HESS DIGITEST

HESS DIGITEST

DESCRIPTION

HESS DIGITEST, PROPOSES A SET OF TESTS FOR THE DIAGNOSIS OF

DIPLOPY AND STRABISM, INCLUDING THE EXAMINATION OF HESS

LANCASTER, DIPLOPY FIELD, BINOCULAR CAMPIMETER, WORTH

TEST, AND SCHOBER TEST, A SOFTWARE, RESIDING IN THE SYSTEM

COMPUTER CONNECTED WITH A HIGH RESOLUTION MONITOR,

PROPOSES THE VARIOUS TESTS WHERETHE DOCTOR AND PATIENT

SHOULD INTERACT BY MEANS OF A MOUSE OR TOUCH-PAD

HESS DIGITEST

THE *SMART HESS DIGITEST* *SYSTEM IS COMPOSED BY*:

SOFTWARE, INSTALLED ON THE COMPUTER THAT CONTROLS THE EXAMINATION COMMANDS, THE PROJECTION OF THE LIGHT AIM, STORES AND PROCESSES THE ANGULAR DATA ERROR .
THE PROGRAM ALSO CREATES, A STRUCTURE FOR THE ARCHIVING AND MANAGEMENT OF EXAM RESULTS.

HESS DIGITEST

**COMPUTER WITH
CONTROL SW**

A HIGH RESOLUTION LED MONITOR REPRESENTS

THE TESTS WHILE

THE PATIENT INTERACTS WITH

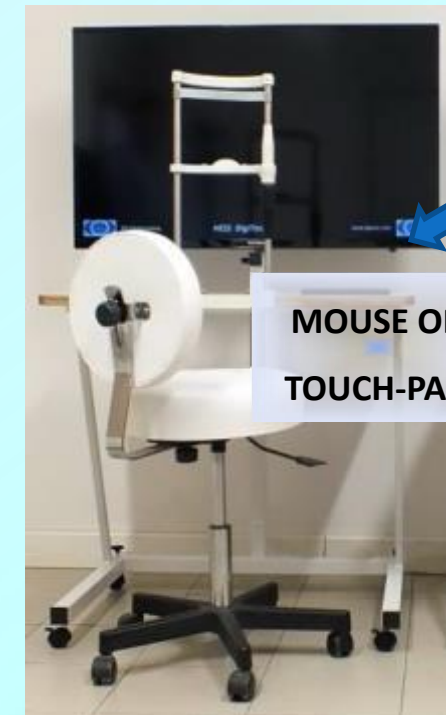**TOUCH-PAD OR MOUSE.**

HESS DIGITEST

COMPUTER WITH CONTROL SW

MONITOR HD
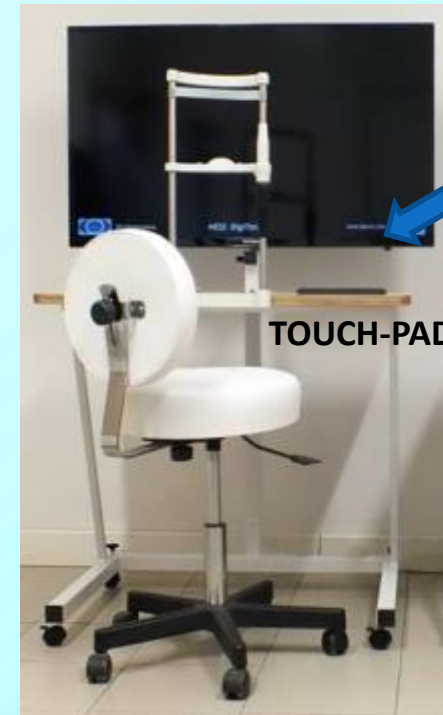
TABLE WITH CHIN

MOUSE OR TOUCH-PAD

A STRUCTURE SUPPORTS THE MONITOR AND THE CHIN, FOR POSITIONING THE PATIENT IN THE CORRECT DISTANCE AND HEIGHT FROM THE MONITOR, BY MEANS OF AN ADJUSTABLE TABLE OR STOOL, A LARGE WORKING PLAN ALLOWS THE PATIENT TO USE THE MOUSE FOR THE TESTING.
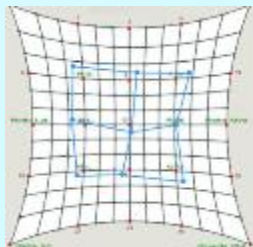
HESS DIGITEST

COMPUTER WITH CONTROL SW

TABLE WITH CHIN

TOUCH-PAD

AT THE END OF THE EXAMINATION PROCESS THE PROGRAM ACQUIRE THE DATA AND ALLOWS THE IMMEDIATE RELEASE OF THE RESULT. IN THE SAME TIME STORE AND ARCHIVE DATA IN A DATA BASE
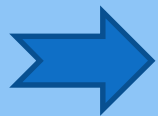
DATA ARCHIVING

PRINT

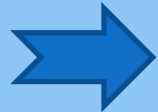# HESS DIGITEST

PERFORMANCES

➡️ **SPEED OF TEST EXECUTION**

➡️ **UMAN ERROR REDUCTION**

➡️ **MEASUREMENT SPEED AND PRECISION**

➡️ **AUTOMATIC TEST ARCHIVING**

HESS DIGITEST

SPEED OF TEST EXECUTION :

HESS DIGITEST, HAS AUTOMATIC TEST SEQUENCES, THAT PROCEED

AUTOMATICALLY AWAY THE PATIENT PROCEEDS IN THE EXAMINATION.

TESTS ARE DESIGNED TO OPTIMIZE EXECUTION TIMES AND AT THE SAME

TIME TO REDUCE THE TIME OF TRANSCRIPTION OF DATA

HESS DIGITEST

ERROR ELIMINATION:

THE EASE TO USE OF THE MOUSE, ALLOWS THE PEOPLE WITH PROBLEMS OF MOTILITY, TO POSITION THE LIGHT AIM CORRECTLY, ELIMINATING THE APPROXIMATION ERROR BY THE PATIENT.

SIMULTANEOUSLY REMOVES THE DOCTOR'S ERROR IN TRANSCRIPTING THE POINT POSITION ON THE PAPER FORM.

HESS DIGITEST

SPEED AND PRECISION OF TEST:

PRECISION AND SPEED OF THE MEASUREMENT:

THE EXACT DETECTION OF THE MEASUREMENT POINTS, ALLOWS TO

DETERMINE WITH MAXIMUM PRECISION, THE DEGREE OF DEVIATION

AND THEREFORE OF CORRECTION TO APPLY TO THE INTERESTED EYE.

FURTHERMORE THE ACCURACY, ASSOCIATED WITH THE PROCESSING

SPEED, ALLOWS YOU TO OBTAIN AN IMMEDIATE RESULT, IN

ADDITION RECORDS AND STORES THE RESULT IN ELECTRONIC

FORMAT..

HESS DIGITEST

AUTOMATIC ARCHIVING OF TEST:

AUTOMATIC MEASUREMENT ARCHIVE:

AT THE END OF THE EXAM, THE SYSTEM GENERATES A FOLDER FOR

EVERY PATIENT, WHERE STORES THE RESULTS OF THE VARIOUS EXAMS.

THE FILES CREATED ARE IN PDF FORMAT AND THEREFORE EASILY

TRANSFERABLE AND INTERPRETABLE BY THE USERS OF WINDOWS,

MAC, IPHONE OR ANDROID SYSTEMS

HESS DIGITEST

MAIN FEATURES:

- MAIN FEATURES:

- DISTANCE FROM THE PANEL 50 Cm

- ACQUISITION ANGLE 40 ° (Smart) or 50 ° (Plus)

- CALCULATION OF THE ERROR IN ANGULAR DEGREES AND PRISMATIC DIOPTERS

- DATABASE FOR PATIENT MANAGEMENT

- IMMEDIATE PRINT OF THE EXAM

- PATIENT INTERACTION VIA MOUSE OR OTHER DIGITAL POINTER

HESS DIGITEST

THE INSTRUMENT IS COMPOSED

OF A PATIENT WORKSTATION

MADE UP OF A TABLE PROVIDED

WITH CHIN, SCREEN AND

MOUSE, AND A MEDICAL

WORKSTATION WITH COMPUTER

AND PRINTER.

DUAL COLOR
LENTS

PATIENT LOCATION

TOUCH-PAD

HESS DIGITEST

THE DOCTOR MANAGES THE EXAMINATION, INTERACTING WITH THE PATIENT THROUGH THE DIGITEST SOFTWARE.
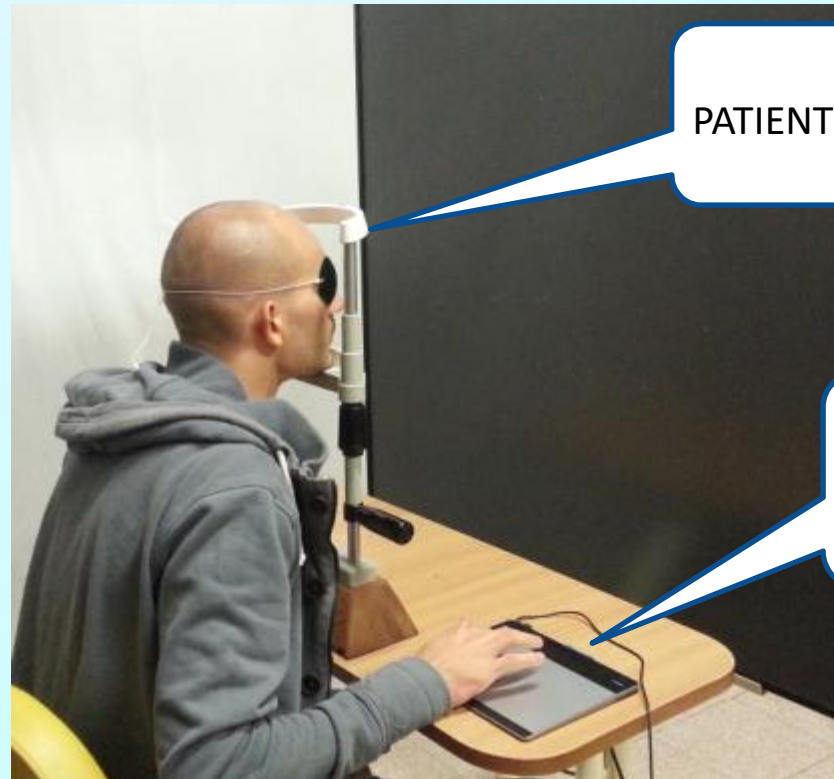**THE DOCTOR HAS THE POSSIBILITY, TO SELECT FROM THE VARIOUS TESTS AVAILABLE, THE MOST SUITABLE FOR THE PATIENT'S PATHOLOGY.**
AT THE END OF THE EXAM, THE SOFTWARE COLLECTS THE RESULTS IN A DIGITAL FORM, THAT CAN BE REPAIRED, CORRECTED AND EXPORTED AT ANY TIME.

DOCTOR LOCATION

HESS DIGITEST
TEST EXECUTION

THE PATIENT IS SITTING ON A HEIGHT-ADJUSTABLE STOOL, SO AS TO OBTAIN A COMFORTABLE POSTURE, WHICH DOES NOT DISTURB IT FROM THE PERFORMANCE OF THE TEST.
PLACE YOUR CHIN ON THE CHIN GUARD AND WEAR THE ANAGLIFIC GLASSES WITH RED-GREEN LENSES. THE DOCTOR INSTRUCTS THE PATIENT ON THE EXAMINATION, IN ORDER TO INTERACT CORRECTLY WITH THE TEST USING A MOUSE.

PATIENT SETUP

POINTING DEVICE: MOUSE TOUCH-PAD

HESS DIGITEST

CANCEL · SEARCH · NEW · UPDATE · EXAMS · HELP

HESS SCREEN · DIPLOPY FIELD · SCHOBER TEST · WORTH TEST · CAMPIMETER · SCOTOMETRY · EXIT · SETUP
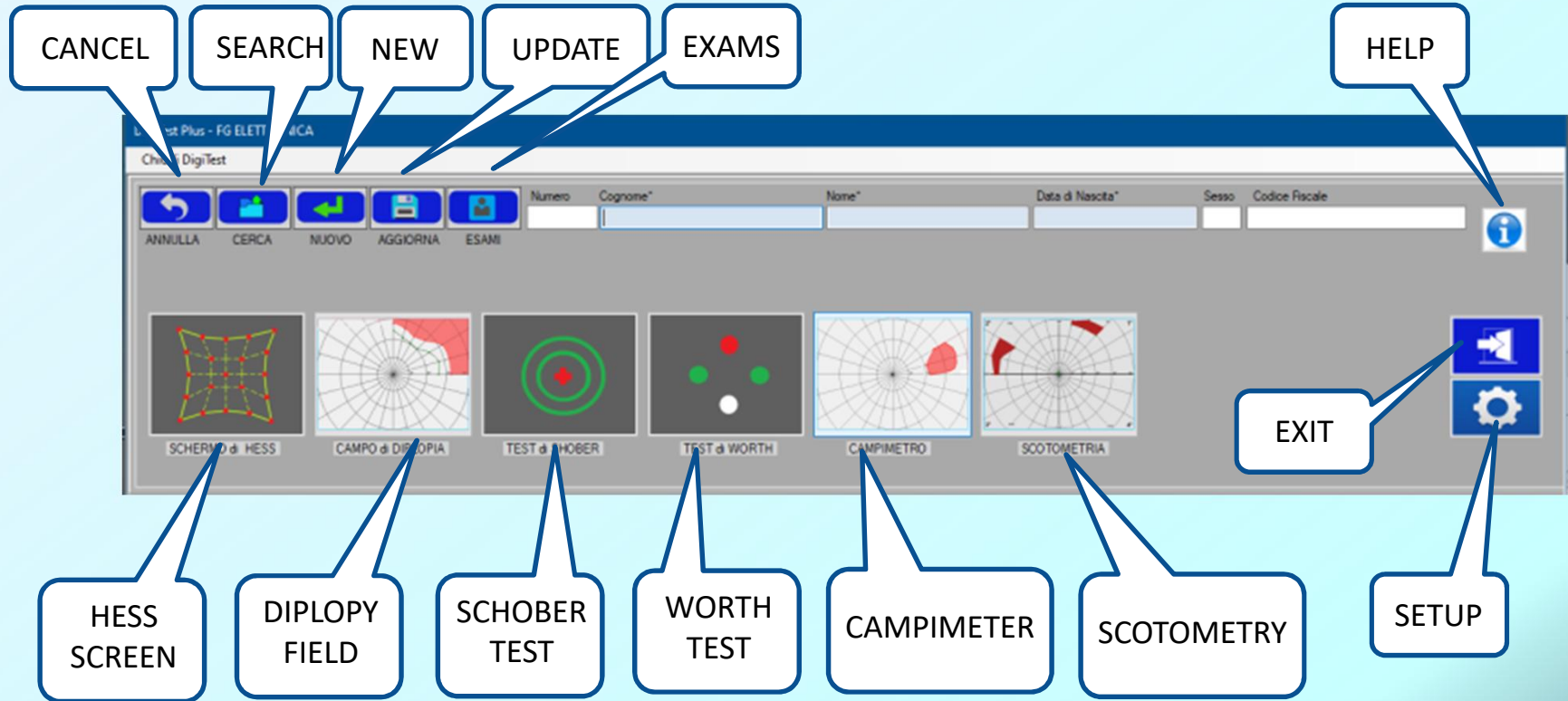
FROM THE CONTROL PANEL, THE DOCTOR CAN CREATE A PATIENT CARD, OR LOAD AN EXISTING PATIENT. YOU CAN PERFORM ONE A TESTS, BY PRESSING ONE OF THE ICONS REPRESENTED. EVERY PANEL, HAS A HELP BUTTON WITH TEST INSTRUCTIONS IN PROGRESS.

PATIENT CARD

HESS DIGITEST

BACKUP

RESTORE

STARTING AIM SELECTION

AIM SELECTION

HELP

EXIT PANEL
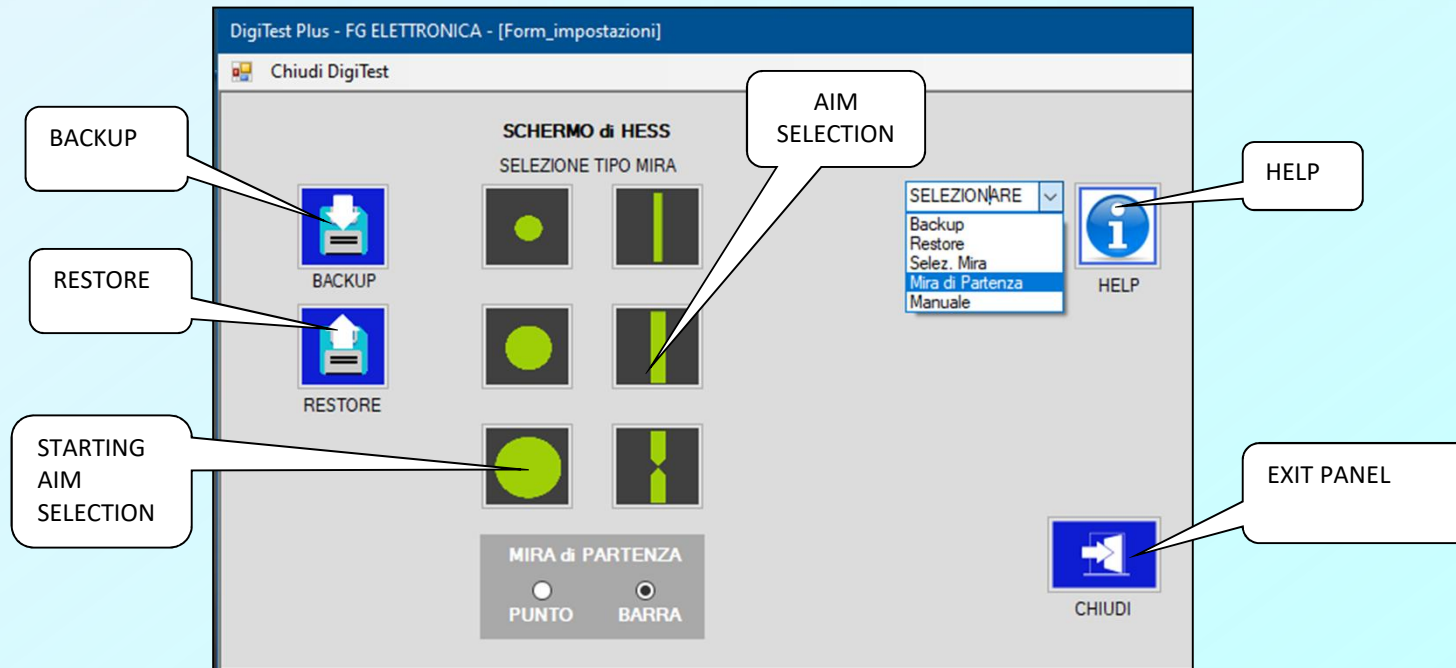
A settings panel, allows you to perform some configuration and maintenance functions of the program. including the Backup of the patient archive to be used in case of involuntary loss or deletion of data. the relative restore, restores the backup copy, returning the patient archive to the backup date. moreover, it is possible to select which target to use for the examination of the hess screen, for all the panels of each exam there is a Help button which shows the information relating to the exam in progress

SETTING PANEL

HESS DIGITEST
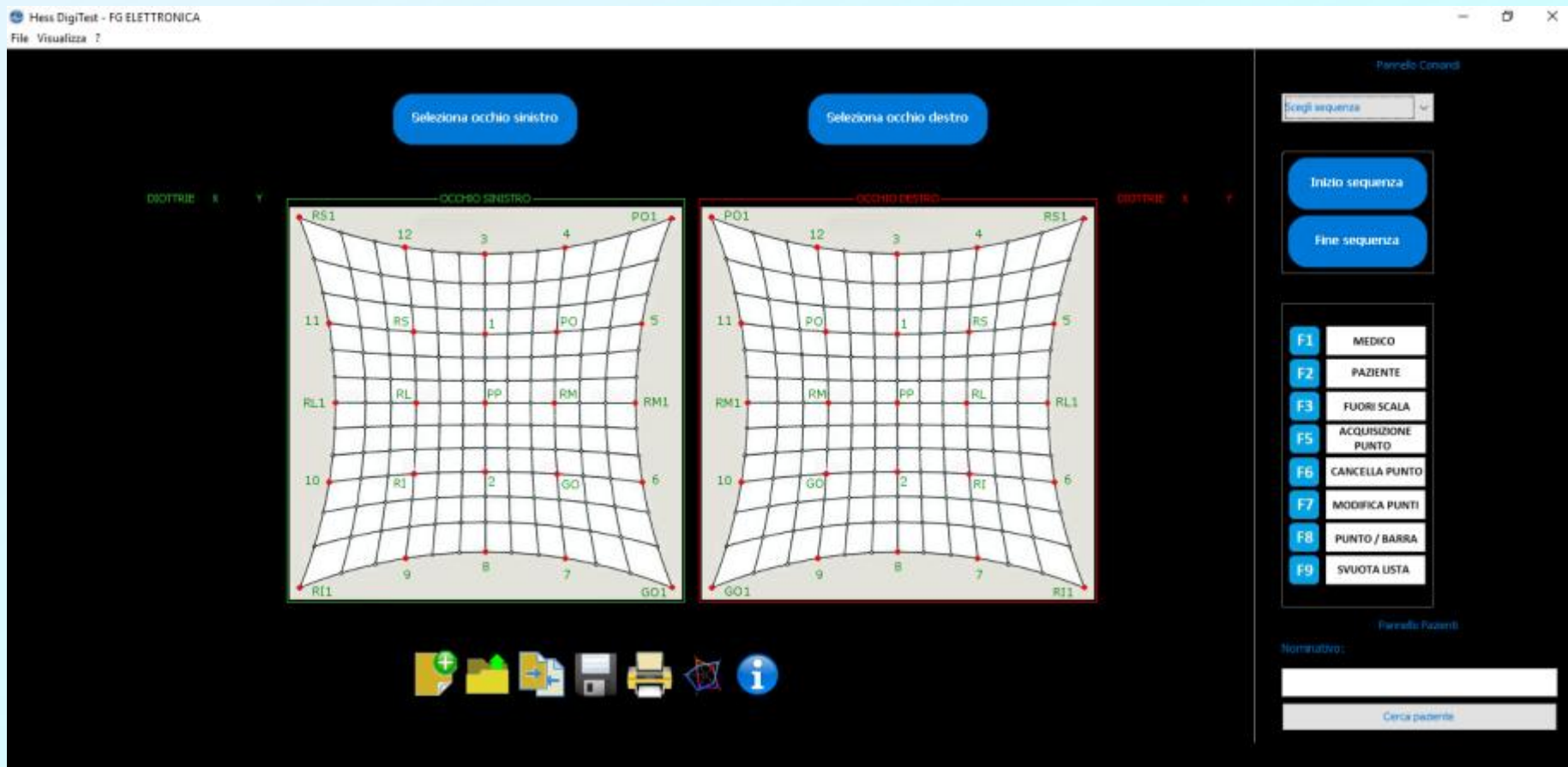
This is the control panel of the Hess exam, where all the commands necessary for carrying out the test are arranged. Some commands are implemented using the mouse, others via the function keys of the computer.

HESS DIGITEST

SEQUENCE SELECTION
1-BOX INT. + EST.
2-INTERNAL BOX
3-EXTERNAL BOX
4-LINEAR SEQUENCE

At this point it is necessary to select the sequence of tests to be performed. There are five pre-set sequences, one of which is a manual that allows the medical operator to select which point to activate. Then the exam begins. at the end the program saves the exam in electronic format and stores it in the patient's file, pressing the Print button, starts the immediate printing of the repòrt.
Also here at the top there is the online help menu, with all the information relating to the test in progress.

HESS DIGITEST
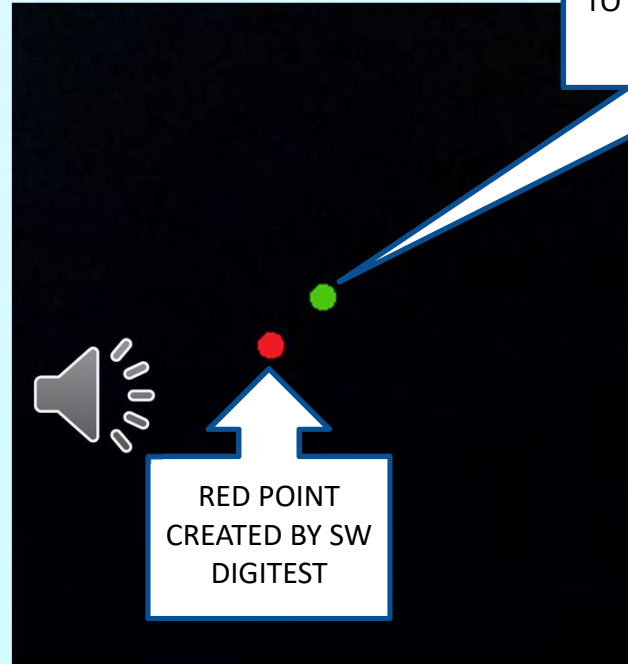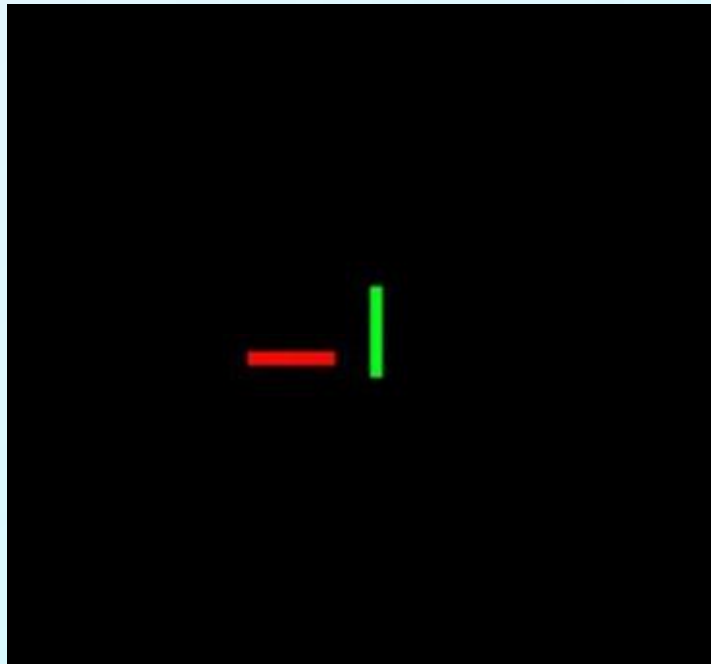
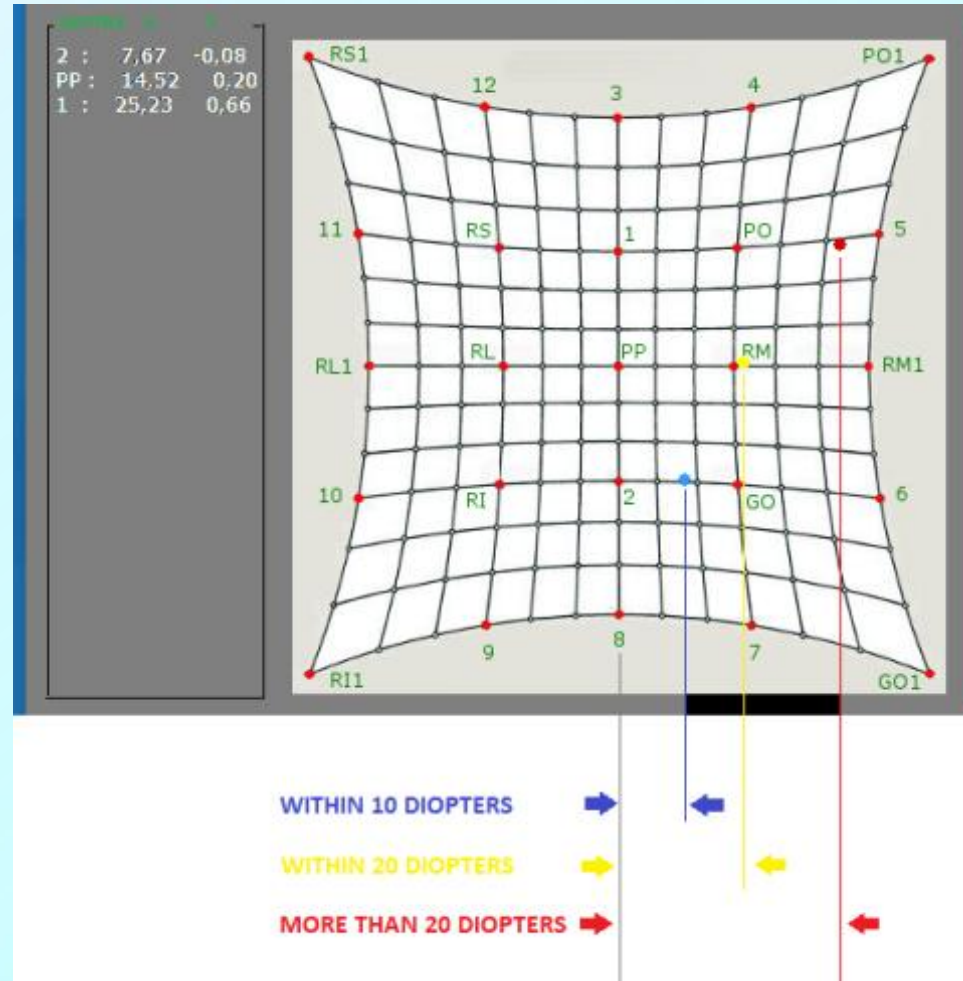GREEN POINT THAT THE PATIENT MUST OVERRIDE TO THE RED WITH TOUCH PAD

STORE BUTTON
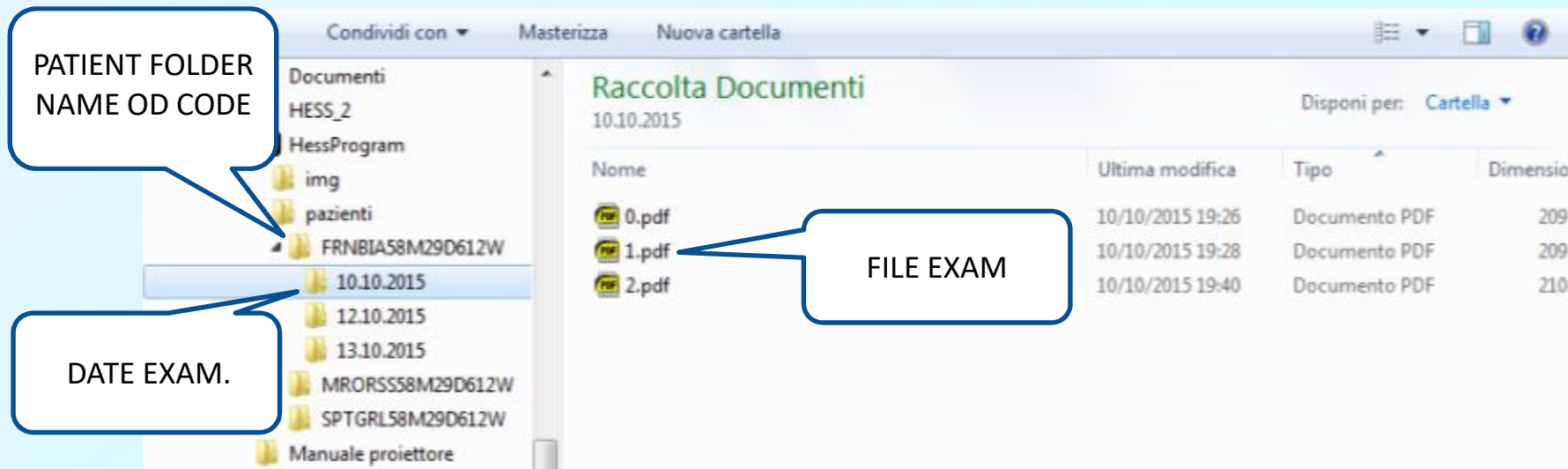
RED POINT CREATED BY SW DIGITEST

THE SEQUENCE OF THE RED SIGHT IS DISPLAYED ON THE SCREEN. THE SIGHT CAN BE SELECTED BETWEEN POINTS OR BARS WITH THE F8 KEY
THE SEQUENCE ADVANCES AUTOMATICALLY WITH EVERY ACQUISITION HAPPENED

HESS DIGITEST

THE POINTS ARE STORED WITH THE ERROR VALUE, EXPRESSED IN DIOPTERS, ON THE COMPUTER CONTROL PANEL. ACCORDING TO THE LEVEL OF ERROR, THE POINT IS INDICATED IN DIFFERENT COLOR: BLUE, FOR VALUES LOWER THAN 10 DIOPTERS, YELLOW, FOR VALUES WITHIN 20 DIOPTERS AND RED, FOR HIGHER VALUES.
THIS HAS THE PURPOSE, OF IMMEDIATELY HIGHLIGHTING THE LEVEL OF ERROR

HESS DIGITEST

PATIENT FOLDER NAME OD CODE

DATE EXAM.

FILE EXAM

Condividi con ▾   **Masterizza**   **Nuova cartella**

Documenti
HESS_2
HessProgram
    img
    pazienti
    ▲ FRNBIA58M29D612W
        10.10.2015
        12.10.2015
        13.10.2015
    MRORSS58M29D612W
    SPTGRL58M29D612W
    Manuale proiettore

Raccolta Documenti
10.10.2015

Disponi per: Cartella ▾

Nome	Ultima modifica	Tipo	Dimensior
0.pdf	10/10/2015 19:26	Documento PDF	209
1.pdf	10/10/2015 19:28	Documento PDF	209
2.pdf	10/10/2015 19:40	Documento PDF	210

THE RESULT OF THE EXAM, IS ARCHIVED BY CREATING AN INDIVIDUAL FOLDER, APPOINTED WITH THE NAME OF THE PATIENT, WITHIN WHICH CREATES OTHER FOLDERS, BASED ON THE DATE OF THE EXAM.
EACH EXAM PERFORMED ON THE SAME DAY, IS THEN APPOINTED WITH A PROGRESSIVE NUMBER THAT THE DOCTOR CAN RENAME FOR HIS CONVENIENCE IF HE CONSIDERS IT NECESSARY.

ARCHIVING AND PRINTING

HESS DIGITEST

LOGO AND HEAD OFFICE CUSTOMIZABLE MEDICAL STUDIO
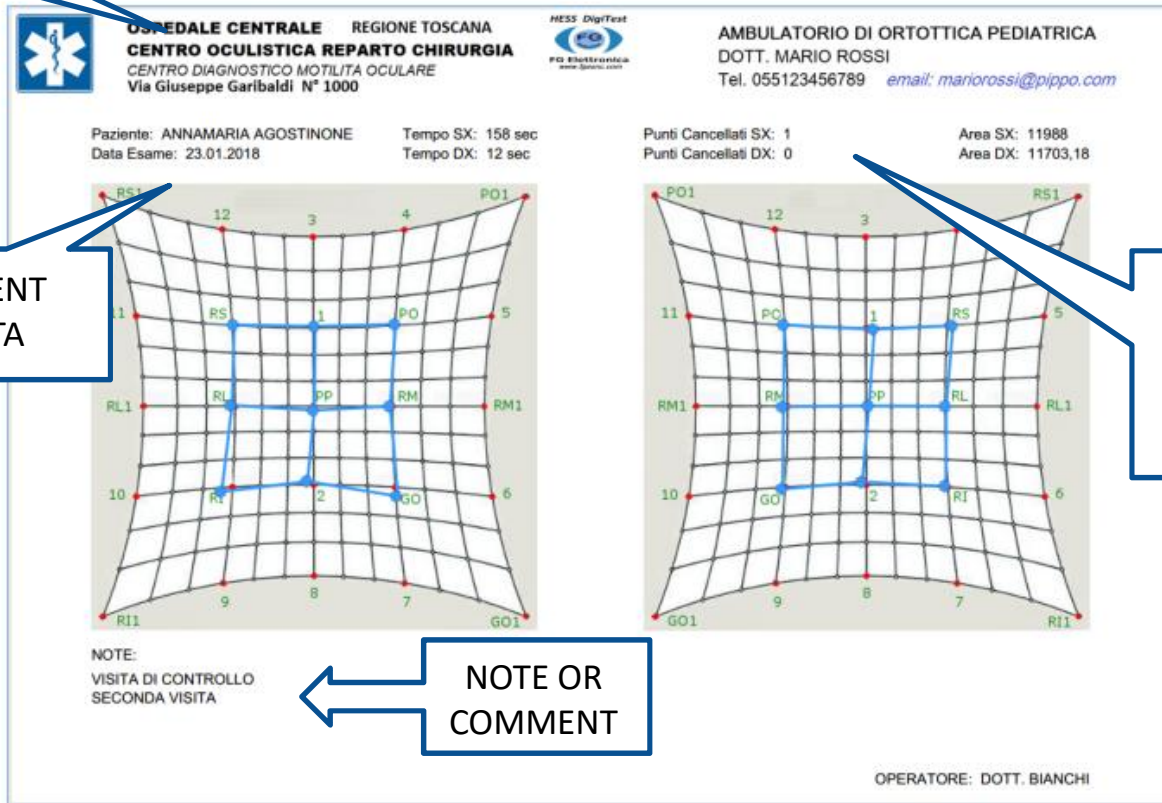
PATIENT DATA

EXAM INFO:
EXECUTION TIME
POINTS CANCELED
BOX AREA

NOTE OR COMMENT

The press is organized in two pages. On the first page under the heading, the patient's data are indicated, the execution time, how many points have been deleted, and the area of the box that has been created.
The graphs relating to the left and right eyes are shown below, together with the notes that have been inserted in the patient file.

HESS DIGITEST

LEFT EYE

RIGHT EYE

OSPEDALE CENTRALE REGIONE TOSCANA
CENTRO OCULISTICA REPARTO CHIRURGIA
CENTRO DIAGNOSTICO MOTILITA OCULARE
Via Giuseppe Garibaldi N° 1000

HESS DigiTest
FG Elettronica
www.fgssnc.com

AMBULATORIO DI ORTOTTICA PEDIATRICA
DOTT. MARIO ROSSI
Tel. 055123456789   email: mariorossi@pippo.com

INTERNAL BOX (SEQ.2)

PUNTO	GRAD X	DIOTT X	GRAD Y	DIOTT Y
RM	-0,23	-0,40	*	*
GO	*	*	-0,76	-1,32
2	-0,63	-1,09	0,35	0,62
RI	*	*	-0,35	-0,61
	-0,35	-0,61	*	*
	*	*	0,06	0,11
1	0,08	0,15	0,18	0,32
PO	*	*	0,10	0,18
PP	0,00	0,00	-0,34	-0,59
AREA		11988.13		

PUNTO	GRAD X	DIOTT X	GRAD Y	DIOTT Y
RM	0,43	0,75	*	*
GO	*	*	-0,11	-0,18
2	0,41	0,73	0,31	0,54
RI	*	*	0,14	0,25
RL	-0,11	-0,18	*	*
RS	*	*	-0,03	-0,04
1	-0,71	-1,23	-0,11	-0,18
PO	*	*	0,06	0,11
PP	-0,21	-0,37	0,08	0,15
AREA		11703.18		

EXTERNAL BOX (SEQ.3)

THE POINTS ARE IDENTIFIED WITH THE NAME OF THE OCULAR MUSCLE:
RM = MEDIUM RIGHT
PO = SMALL OBLIQUE
THE NUMBERS ARE THE INTERMEDIATE POINTS

VISUAL FIELD AREA

RS1				
12				
3				
4				
PO1				
5				
RM1				
6				
GO1				
9				
RI1				
10				
RL1				
11				
AREA		0.0		

RS1				
12				
3				
4				
PO1				
5				
RM1				
6				
GO1				
7				
8				
9				
RI1				
10				
RL1				
11				
AREA		0.0		

On the second page, the data of the examined points are listed, the points are identified with the name of the eye muscle. For each point examined, the error in degrees of deviation and the error in prismatic diopters are reported. The page is divided into two tables for the left eye, and two for the right eye, the first relating to the internal panel, and the other to the external panel.

HESS DIGITEST

Finally, it is possible to compare two tests of the same patient, to check the progress of the pathology.
to perform a comparison, open the comparison function by selecting the icon represented by two tabs.
A mask is presented, where is possible to recall two exams of the same patient with different dates, pressing on the button,Exam1 and Exam 2. the comparison can be made on the video, or printed through the press button placed in the center of the screen. A paper print will be carried out, in addition to the saving in file format in a comparison folder dedicated, accessible from the computer desktop.

HESS DIGITEST
EXECUTION DIPLOPY FIELD EXAM

Let's see how to perform the diplopia field exam. Position the patient on the chin guard, and explain that, keeping the head still, he will have to move a bright target from the center of the screen to the extreme edge, moving it by means of the wheel of the mouse. if during the course, he will see the target split, memorize the point by means the left button of the mause, now must go back towards the center of the screen, until the splitting disappears, at this point he presses the mouse again to memorize the recovery point. the program will continue automatically until completion. The doctor can select the type of light target among the six available, the visual field is divided into four 90-degree quadrants, which can be inspected with sectors of 15 or 30 degrees, by selecting it using the "start dial" and "sector width" buttons. After making the settings, start the exam by pressing the START key. the exam can be stopped at any time by pressing the STOP key.

HESS DIGITEST
EXECUTION DIPLOPY FIELD EXAM

As the patient stores the points, they are shown in red and green, and the diplopia and recovery data are recorded in the table, in the event of an error, it can be deleted and repeated without interrupting the examination. In the case of elderly patients or with problems, it is possible that he has difficulty maneuvering the mouse wheel, or is unable to maintain concentration on the exam, the doctor may move the target using the arrows on the keyboard, and acquire and delete the points, by means of the function keys F5 and F6. At the end of the sequence, the application colors the external diplopia area red, and combines the diplopia and recovery points with a red and green line. The doctor can add his diagnosis in the appropriate area. Pressing the save button, the application generates the repòrt in the patient folder, then pressing the print button the repòrt is displayed and then printed

HESS DIGITEST
EXECUTION DIPLOPY FIELD EXAM

PATIENT DATA

DEGREES AND DIPLOPY TABLE

This is an example of a diplopia field exam printout, in addition to the patient data, exam date and exam result, the chart and table with the degrees of diplopia and recovery points are printed

TEST REPORT

HESS DIGITEST
EXECUTION CAMPIMETER EXAM

PATIENT DATA

SELECTION SECTOR AMPLITUDE

SELECTION AIM:
COLOR
DIMENSION
SIZE

SELECTION QUADRANT

SELECTION MONOCULAR BINOCULAR

START/STOP

Now let's see how to perform a campimeter test. First of all we make the patient sit in front of the screen, and explain how it will perform the test. the patient will have to keep his head still and his gaze fixed on the central target, using peripheral vision, he will have to move a bright target from the extreme edge of the screen to the center, using the wheel of the mause. if during the path, he will see the target disappear, must memorize the first point by pressing the left button of the mause, then continue towards the center of the screen, until the target reappears, now presses the mouse again to memorize the second point. If the target remains always visible, when it reaches the center of the screen it automatically passes to the next sector. the visual field is divided into four 90-degree quadrants, which can be inspected with sectors of 15 or 30 degrees, by default the system performs the entire field of vision, if you want you can only analyze the quadrant concerned, by selecting it using the buttons of "quadrant start" and "Sector width". Also to evaluate the sensitivity of the retina it is possible to vary the contrast of the peripheral target from 100% till 25%.

HESS DIGITEST
EXECUTION CAMPIMETER EXAM

As the patient continues with the test, the points will be stored on the visual field grid, in the event of an error, the patient or doctor can eliminate the point and repeat the measurement. for each point the angular degree relative to the sector performed is recorded. At the end of the sequence, or in any case when the STOP button is pressed, the identified scotoma area is filled with red. now the doctor can enter his diagnosis in the appropriate NOTES field, and by pressing the save button, the application generates the repòrt and stores it in the patient folder, then pressing the print button the repòrt is displayed and then printed

HESS DIGITEST
EXECUTION CAMPIMETER EXAM

PATIENT DATA

BLIND AREA
POINTS
DEGREES

This is an example of printout of the test of the campimeter, in addition to the patient data, exam date and outcome of the exam, the graph and the table with the degrees of scotoma points are printed

TEST REPORT

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HESS DIGITEST
EXECUTION SCOTOMETRY EXAM

Now let's see how to perform a binocular scotometry test. Make the patient sit in front of the screen, place it on the chin guard, and explain how it will perform the test. The patient will have to wear the red-green anaglyphic glasses, The examination is similar to the campimeter, but uses the dissociation between the two eyes by means of the anaglyphic glasses and red green sights. it is possible to select the size and color of both fixation and peripheral targets. keep his head still and his gaze fixed on the central target, and using peripheral vision, he will have to move a bright target from the extreme edge of the screen to the center, using the wheel of the mause. if during the path, he will see the target disappear, he must memorize the first point by pressing the left button of the mouse, then continue towards the center of the screen, until the target reappears, Now presses the mouse again to memorize the second point.. The visual field is divided into four 90-degree quadrants, which can be inspected with sectors of 15 or 30 degrees, by defolt the system performs the entire field of vision with sectors of 15 degrees, if you want you can only analyze the quadrant concerned by selecting it using the buttons of "quadrant start" and "Sector width".

HESS DIGITEST
EXECUTION SCOTOMETRY EXAM

As the patient continues with the test, the points will be stored on the visual field grid, in the event of an error, the patient or doctor can eliminate the point and repeat the measurement. for each point the angular degree relative to the sector performed is recorded. At the end of the sequence, or in any case when the STOP button is pressed, the identified scotoma area is filled with red. now the doctor can enter his diagnosis in the appropriate NOTES field, and by pressing the save button, the application generates the repòrt and stores it in the patient folder, then pressing the print button the repòrt is displayed and then printed

HESS DIGITEST

EXECUTION SCOTOMETRY EXAM

PATIENT DATA

BLIND AREA POINTS DEGREES

This is an example of printing the Scotometry exam, in addition to the patient data, exam date and outcome of the exam, the graph and the table with the degrees of scotoma points are printed.

TEST REPORT

HESS DIGITEST
EXECUTION WORTH TEST

PATIENT DATA

EXAMINATION RESULT

COMMENTS

PROJECTED AIM

SIGHT DIMENSION

PERCEPTION

Worth test: After explaining the test, start by selecting the type of light target between the two available sizes 5 or 10 mm.
four colored sights will be displayed, one red at the top, two green in the center, and one white at the bottom.
the patient must observe the aims and report his chromatic perception to the doctor.
based on the patient's response, the doctor selects one of the six possible conditions, adding his diagnosis in the Notes field.
pressing the Save button will create the repòrt with the pathology and diagnosis written by the doctor.

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HESS DIGITEST

EXECUTION WORTH TEST

DOCTOR

PATIENT DATA

EXAMINATION RESULT

COMMENTS

EXAM DATE

OSPEDALE CENTRALE REGIONE TOSCANA
CENTRO DI OCULISTICA REPARTO CHIRURGIA
AMBULATORIO DI ORTOTTICA
Via Giuseppe Garibaldi N° 1000

SSF Servizio Sanitario della Toscana

Medico	Dott. BIANCHINI		Data esame	13/02/2020
PAZIENTE	ROSSI MARIA	F	Data di Nascita	8febbraio1991
ID 00 64			CF : MARIAROSSI	

ESAME : TEST di WORTH

Esito :

VISIONE MONOCULARE CON SOPPRESSIONE DELL'OCCHIO SX

Note:
VISITA DI CONTROLLO

this is an example of printing the exam of worth, the patient's data are printed, date of the exam and outcome of the exam with the doctor's diagnosis

TERST REPORT

HESS DIGITEST

EXECUTION SCHOBER TEST

Schober test: By pressing the START key, the test begins where two green circles with a red cross in the center will be displayed, which the patient will have to move with the mouse, until he perceives it in the exact center of the two circles, at this point he presses the key left of the mause to memorize the position. in the event of an error, pressing the right button cancels the measurement and can be repeated. the program memorizes the point and calculates the alignment error identifying the vertical and horizontal holes, and claculating the error in prismatic diopters, and indicating whether it is an esophoria, or an exophory, with right or left hyperforia. in the case of elderly patients or with problems, it is possible that he has difficulty maneuvering the mouse wheel, or is unable to maintain concentration on the exam, the doctor may move the target using the arrows on the keyboard, and acquire and delete the points, by means of function keys F5 and "ESCAPE" the doctor will confirm the indication by adding his diagnosis and any comments. pressing the Save button will create the repòrt with the pathology and diagnosis written by the doctor. by pressing the Print button the repòrt will first be displayed and then printed.

HESS DIGITEST

EXECUTION SCHOBER TEST

DOCTOR

PATIENT DATA

EXAMINATION RESULT

COMMENTS

EXAM DATE

OSPEDALE CENTRALE   REGIONE TOSCANA
CENTRO DI OCULISTICA REPARTO CHIRURGIA
AMBULATORIO DI ORTOTTICA
Via Giuseppe Garibaldi N° 1000

SST Servizio Sanitario della Toscana

Medico	Dott. BIANCHINI		Data esame	13/02/2020
PAZIENTE	ROSSI MARIA	F	Data di Nascita	8febbraio1991
ID 00 64			CF : MARIAROSSI	

ESAME : TEST di SHOBER

Esito :

XOFORIA + IPERFORIA SX

Correzione = 6,7 Diottrie

Note:

PRIMA VISITA DI CONTROLLO

This is an example of a schober exam printout, the patient's data, exam date and outcome of the exam with the doctor's diagnosis are printed

TERST REPORT

HESS DIGITEST

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ITALY
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