patient identification data. Be sure the basic data is entered before actual testing begins.

The information on whether the patient wears glasses is obtained at the time of testing. Glasses should be worn during the test exactly as they are normally worn: If the prescription is worn all the time, both near and far point testing is done with glasses. When the glasses are worn only for reading, or only for seeing at a distance, they should be used only for the appropriate section of the tests.

TEST PROCEDURE

The test subject is seated before the Telebinocular, following the rules of posture listed on page 7. The cardholder is set at far point (far end of the shaft) or near point (as close to the viewing head as possible), as required.

Test #1: Visual Acuity



Question: Do you see three columns of blocks, A, B and C? Please look at row 7 (examiner may point, if necessary, with knitting needle or similar object-avoid ballpoint pens and other objects that can mar targets) and read me the letters you see-column A first, then B, then C. Proceed. (Proceed to row 6, etc, if Row 7 is not read correctly.)

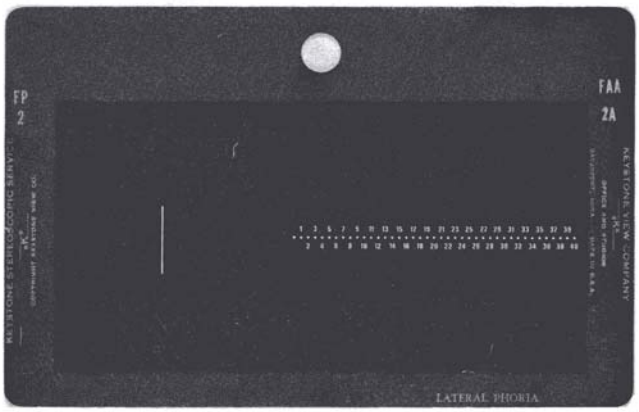
Recording: Mark on the record chart those individual letters missed. At the 20/20 level, 2 letters may be missed, but no more than 2, for a passing response. At the 20/30 to 20/70 levels, one misread letter is allowed. At 20/100 and 20/200, no misread letters are allowed for an acceptable response. On the record chart circle the best acuity level attained by the patient.

Remarks: Notice that appearance of columns B and C. Only one eye sees the letters in these columns. Since both eyes are open during all testing, a visual suppression is readily indicated if the patient reports seeing no letter in either of these columns.

Visual Suppression deserves immediate referral to an eye specialist. The younger a patient is, the more likely this problem can be fully corrected. Depending on the severity of the suppression problem further screening for binocularity may be fruitless.

Continuation of testing may be possible through periodic occlusion (with the occlude flaps) of the dominant eye in order to stimulate the lazy eye. Such attempts should be made.

Test #2: Lateral Phoria



Question: Do you see a scale of numbers with a line going through it? Which number or range of numbers does that line pass through?

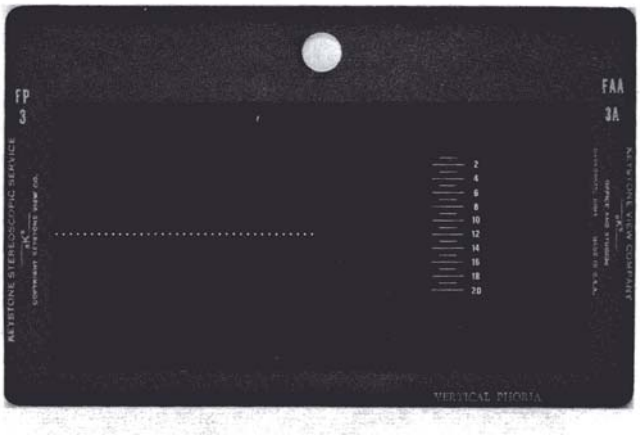
Remarks: Movement of the numbers, or line, normal. Allow a few moments, and the range of movement will narrow to a few units. Remember that this is a test of muscle balance. Like a scale, the muscles of the eyes may need a few moments to move about and relax to a comfortable posture. Unusually high phoria can result in headache and visual fatigue when involved in intense visual tasks such as driving, reading and TV viewing. Such fatigue can be confirmed by patient complaints of occasional diplopia ("double vision").

Recording: Mark the patient response in the space provided on the record form. Response in the gray areas may deserve referral, based on further information from the patient about visually related health complaints (headache, diplopia, etc).

Special Note: The units of measure on this phoria test are Prism Diopters. The following conversions can be made:

Orthophoria (absence of phoria):	25 on scale
Exophoria (divergence tendency):	Reading above 25
Esophoria (convergence tendency):	Reading below 25

Test #3: Vertical Phoria



Question: Do you see the vertical number scale and horizontal dotted line? Through which number does the dotted line appear to pass?

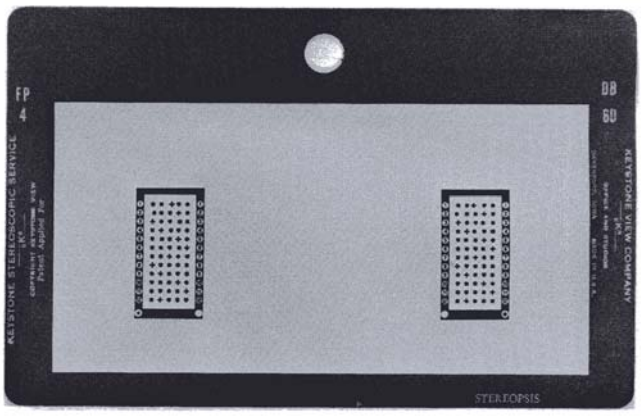
Response: The expected response is “12”.

Recording: Record in the appropriate area of the record chart the response by the patient. If only the dotted line or the numbers are seen, check the appropriate area of the chart.

Remarks: Small amount of vertical phoria can be very troublesome. Observe the patient so that proper posture is maintained during testing. Remove any eyeglasses to confirm any vertical phoria. Bent eyeglass frames can induce this quite easily (an optician or personal eye specialist should be seen for adjustment). Almost everyone will pass this test with no indication of vertical phoria.

Again, amounts of vertical phoria as small as one diopter (a reading of 11 or 13) can result in visual fatigue, headache, occasional diplopia and other symptoms. In the presence of these complaints, questionable results deserve referral to an eye specialist. Units used on this test are prism diopters. The magnitude of the phoria is the difference between the patient’s response and 12 (orthophoria).

Test #4: Stereopsis



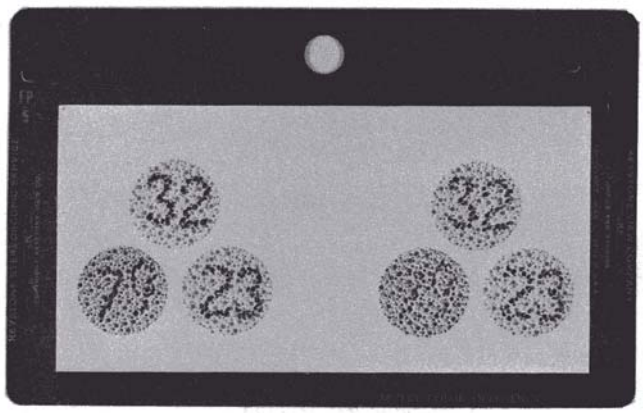
Question: "On this card are twelve rows (lines) of symbols (shapes) inside a black picture frame. Each line across has five different symbols. In the first line-the one at the top-are a star, a box, a cross, a heart, and a ball. (Use a pointer during this explanation.) Does one of the symbols in this line seem to float out in the air…closer to you than the others? Which one? On the second line, which one floats out closest?" Etc.

Response: The normal response is to correctly report at least ten lines. If the subject does not report at the cross as "floating out" toward him/her on the first line, it may be necessary to rephrase the question for better understanding. If this still produces a negative response, ask if the subject can see both the cross and the ball in the lower corners of the frame. If only one is seen, suppression is present. If both are seen, but none of the symbols above appear to stand out from the target, there is a total lack of stereopsis (depth perception).

Recording: Place a check mark on the last symbol correctly reported.

Remarks: This test may be omitted with children below fourth grade level. Depth perception is a skill that develops rather slowly and may not be fully acquired before the age of nine.

Test #5: Color Vision (red/green)



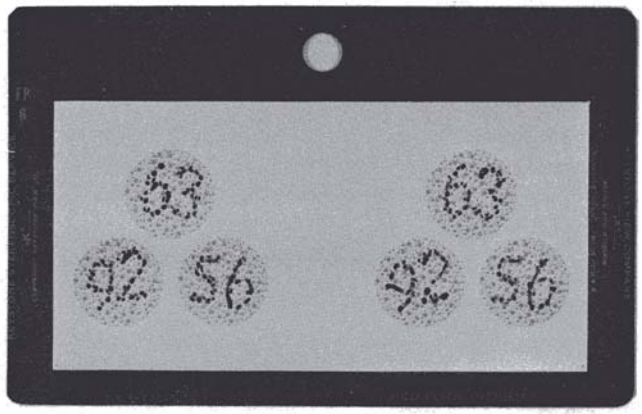
Question: "What is the number you see in the top ball? In the lower left ball? In the lower right ball?" (Use a pointer to indicate each ball.)

Response: Correctly naming both digits on two balls is the minimum acceptable answer. Even this indicates some degree of color deficiency.

Recording: Check the number of balls on which both digits are correctly read.

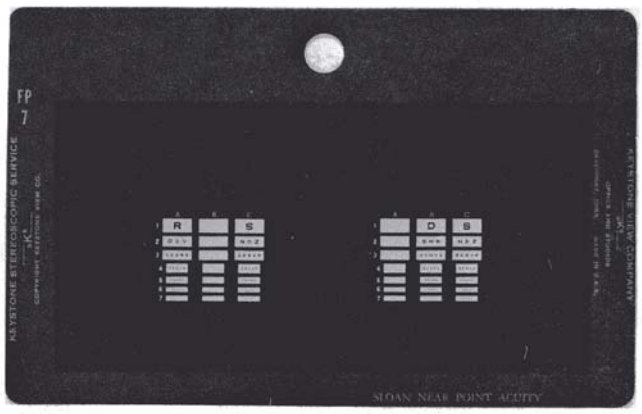
Remarks: If the subject will be more comfortable, this test and the next (No.6) may be administered with the Telebinocular cardholder moved up the shaft toward near point. After you have given your instructions, do not permit the subject to study the target or delay too long. At your discretion, color vision tests may be omitted with children below the fourth grade level.

Test #6: Color Vision (blue/violet)



Procedure: Follow the same procedure as for Test #5.

Test #7: Near Point Acuity



Question: Do you see three columns of letters, A, B and C?

If the response is “Yes” proceed to administer and record as in Test #1. If the response is “No, I see four” it is likely that the patient is in a far point convergence posture. Have the patient remove his/her head from the instrument and look at something close, on the tabletop, then look into the instrument. If four columns are still seen, move the cardholder to far (where three column will be seen) then slowly return to near as the patient observes.

Remarks: Bifocals patients may have trouble viewing through their bifocal segments. Have them tilt their head back, or push their glasses up a bit using their index fingers.

SUPPLEMENTAL VISION TESTS

To obtain additional information, or to order, contact Keystone
At our Nevada headquarter, or your distributor.

TELEBINOCULAR ACCESSORIES

Plus Lens Attachment
For use with the School Telebinocular to screen farsightedness. Includes lenses in holder and special target slide. Five lens powers are available; +1.75 is standard for testing students.

+1.50 lens power-**Cat. No. 1107**
+1.75 lens power-**Cat. No. 1106**
+2.00 lens power-**Cat. No. 1109**
+2.25 lens power-**Cat. No. 1108**
+2.50 lens power-**Cat No. 1110**

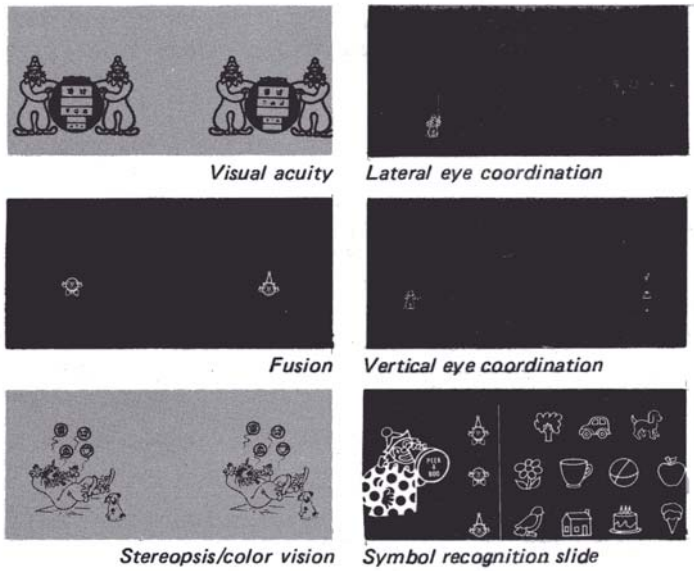
Note: Special clip-on plus lens attachments are available for older Telebinocular models. When ordering attachments, be sure to state color and age of the instrument.

Sanitary Headrest Tissues
Adds an extra touch of cleanliness when the Telebinocular is used with a large number of persons. 2500 self-adhesive tissues are supplied in pads of 50 each.
Catalog Number 1113

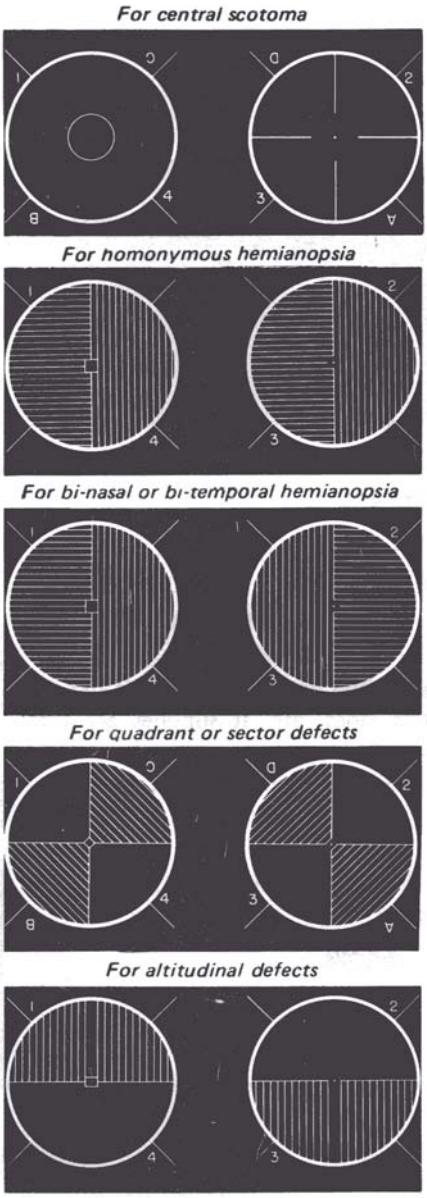
Carrying Case
Here's a handy accessory if your Telebinocular must be moved frequently over long distances. Sturdy wood construction. Accommodates all Telebinocular models. Weighs 8 pounds.
Catalog Number 1111

Replacement Lamps
The Telebinocular uses a special 25-watt, frosted lamp bulb to illuminate targets. Replacement lamps are offered in packages of six.
Catalog Number 1119

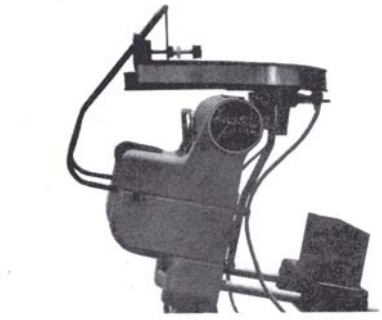
Replacement Dust Cover
Each Telebinocular is supplied with a sturdy transparent dust cover. Should your cover become damaged or misplaced, a replacement can always be supplied. (Specify instrument model.)
Catalog Number 1118



Peek-A-Boo Test Set
Here's an eight-target test set designed for the screening of children not yet able to read. It presents nine non-language tests in six critical areas: Acuity, vertical and lateral eye coordination, fusion, depth perception, and color discrimination. The target present modern illustrations of familiar objects may be used with mentally challenged youngsters.
The tests, designed by a pediatric vision specialist, incorporate several suppression controls. A special recognition slide is included to permit pre-teaching of the illustration used. A "pick-up-stick" pointer is also supplied. The test set includes a manual.
(An optional quick-check record form, listed on page 15, is available. It rapidly identifies overall performance.)
Use with any Telebinocular except the Driver model.
Catalog Number 5170



O'Brien Central Field Test Set
Developed by James M. O'Brien, M.D., and available to others in response to professional demand. Useful for detecting possible pathology affecting the optic tract or the eye itself…such as central scotomas, hemianopsia, and vertical, altitudinal, or quadrant defects. May be given in three to four minutes. Unsatisfactory performance indicates need for a complete field investigation. Include 7 stereo targets and instruction manual.
Use with any Telebinocular or Keystone Stereoscope.
Catalog Number 5119



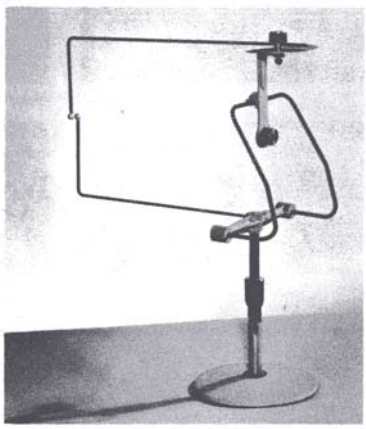
Electronic Periometer Attachment for the Telebinocular

Measure lateral peripheral (side) vision with push-button ease and simplicity with this battery-operated Telebinocular attachment. It fits all late-model instruments with *molded plastic* viewing heads. Useful in education, industry, professional practice, and with driver and pilot licensing agencies, it quickly shows if an individual has "tunnel vision". Miniature lamp targets are selectively illuminated to indicate a *nasal* field of 45° and *temporal* fields at any of three angles…normally 85°, 70° and 55°, for each eye.

Depressing buttons on a hand-held control box chooses lamp targets. One hand operation is practical. The unit's *light bars* fold down when not in use and the fixation target is quickly removable so as not to interfere when other Telebinocular tests are given.

The unit requires a 9-volt transistor, battery, weighs approximately 2-5/8 pounds.

Catalog Number 1112



Manual Periometer for Telebinoculars

Here's a less expensive, but highly accurate, instrument for measuring lateral peripheral vision. The unit is easily attached to the Telebinocular with two thumbscrews and need not be removed when giving other tests.

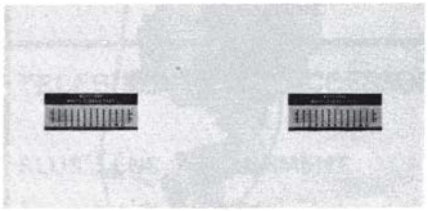
The lateral vision of each eye can be measured in less than one minute. All readings are in degree and both nasal and temporal measurements may be made. Tests are reliable and clues to the appearance of the target are virtually eliminated.

Catalog Number 1105

Manual Periometer with Pedestal Base

This is the same instrument as described above, but mounted on its own pedestal base. The base has a telescoping shaft for easy height adjustment.

Catalog Number 1115



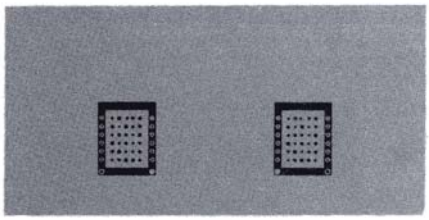
Multi-Stereo Test Set

The first stereopsis tests to be calibrated for 1300 to 1 second of arc for highly critical measurement. All extraneous clues have been carefully eliminated so that nothing but stereoscopic perception is tested. Extra rods stabilize the field, insuring a high degree of accuracy.

For use with the Ophthalmic Telebinocular. Requires Multi-Stereo Test Record Forms No. 5503(listed on page 15).

Catalog Number 5116

Near Point Stereopsis Test

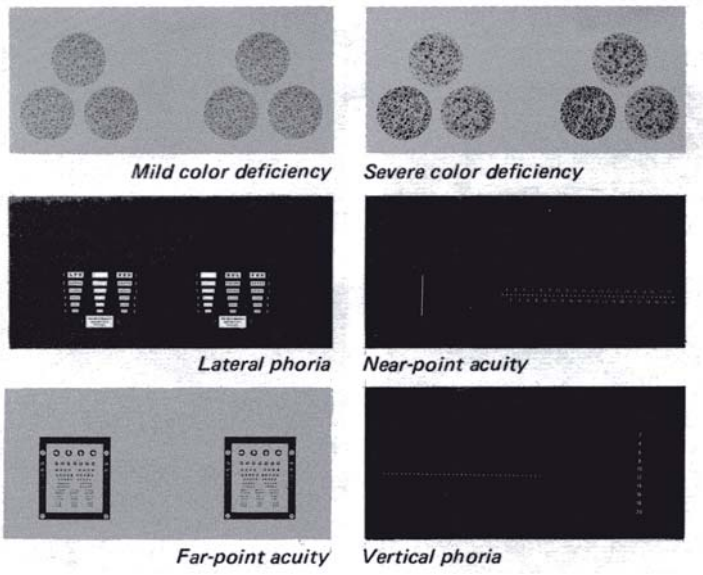


This is a depth perception test given at the equivalent of 16 inches. Similar to Test DB 6D in the Visual Skills Test Set, it's valuable for testing workers on fine assembly jobs or for checking near point fusion ability. One target.

Use with any model Telebinocular except Driver Screening unit.

Catalog Number 5111

Pilot Vision Test Set



Designed for physician who administers the FAA pilot qualification medical examination. Six stereo targets provide rapid testing in nine of the 17 FAA-required areas. (Keystone Periometers, page 4, aid in additional FAA tests.)

This set ends the usual fumbling with Maddox Rods and the need for twenty-foot test lanes, etc. It supplies accurate checks or near-and far-point acuity, vertical and lateral phorias, and color discrimination. Results may be entered directly on the regulation FAA form with no interpretive calculations needed.

(A special *pre-recording* form, listed on page 15, simplifies and speeds test-result entry.)

Use with all Telebinocular models.

Catalog Number 5107

About Keystone View

Founded in 1892, Keystone's sole business until the mid 1930's was the manufacture and sale of stereo photographs. Keystone gathered the largest collection of stereo negatives in the world, donated to the University of California in 1977.

Keystone's main business has been vision screening since the mid 1930's, when we developed the first binocular vision-screening device ever. Keystone View became a Sales Division of Mast Development Company in 1963.

KEYSTONE
VIEW COMPANY
www.keystoneview.com