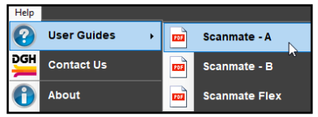
DGH 6000 SCANMATE A QUICK START GUIDE

6000-QSENG-R4

FOR USE WITH SCANMATE 4.2 SOFTWARE

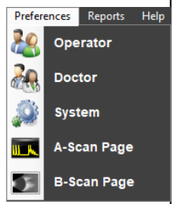
OPERATOR'S MANUAL

THE OPERATOR'S MANUAL IS AVAILABLE THROUGH **HELP → USER GUIDES → SCANMATE-A.** THE OPERATOR'S MANUAL PROVIDES DETAILED CONFIGURATION AND USE INSTRUCTIONS.



SETTING DEVICE PREFERENCES

IT IS SUGGESTED THAT DEVICE PREFERENCES BE CONFIGURED PRIOR TO FIRST USE. MANY PREFERENCES CAN BE LEFT AT THEIR DEFAULT SETTINGS. HOWEVER, FOR BEST RESULTS, THE FOLLOWING PREFERENCES SHOULD BE CONFIGURED BEFORE PERFORMING SCANS. REFER TO SECTION 12 OF THE OPERATOR'S MANUAL FOR DETAILED INFORMATION ON CONFIGURING THE SYSTEM.



SYSTEM: IN THE SYSTEM PREFERENCES WINDOW, SET THE DEFAULT NC VALUE TO MATCH THE KERATOMETER BEING USED.

OPERATOR: IN THE OPERATOR PREFERENCES WINDOW, CREATE A NEW OPERATOR AND SPECIFY PREFERRED SETTINGS FOR THAT OPERATOR.

DOCTOR: IN THE DOCTOR PREFERENCES WINDOW, CREATE A NEW DOCTOR. EACH DOCTOR CREATED CAN SET UP THEIR PREFERRED IOLS, FORMULAS, PERSONALIZED LENS CONSTANTS, AND DEFAULT MEASUREMENT MODE (IMMERSION OR CONTACT).

A-SCAN PAGE: IN THE A-SCAN PAGE WINDOW, SET THE DEFAULT LENS TYPE AND DEFAULT REPORT TYPE.

IOL CALCULATOR

THE SCANMATE-A CAN BE CONFIGURED WITH AN OPTIONAL IOL CALCULATOR. FOR DEVICES THAT HAVE THIS OPTION, IOL SPECIFICATIONS MUST BE CONFIGURED PRIOR TO ATTEMPTING CALCULATIONS. **IF IOL SPECIFICATIONS HAVE NOT BEEN ENTERED INTO THE IOL CONFIGURATION TABLE, THE DEVICE WILL NOT PERFORM CALCULATIONS.**

IOL CALCULATOR SETTINGS AND THE IOL CONFIGURATION TABLE ARE AVAILABLE THROUGH THE DOCTOR PREFERENCES WINDOW.

REFER TO SECTION 16 OF THE OPERATOR'S MANUAL FOR INFORMATION ON CONFIGURING AND USING THE IOL CALCULATOR.

WARNING: BEFORE USING THE IOL CALCULATOR, THE DEFAULT NC VALUE MUST BE SET TO MATCH THE NC VALUE OF THE KERATOMETER USED. AN INCORRECT SETTING MAY RESULT IN IOL CALCULATION ERRORS. THIS VALUE IS SET IN PREFERENCES → SYSTEM.

FOR TECHNICAL ASSISTANCE CONTACT:

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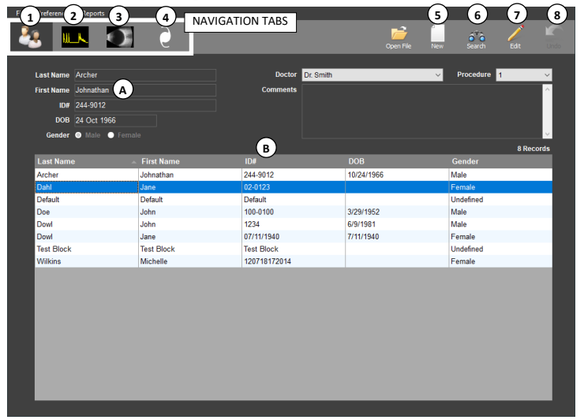
CUSTOMER SERVICE WEBSITE:
dghtechnology.com/customer-service/

PATIENT DATABASE PAGE



THIS IS THE DEFAULT START PAGE FOR THE SCANMATE SOFTWARE. FROM HERE NEW PATIENT RECORDS ARE CREATED AND EXISTING RECORDS SEARCHED.

ITEM	FUNCTION
(1)	**NAVIGATE TO PATIENT DATABASE PAGE** AVAILABLE FROM ALL PAGES.
(2)	**NAVIGATE TO A-SCAN PAGE** AVAILABLE FROM ALL PAGES.
(3)	**NAVIGATE TO B-SCAN PAGE** ONLY AVAILABLE IF A DGH B-SCAN DEVICE IS USED WITH THE SOFTWARE.
(4)	**NAVIGATE TO IOL CALCULATOR PAGE** ONLY AVAILABLE FOR DEVICES CONFIGURED WITH AN IOL CALCULATOR. REFER TO THE OPERATOR'S MANUAL SECTION 16 FOR INFORMATION ON USING THE IOL CALCULATOR.
New (5)	**CREATE A NEW PATIENT** A NEW PATIENT RECORD MUST BE CREATED IN ORDER TO SAVE A-SCAN VIDEOS OR MEASUREMENTS. CLICK THIS BUTTON AND ENTER PATIENT INFORMATION INTO THE IDENTIFICATION FIELDS (A) THEN CLICK THE SAVE (7) BUTTON. AT MINIMUM, THE PATIENT'S FIRST NAME, LAST NAME AND AN ID NUMBER MUST BE ENTERED TO SAVE A PATIENT RECORD.
Search (6)	**SEARCH EXISTING PATIENTS** CLICK TO SEARCH PATIENT RECORDS. TYPE IN THE PATIENT IDENTIFICATION FIELDS (A) TO PERFORM THE SEARCH. THE PATIENT CAN ALSO BE SELECTED FROM THE PATIENT LIST (B) BY DOUBLE LEFT-CLICKING THE DESIRED ENTRY. THE SOFTWARE IS IN SEARCH MODE WHEN STARTED.
Edit Save (7)	**EDIT / SAVE PATIENT INFORMATION** CLICK TO EDIT OR SAVE INFORMATION OF DISPLAYED PATIENT. THE EDIT BUTTON BECOMES THE SAVE BUTTON WHEN CLICKED. A MINIMUM OF THE PATIENT'S FIRST NAME, LAST NAME, AND AN IDENTIFICATION NUMBER MUST BE ENTERED TO SAVE A PATIENT RECORD.
Undo (8)	**UNDO** UNDO UNSAVED CHANGES TO PATIENT IDENTIFYING INFORMATION. (ONLY AVAILABLE WHEN PATIENT INFO IS BEING ENTERED/EDITED.)

A-SCAN PAGE

A-SCANS ARE PERFORMED FROM THIS SCREEN. A PATIENT MUST BE CREATED AND LOADED PRIOR TO PERFORMING AN A-SCAN, OTHERWISE DATA CANNOT BE SAVED.

ONCE THE A-SCAN IS COMPLETED, THE WAVEFORM AND ASSOCIATED MEASUREMENTS CAN BE REVIEWED.

ITEM	FUNCTION
New Scan (9)	**NEW SCAN** CLICK TO PERFORM A NEW SCAN. THIS WILL CLEAR THE VIDEO/ MEASUREMENT FILE BEING REVIEWED. UNSAVED VIDEOS/ MEASUREMENTS WILL BE LOST.
Contact / Immersion (10)	**IMMERSION / CONTACT MODE SELECTION** SELECT BETWEEN IMMERSION AND CONTACT MODES. SELECTED MODE IS DISPLAYED IN UPPER RIGHT CORNER OF THE WAVEFORM DISPLAY. (C) *(SEE REVERSE FOR MORE INFORMATION)*
Comp (11)	**COMPRESSION SENSITIVITY (ONLY IN CONTACT MODE)** MOVE THE SLIDER TO ADJUST THE COMPRESSION LOCKOUT FEATURE. *(SEE REVERSE FOR MORE INFORMATION)*
Lens / Vitreous (12)	**SELECT LENS AND VITREOUS TYPE** SELECT THE APPROPRIATE LENS TYPE FROM THE DROP-DOWN LIST AND MARK THE APPROPRIATE VITREOUS TYPE FOR THE EYE BEING SCANNED. **NOTE:** WHEN STARTING A NEW SCAN, THE LENS TYPE WILL DEFAULT TO THE DEFAULT LENS TYPE SET IN **PREFERENCES → A-SCAN PAGE.**
Change Eye (13)	**CHANGE EYE** CLICK TO SELECT OD OR OS. THE SELECTED EYE IS DISPLAYED IN THE UPPER LEFT-HAND CORNER OF THE WAVEFORM DISPLAY. (D)
Start Scan / Stop Scan (14)	**START / STOP SCAN** CLICK TO START OR STOP A SCAN. BUTTON FUNCTION CHANGES ONCE THE SCAN IS STARTED/STOPPED.
Average / Std Dev (15)	**MEASUREMENT AVERAGE AND STANDARD DEVIATION** THIS AREA SHOWS THE CALCULATED AVERAGE AND STANDARD DEVIATION OF THE ENTRIES IN THE MEASUREMENT BANK.
★★★ Contact (16)	**INDIVIDUAL MEASUREMENT** THIS AREA DISPLAYS AN INDIVIDUAL MEASUREMENT. THE MEASUREMENT IS HIGHLIGHTED (BLUE HIGHLIGHT) IN THE MEASUREMENT BANK.THE WAVEFORM FOR THIS MEASUREMENT IS SHOWN IN THE WAVEFORM DISPLAY.

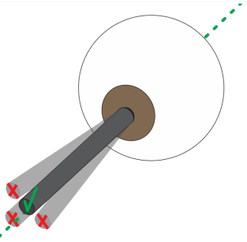
ITEM	FUNCTION
(17)	**MEASUREMENT BANK** THE MEASUREMENT BANK IS UPDATED AS MEASURMENTS ARE ACHIEVED THAT MEET ACCEPTANCE CRITERIA. *(SEE REVERSE FOR MORE INFORMATION)*
(18)	**REWIND VIDEO** RETURNS TO THE START OF THE WAVEFORM VIDEO. THIS WILL CLEAR THE MEASUREMENT BANK.
(19)	**PLAY VIDEO** PLAYS THE VIDEO OF ACQUIRED WAVEFORM FRAMES. IF THE BANK HAS BEEN CLEARED, IT WILL BE POPULATED WITH MEASUREMENT VALUES BASED UPON THE CURRENT ACCEPTANCE CRITERIA.
(20)	**VIDEO SLIDER** CLICK-AND-HOLD THE LEFT MOUSE BUTTON TO SCROLL THROUGH VIDEO FRAMES. THE CURRENT FRAME NUMBER IS DISPLAYED IN THE LOWER RIGHT-HAND CORNER OF THE WAVEFORM DISPLAY. AFTER THE SLIDER IS CLICKED, THE ← AND → KEYBOARD KEYS CAN ALSO BE USED TO MOVE ONE (1) FRAME AT A TIME.
Auto Measure / Manual Mode (21)	**AUTO / MANUAL MEASUREMENT MODE SELECTION** - IN **AUTO MEASUREMENT MODE**, QUALIFYING WAVEFORMS ARE USED TO CALCULATE A MEASUREMENT. FROM THESE MEASUREMENTS, THOSE MEETING ACCEPTANCE CRITERIA ARE PUT INTO THE MEASUREMENT BANK. THE SCAN WILL AUTOMATICALLY STOP WHEN EIGHT (8) 3-STAR MEASUREMENTS ARE ACHIEVED THAT MEET STANDARD DEVIATION REQUIREMENTS. - IN **MANUAL MEASUREMENT MODE,** THE SCAN CONTINUES UNTIL STOPPED BY THE OPERATOR OR THE VIDEO BUFFER IS FULL (1024 FRAMES MAXIMUM). THE OPERATOR SELECTS WHICH INDIVIDUAL FRAMES ARE USED FOR CALCULATING THE MEASUREMENT. THE OPERATOR MAY ALSO CHANGE THE MEASUREMENT POINTS ALONG THE WAVEFORM (THUS CHANGING HOW THE MEASUREMENT IS DETERMINED). THE RESULTING VALUES MAY THEN BE MANUALLY ENTERED INTO THE MEASUREMENT BANK. *(SEE REVERSE FOR MORE INFORMATION)*

PERFORMING A-SCANS

A-SCANS CAN BE PERFORMED IN EITHER AN **IMMERSION** OR **CONTACT** CONFIGURATION. EITHER CONFIGURATION CAN UTILIZE **AUTO MEASUREMENT MODE** OR **MANUAL MEASUREMENT MODE**. AUTO MEASUREMENT MODE IS SUGGESTED FOR SCANNING, AS THIS MODE MAKES USE OF ALIGNMENT DETECTION FEATURES OF THE DEVICE. (IF DESIRED, SCANS PERFORMED IN AUTO MEASUREMENT MODE CAN BE REVIEWED IN MANUAL MODE ONCE THE SCAN IS COMPLETE.) TO INITIATE SCANS, CLICK ON THE 'START SCAN' BUTTON. SCANS MUST BE INITIATED WITH THE PROBE IN AIR (NOT IMMERSED IN WATER OR IN CONTACT WITH THE EYE).

DURING THE SCAN, AUDIBLE FEEDBACK WILL GUIDE THE OPERATOR IN MINIMIZING COMPRESSION (IF THE COMP SLIDER HAS BEEN SET) AND OBTAINING ALIGNMENT (IN AUTOMATIC MEASUREMENT MODE). ALIGNING THE PROBE AXIS TO THE AXIS OF THE EYE IS ESSENTIAL FOR OBTAINING ACCURATE MEASUREMENTS. ALIGNMENT DETECTION TONES ASSIST THE USER IN ACHIEVING PROPER ALIGNMENT WHILE SCANNING.

COMPRESSION OF THE EYE MUST ALSO BE MINIMIZED TO ENSURE THAT MEASUREMENTS ARE NOT SHORTENED. COMPRESSION LOCKOUT CAN BE ENABLED AND ADJUSTED BY THE USER. THIS IS ALSO INDICATED USING AUDIBLE FEEDBACK.

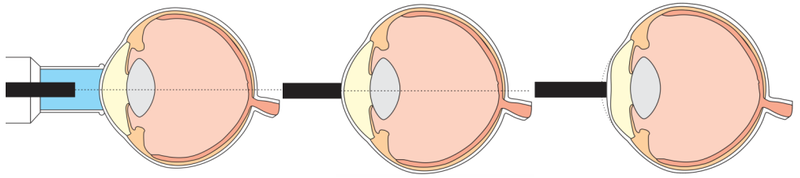


ONCE THE PROBE TIP IS CENTERED ON THE CORNEA, BRINGING THE PROBE INTO ALIGNMENT TYPICALLY ONLY REQUIRES A SLIGHT SHIFT TO THE PROBE ANGLE.

IMMERSION VS CONTACT

IMMERSION MODE MEASUREMENT OFFERS SEVERAL ADVANTAGES OVER CONTACT MODE MEASUREMENT. PERFORMING IMMERSION MEASUREMENTS ALLEVIATES COMPRESSION OF THE CORNEA (WHICH COULD RESULT IN A SHORTENING OF THE AXIAL LENGTH MEASUREMENT). ALIGNING TO THE AXIS OF THE EYE IS TYPICALLY EASIER, AS THE IMMERSION SHELL PROVIDES A LARGER CONTACT AREA WITH THE EYE.

IT IS RECOMMENDED THAT THE COMPRESSION LOCKOUT FEATURE BE USED WHENEVER PERFORMING CONTACT MEASUREMENTS. HIGHER COMPRESSION SENSITIVITY SETTINGS ARE PREFERABLE TO LOW SETTINGS, AS HIGH SETTINGS WILL REJECT A GREATER AMOUNT OF COMPRESSION. A BASELINE COMPRESSION SENSITIVITY SETTING OF 60 TYPICALLY PROVIDES A GOOD STARTING VALUE, WHICH CAN BE INCREASED INCREMENTALLY UNTIL A BALANCE BETWEEN EASE OF MEASUREMENT AND COMPRESSION LOCKOUT IS ACHIEVED.



IMMERSION MEASUREMENT *CONTACT MEASUREMENT* *COMPRESSION OF THE CORNEA DURING CONTACT MEASUREMENT.*

WARNING: MOVEMENT OF THE PROBE TIP/IMMERSION SHELL ACROSS THE SURFACE OF THE EYE MUST BE MINIMIZED (AS THIS MAY SCRATCH THE EYE). IF IT IS NECESSARY TO CHANGE THE CONTACT POINT, DISENGAGE CONTACT, REORIENT, AND GENTLY RE-APPLY.

AUDIBLE FEEDBACK

AUDIBLE FEEDBACK ALLOWS THE USER TO FOCUS ON THE PROCEDURE WHILE RESPONDING TO ALIGNMENT AND COMPRESSION PROMPTS.

AUDIBLE FEEDBACK BEGINS WHEN ACCOUSTIC COUPLING IS ACHIEVED WITH THE EYE. A BEEP RATE OF ONCE PER SECOND INDICATES THAT ACCOUSTIC COUPLING HAS BEEN ACHIEVED. THE TABLE BELOW EXPLAINS THE VARIOUS AUDIBLE FEEDBACK PROMPTS INDICATING ALIGNMENT STATUS OR COMPRESSION LOCKOUT.

TONE PITCH	TONE SPEED
LOW TONE (ONLY IN CONTACT MODE): COMPRESSION UNACCEPTABLE. (SEE CONTACT COMPRESSION LOCKOUT BELOW)	**SLOW → FAST** AS THE PROBE COMES CLOSER TO ACHIEVING ALIGNMENT, SPEED OF TONE INCREASES.
MID TONE: COMPRESSION ACCEPTABLE, HOWEVER ALIGNMENT NOT ACHIEVED.	
HIGH TONE: COMPRESSION ACCEPTABLE. ONE MEASUREMENT ENTERED INTO THE MEASUREMENT BANK.	
DOUBLE HIGH TONES (ONLY IN AUTO MEASUREMENT MODE): MEASUREMENT BANK FILLED WITH EIGHT (8) ACCEPTABLE ENTRIES FALLING WITHIN STANDARD DEVIATION REQUIREMENTS. THE SCAN HAS AUTOMATICALLY STOPPED.	

CONTACT COMPRESSION LOCKOUT

ALL CONTACT MEASUREMENTS ARE CHECKED FOR COMPRESSION. IF COMPRESSION LOCKOUT IS ENABLED (ANY VALUE GREATER THAN 0), MEASUREMENTS SHOWING UNACCEPTABLY HIGH LEVELS OF COMPRESSION ARE DISCARDED. (IMMERSION MODE ALLEVIATES CORNEAL COMPRESSION AND DOES NOT UTILIZE COMPRESSION LOCKOUT.)

COMPRESSION LOCKOUT SENSITIVITY IS ADJUSTED BY MOVING THE 'COMP' SLIDER. HIGHER VALUES WILL ALLOW LESS COMPRESSION (MAKING MEASUREMENTS MORE ACCURATE); HOWEVER, ACHIEVING MEASUREMENTS WILL BE MORE DIFFICULT.

WHEN PERFORMING A SCAN, IF A LOW TONE IS PRODUCED, IT IS INDICATING THAT A MEASUREMENT WAS REJECTED DUE TO COMPRESSION LOCK OUT. IT IS RECOMMENDED THAT COMPRESSION LOCKOUT BE USED ANY TIME MEASUREMENTS ARE TAKEN IN CONTACT MODE. REFER TO SECTION 14.8 OF THE OPERATOR'S MANUAL FOR MORE INFORMATION.

OPEN/SAVE A-SCAN VIDEOS AND MEASUREMENTS

TO RECALL A PATIENT'S PREVIOUS SCANS OR TO SAVE A NEW SCAN, THE PATIENT MUST BE LOADED FROM THE PATIENT DATABASE PAGE. REFER TO SECTION 13 OF THE OPERATOR'S MANUAL FOR INFORMATION ON THE PATIENT DATABASE.

WITH THE DESIRED PATIENT LOADED, SELECT **FILE → OPEN**. A DIALOG BOX SHOWING DATES AND TIMES OF SAVED MEASUREMENTS, VIDEOS AND REPORTS (FOR THE CURRENTLY LOADED PATIENT) WILL OPEN. DOUBLE LEFT CLICK THE DESIRED RECORD TO LOAD IT IN THE A-SCAN SCREEN. THE OPEN FILE BUTTON (LOCATED IN THE TOP RIGHT CORNER OF THE A-SCAN SCREEN) WILL ALSO OPEN THE DIALOG BOX.

WITH THE PATIENT LOADED, SELECT **FILE → SAVE** TO CHOOSE THE DESIRED SAVING OPTION. **A-SCAN MEASUREMENTS** SAVES ENTRIES IN THE MEASUREMENT BANK AND WAVEFORM STILL FRAMES FOR BOTH EYES OF THE PATIENT. THE SAVE MEAS BUTTON (LOCATED IN THE UPPER- RIGHT HAND CORNER OF THE A-SCAN SCREEN) PERFORMS THE SAME FUNCTION. **A-SCAN VIDEO** SAVES A LIVE VIDEO OF ALL WAVEFORM FRAMES FOR THE CURRENT EYE OF THE LOADED PATIENT. REFER TO SECTION 14 OF THE OPERATOR'S MANUAL FOR INFORMATION ON REVIEWING WAVEFORM VIDEOS.

AUTO MEASUREMENT MODE

IN AUTO MEASUREMENT MODE, MEASUREMENTS ARE AUTOMATICALLY ACQUIRED DURING THE SCAN. MEASUREMENT VALUES ARE DISPLAYED IN THE UPPER RIGHT-HAND CORNER OF THE WAVEFORM DISPLAY. THE DEVICE WILL CONTINUE MEASURING UNTIL THE STANDARD DEVIATION OF THE EIGHT (8) ENTRIES IN THE MEASUREMENT BANK ARE WITHIN THE STANDARD DEVIATION THRESHOLD. ONCE THIS IS ACHIEVED, THE SCAN WILL AUTOMATICALLY STOP. ONCE A SCAN IS COMPLETE, THE WAVEFORM MAY BE ANALYZED IN MANUAL MEASUREMENT MODE IF DESIRED.

AUTO MEASUREMENT MODE – STANDARD DEVIATION SETTINGS

STANDARD DEVIATION THRESHOLDS CAN BE ADJUSTED IN THE **PREFERENCES → DOCTOR PREFERENCES** MENU.

AUTO MEASUREMENT MODE – ALIGNMENT RANKING SYSTEM

1-STAR, 2-STAR AND 3-STAR RANK

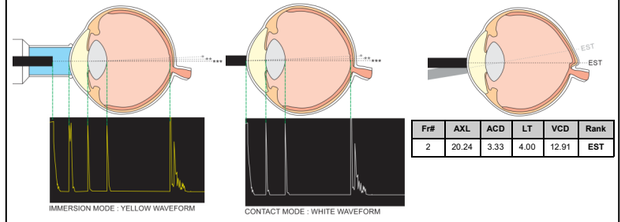
ONCE A MEASUREMENT IS ACHIEVED, IT IS RANKED. THE RANK INDICATES THE DEGREE OF AXIAL ALIGNMENT THAT WAS ACHIEVED. MEASUREMENTS ARE GIVEN A 1-STAR, 2-STAR OR 3-STAR RANK (A 3-STAR RANK IS THE BEST ALIGNMENT RANKING).

ESTIMATE RANK

THE DEVICE WILL ENTER "ESTIMATE MODE" IF IT IS UNABLE TO DETECT ALIGNMENT IN THE ALLOCATED TIME. WHILE IN ESTIMATE MODE, WAVEFORM QUALIFYING CRITERIA IS DISABLED.

ENTERING ESTIMATE MODE MAY BE AN INDICATION OF IMPROPER ALIGNMENT ALONG THE AXIS. IF THIS IS SUSPECTED, THE MEASUREMENT SHOULD BE ABORTED AND REATTEMPTED. ENTERING ESTIMATE MODE MAY ALSO BE AN INDICATION OF A PATHOLOGY AFFECTING THE SHAPE OF THE EYE.

MEASUREMENTS OBTAINED IN ESTIMATE MODE ARE NOTATED WITH AN **EST** RANK.



Fr#	AXL	ACD	LT	VCD	Rank
2	20.24	3.33	4.00	12.91	**EST**

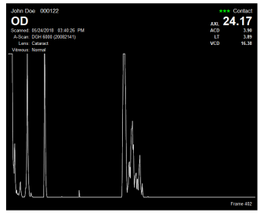
WARNING: MEASUREMENTS WITH EST-RANKINGS DO NOT MEET ALIGNMENT CRITERIA. THEREFORE, EST-RANKED MEASUREMENTS MAY BE INCORRECT DUE TO IMPROPER PROBE ALIGNMENT OR THE PRESENCE OF PATHOLOGY. EST-RANKED MEASUREMENTS MUST NOT BE USED UNLESS REVIEWED AND ACCEPTED BY AN INDIVIDUAL QUALIFIED TO INTERPRET A-SCAN WAVEFORMS.

ACHIEVING STAR-RANKED MEASUREMENTS SHOULD BE THE OBJECTIVE. STAR-RANKED MEASUREMENTS SHOULD BE GIVEN PREFERENCE OVER EST-RANKED MEASUREMENTS.

MEASUREMENT BANK

THE MEASUREMENT BANK CONTAINS A LIST OF UP TO EIGHT (8) MEASUREMENTS THAT ARE USED TO CALCULATE A MEASUREMENT AVERGE. IN AUTOMATIC MEASUREMENT MODE, ENTRIES ARE PLACED IN THE BANK AUTOMATICALLY WHEN THEY MEET ACCEPTANCE CRITERIA. IN MANUAL MEASUREMENT MODE, ENTIRES ARE ACCEPTED BY THE OPERATOR AND MANUALLY PLACED IN THE BANK.

Fr#	AXL	ACD	LT	VCD	Rank
401	24.16	3.87	3.90	16.39	***
402	24.17	3.90	3.89	16.38	***
403	24.17	3.90	3.89	16.38	***



REVIEWING MEASUREMENTS IN THE BANK

ONCE THE SCAN HAS BEEN STOPPED, THE MEASUREMENTS IN THE BANK CAN BE REVIEWED. LEFT-CLICKING ON AN ENTRY WILL HIGHLIGHT IT (BLUE) AND DISPLAY THE WAVEFORM FRAME WITH ITS ASSOCIATED MEASUREMENTS.

TO DELETE A MEASUREMENT FROM THE BANK

SELECT MANUAL MODE, RIGHT-CLICK ON THE DESIRED MEASUREMENT AND SELECT 'REMOVE MEASUREMENT'. THIS WILL REMOVE THE ENTRY FROM THE BANK. THE AXL, ACD, LT AND VCD AVERAGES AND STANDARD DEVIATIONS WILL BE UPDATED AUTOMATICALLY.

TO ADD A MEASUREMENT TO THE BANK

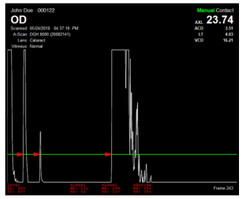
THERE MUST BE SPACE AVAILABLE IN THE BANK. SELECT MANUAL MODE, USE THE VIDEO SLIDER TO DISPLAY THE DESIRED WAVEFORM FRAME. RIGHT-CLICK ON THE BANK AND SELECT 'INSERT MEASUREMENT'. THE AXL, ACD, LT AND VCD AVERAGES AND STANDARD DEVIATIONS WILL BE UPDATED AUTOMATICALLY.

ENTRIES ADDED BY THE OPERATOR ARE GIVEN A **MAN** RANK.

Fr#	AXL	ACD	LT	VCD	Rank
10	24.24	3.37	4.10	16.77	**MAN**

MANUAL MEASUREMENT MODE

IN MANUAL MEASUREMENT MODE, THE SCAN CONTINUES UNTIL STOPPED BY THE OPERATOR OR THE VIDEO BUFFER IS FULL (1024 FRAMES MAXIMUM). THE OPERATOR SELECTS WHICH INDIVIDUAL FRAMES ARE USED FOR CALCULATING THE MEASUREMENT. THE OPERATOR MAY ALSO CHANGE THE MEASUREMENT POINTS ALONG THE WAVEFORM (THUS CHANGING HOW THE MEASUREMENT IS DETERMINED).



WHEN IN MANUAL MEASUREMENT MODE, A GREEN LINE WITH RED CURSORS WILL BE DISPLAYED OVER THE WAVEFORM. GAIN CONTROLS ARE ALSO ENABLED. THE MEASUREMENT LEVEL (HORIZONTAL GREEN LINE) AND MEASUREMENT POINTS (RED ARROWS) CAN BE ADJUSTED IN MANUAL MODE. CLICK-AND-HOLD THE LEFT MOUSE BUTTON TO SLIDE THE LINE UP/DOWN OR THE ARROWS LEFT/RIGHT .

MOVING THE MEASUREMENT LEVEL OR ARROWS WILL CHANGE THE MEASUREMENT VALUES (WHICH ARE DISPLAYED IN THE UPPER RIGHT-HAND CORNER OF THE WAVEFORM DISPLAY). RESULTING VALUES MAY THEN BE MANUALLY ENTERED INTO THE MEASUREMENT BANK BY RIGHT CLICKING AND SELECTING 'INSERT MEASUREMENT'.

SEE THE 'MEASUREMENT BANK' SECTION BELOW FOR INFORMATION ON ADDING AND REMOVING MEASUREMENTS.

REFER TO SECTION 14.6 OF THE USER MANUAL FOR MORE INFORMATION ON MANUAL MEASUREMENT MODE.

WAVEFORM REVIEW

ONCE THE SCAN HAS BEEN STOPPED, THE WAVEFORM VIDEO CAN BE REPLAYED OR SCROLLED THROUGH FRAME BY FRAME. LEFT-CLICK THE SLIDER AND DRAG IT TO SCROLL THROUGH VIDEO FRAMES OR PRESS THE ← AND → KEYBOARD KEYS TO MOVE ONE (1) FRAME AT A TIME.

- IF THE WAVEFORM FRAME HAS REGISTERED MEASUREMENTS, THE VALUES ARE SHOWN IN THE UPPER RIGHT-HAND CORNER OF THE WAVEFORM DISPLAY.

- IF THE WAVEFORM FRAME HAS NOT REGISTERED MEASUREMENTS (BECAUSE IT LACKS THE APPROPRIATE WAVEFORM FEATURES), THE UPPER RIGHT-HAND CORNER OF THE WAVEFORM DISPLAY WILL BE EMPTY .

THE COMPRESSION LOCKOUT SETTING MAY BE CHANGED DURING WAVEFORM REVIEW TO SEE THE IMPACT ON MEASUREMENTS. THIS MAY BE DONE WHILE PLAYING THE VIDEO OR ON INDIVIDUAL FRAMES. REFER TO SECTION 14 OF THE OPERATOR'S MANUAL FOR MORE INFORMATION.

SCANS PERFORMED IN AUTOMATIC MEASUREMENT MODE MAY BE REPLAYED IN MANUAL MEASUREMENT MODE. LIKEWISE, SCANS PERFORMED IN MANUAL MEASUREMENT MODE MAY BE REPLAYED IN AUTOMATIC MEASUREMENT MODE.