Vezi Anexa 79

SPECIFIAȚIE TEHNICĂ COMPLETATĂ

Model: LOGIQ P9; Producator: GE Ultrasound Kore, GE Medical Systems,

Tara: Korea si France

Specificarea tehnică deplină solicitată de către autoritatea contractantă	Specificarea tehnică deplină propusă de către autoritatea ofertantă
Ultrasonograf General, Cardiac, performanţă înaltă	Ultrasonograf General, Cardiac, performanţă înaltă **DA**
Cod 300100	Cod 300100
APLICAŢII CLINICE General, cardiac	APLICAŢII CLINICE General, Cardiac, **OB, Ginecologice ,vasculare si altele Ref. LOGIQ P9 Product de sciption**
PROBE PORTURI ≥5, cel putin 4 active	PROBE PORTURI ≥5, 4 porturi active (**sonde multefregventiale**) **+ 1 CWD pentru pencel probe.**
PROBE TIP, MHz	PROBE TIP, MHz
Linear 4 - 13 MHz	Linear **4 - 15 MHz**
numar de elemente ≥192	numar de elemente - 1000 **Model: ML6-15-RS Ref. LOGIQ P9 R4 Product Spec Sheet pag. 24-25**
Convex 1.5 -5,5 MHz	Convex 1-6MHz
"numar de elemente ≥192	"numar de elemente - 192
Tehnologie Syngle Crystal (mono-cristal)"	Tehnologie Syngle Crystal (mono-cristal)" **Model: C1-6-D Ref. LOGIQ P9 R4 Product Spec Sheet pag. 23**
Phased/Vector 1,5-5 MHz	Phased/Vector **1-6 MHz**
numar de elemente ≥80, Tehnologie Syngle Crystal (mono-cristal)	numar de elemente -64, **Model: C1-6-D Ref. LOGIQ P9 R4 Product Spec Sheet pag. 28**
Tehnologie de conectare probe fara pini (pinless)	Tehnologie de conectare probe fara pini (pinless) **DA la fel este prezenta si tehnologia cu pini (3pourti RS +1 Port D) folosita pentru sonde matricide convexe.**
NIVELE DE GRI ≥ 256	NIVELE DE GRI 256 **DA**
GAMA DINAMICA ≥ 260dB	GAMA DINAMICA **400 dB Ref. LOGIQ P9 R4 Product Spec Sheet pag. 10**
Adâncimea scanării ≥ 40 cm	Adâncimea scanării maxima **48 cm LOGIQ P9 R4 Product Spec Sheet pag. 10**
PREPROCESARE, canale digitale ≥ 6.000.000	PREPROCESARE, canale digitale - **386.469,00 DA**
POSTPROCESARE da	POSTPROCESARE **DA**
IMAGINE MODURI	IMAGINE MODURI
M-mod da	M-mod **DA**
M-mod şi 2-D da	M-mod şi 2-D **DA**
Mod Anatomic si Anatomic Curbat da	Mod Anatomic si Anatomic Curbat **DA**
Harmonic imaging da	Harmonic imaging **DA**
Imagine prin Compunere Spatiala da	Imagine prin Compunere Spatiala **DA**
DOPPLER Tip CW, PW, CFM	DOPPLER Tip CW, PW, CFM **DA si TVI inclus**
Afişare frecvenţă da	Afişare frecvenţă **DA**
Afişare viteză da	Afişare viteză **DA**
Power Doppler da	Power Doppler **DA**

Digitally signed by Chicu Natalia
Date: 2022.09.15 15:46:54 EEST
Reason: MoldSign Signature
Location: Moldova

Vezi Anexa 79

Duplex da	Duplex **DA**
Triplex da	Triplex **DA**
FUNCŢIONALITĂŢI	FUNCŢIONALITĂŢI
Măsurători digitale da	Măsurători digitale **DA**
Diapazon dinamic selectabil da	Diapazon dinamic selectabil **DA**
Focalizare de transmisie ajustabilă da	Focalizare de transmisie ajustabilă **DA**
Focalizare de recepţie dinamică da	Focalizare de recepţie dinamică **DA**
Măsurători pe reluarea video da	Măsurători pe reluarea video **DA**
Măsurarea automată a intimei-media da	Măsurarea automată a intimei-media **DA**
Vizualizare în rezoluție înaltă a fluxului sangvin da	Vizualizare în rezoluție înaltă a fluxului sangvin **DA**
Analiza cantitativa TDI da	Analiza cantitativa TDI **DA Doppler Tisular inclus**
Urmărirea mișcării țesuturilor (Tissue Tracking) da	Urmărirea mișcării țesuturilor (Tissue Tracking) **DA**
PAN/ZOOM imagine în timp real da	PAN/ZOOM imagine în timp real **DA**
imagine înghețată da	imagine înghețată **DA**
STOCARE IMAGINI Capacitate ≥ 512GB SSD sau Hybrid (SSD+HDD)	STOCARE IMAGINI **Capacitate - 512GB SSD cu spatiu de stocare 345 GB**
Cine da	Cine **DA**
DICOM 3.0 COMPLIANT da	DICOM 3.0 COMPLIANT **DA**
PACHETE DE ANALIZĂ General da	PACHETE DE ANALIZĂ General **DA**
Cardiac	Cardiac **DA**
Regim panoramic avansat da	Regim panoramic avansat **DA**
Elastografie strain (de compresie manuală) da	Elastografie strain (de compresie manuală) **DA**
Elastografie sharewave (compresie acustică) da	Elastografie sharewave (compresie acustică) **DA**
Altele Să se indice	Altele Să se indice
GHID ACE Transrectal da	GHID ACE Transrectal **DA sint diponibile**
Transperineal da	Transperineal **DA sint diponibile**
MONITOR rezoluție înaltă, ≥1920 x 1080px ≥23"	MONITOR rezoluție înaltă, - **1920 x 1080px ,23.8" DA**
Unghi de vizualizare ≥175°	Unghi de vizualizare - 178° **DA**
Monitor integrat de control touch-screen ≥12"	Monitor integrat de control touch-screen 10 "**DA**
Panou de control reglabil pe înălțime manual	Panou de control reglabil pe înălțime manual **DA**
Încălzitor gel da	Încălzitor gel **DA**
Imprimantă digitala alb-negru da	Imprimantă digitala alb-negru **DA**
Port USB ≥5 da	Port USB ≥5 **DA**
DIVIZARE MONITOR da	DIVIZARE MONITOR **DA**

EC Declaration of Conformity

Following the provisions of the medical devices directive 93/42/EEC, Annex II and of the directive 2011/65/EU, directive 2012/19/EU, directive 2014/53/EU

Manufacturer:
GE Ultrasound Korea, Ltd.
9, Sunhwan-ro 214beon-gil,
Jungwon-gu, SEONGNAM-SI,
GYEONGGI-DO Republic of Korea

EU Authorized Representative:
GE MEDICAL SYSTEMS SCS
283 RUE DE LA MINIERE
78530 BUC
FRANCE

Equivalent to
65-1, Sangdaewon-dong,
Jungwon-gu, SEONGNAM-SI
GYEONGGI-DO 462-120 Republic of Korea

Additional Manufacturing site
GE MEDICAL SYSTEMS INFORMATION TECHNOLOGIES
CRITIKON DE MEXICO S.de R.L. de C.V.,
Calle Valle del Cedro 1551,
Juarez 32575 CHIHUAHUA
MEXICO

*We hereby declare under our sole responsibility that the class **IIa** product*:

LOGIQ P8, LOGIQ P9, LOGIQ P10 General Purpose Ultrasound Imaging System (ref: See Addendum)

GMDN Code: **40761**
UMDNS Code: **15976**
Classification rule (93/42/EC Annex IX): **Rule 10**

To which this declaration relates, is in conformity with the requirements of:
The medical devices directive 93/42/EEC (MDD)
The directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)
The directive 2012/19/EU on the waste electrical and electronic equipment (WEEE)
The directive 2014/53/EU on the radio equipment (RED)

This conformity is based on the following elements:

- Information included in the technical documentation ref.: **DOC1587707** /DHF ref.: **DOC1412680**, of the product to which this declaration relates.

- EC certificate: approval of full quality assurance system (Annex II of the medical devices directive 93/42/EEC) delivered by GMED (Notified Body N° **0459**) on Certificate Number **N° 7697**.

- List of harmonized standards applied for CE marking

  - **EN 60601-1:2006/A12:2014 (Edition 3.1)**
  - **EN 60601-1-2:2015**
  - **EN 60601-1-6:2010/A1:2015**
  - **EN 60601-2-37: 2008/A1:2015**
  - **EN 62304:2006/AC: 2008**
  - **EN 62366:2008 + A1:2015**
  - **EN 1041:2008**
  - **EN ISO 15223-1: 2016**

Chae-Rin, Song

Date: 28-Apr-2021

Song, Chae-Rin
Regulatory Affairs Specialist

GE Healthcare. GE Ultrasound Korea, Ltd.
9, Sunhwan-ro 214beon-gil, Jungwon-gu, SEONGNAM-SI,
GYEONGGI-DO REPUBLIC OF KOREA

ADDENDUM TO THE EC DECLARATION OF CONFORMITY dated 28-Apr-2021

Product Description	HCAT #	LOGIQ P8	LOGIQ P9	LOGIQ P10	LOGIQ P10 HD
Base Systems					
LOGIQ P8 R4	H43092LH	1	-	-	-
LOGIQ P9 R4	H43092LJ	-	1	-	-
LOGIQ P10 R4	H43092LK	-	-	1	-
LOGIQ P10 R4 HD	H43092LL	-	-	-	1
Probes					
M5Sc-RS Probe	H44901AG	-	-	1	1
C1-6-D Probe	H40472LT	-	1	1	1
C3-10-D Probe	H40482LB	-	-	1	1
C2-7-D Probe	H46422LM	1	1	1	1
10C-D Probe	H46342LA	1	1	1	1
E8C-RS	H40402LN	1	1	1	1
8C-RS	H40402LS	1	1	1	1
12L-RS Probe	H40402LY	1	1	1	1
9L-RS Probe	H40442LL	1	1	1	1
C1-5-RS Probe	H40462LA	1	1	1	1
L8-18i-RS Probe	H40462LF	1	1	1	1
ML6-15-RS Probe	H40462LM	1	1	1	1
BE9CS-RS Probe	H40482LN	1	1	1	1
12S-RS Probe	H44901AB	1	1	1	1
L3-12-RS Probe	H44901AP	1	1	1	1
6S-RS PROBE	H45021RP	1	1	1	1
3Sc-RS Probe	H45041DL	1	1	1	1
6Tc-RS Probe	H45551ZE	1	1	1	1
L3-9i-RS Probe	H46442LK	-	1	1	1
L4-12t-RS Probe	H48062AB	1	1	1	1
L6-12-RS Probe	H48062AC	1	1	1	1
E8Cs-RS Probe	H48062AF	1	1	1	1
P2D Probe	H4830JE	1	1	1	1
P6D Probe	H4830JG	1	1	1	1
Doppler P8D Probe	H46312LZ	1	1	1	1
L10-22-RS	H48312AH	-	1	1	1
RAB2-6-RS Probe	H48681WR	1	1	1	1
IC9-RS Probe	H48691PJ	1	1	1	1
RIC5-9A-RS Probe	H48701EJ	1	1	1	1
Biopsy Options					
3SP Multi-Angle Biopsy	H46222LC	1	1	1	1
M5S Biopsy Kit	H45561FC	-	-	1	1
9L Bio Guide Starter Kit	H4906BK	1	1	1	1

12L-RS Biopsy Starter Kit	H40432LC	1	1	1	1
ML6-15 Biopsy Starter Kit	H40432LJ	1	1	1	1
12L Transverse Bracket	H48392LL	1	1	1	1
Infinite 12L Biopsy Kit	H48392LT	1	1	1	1
L3-12-D Biopsy Kit	H48302AA	1	1	1	1
C1-5 Biopsy Starter Kit	H40432LE	1	1	1	1
C1-6-D Biopsy Starter Kit	H4913BB	-	1	1	1
C2-7 Biopsy Kit	H40482LK	1	1	1	1
C2-7 Biopsy Kit Stainless	H40482LL	1	1	1	1
E721 Starter Kit	E8385MJ	1	1	1	1
E8C E721 E8C-RS IC5-9H MTZ Biopsy Kit	E8333JB	1	1	1	1
E8C Reusable Biopsy Kit	H40412LN	1	1	1	1
BE9CS Biopsy Kit 742-339	H42742LH	1	1	1	1
BE9CS Biopsy Kit 742-401	H42742LJ	1	1	1	1
Reusable Biopsy Needle Guide for GE BE9C Ultrasound Probe	E8387MA	1	1	1	1
Sterile Disposable Biopsy Needle Guide kit for GE BE9C Probe	E8387M	1	1	1	1
IC9-RS Reusable Biopsy Kit	H48701MN	1	1	1	1
IC9 Biopsy Disposable Biopsy Starter Kit	H48691YW	1	1	1	1
RAB6-D Biopsy Starter Kit	H48681ML	1	1	1	1
PEC63 Biopsy Kit for RIC5-9	H46721R	1	1	1	1
RIC5-9A-RS Single Angle Disposable Biopsy Kit	H48681GF	1	1	1	1
TEE PRB Accessory					
ADULT TEE CLIP-ON BITE GUARD	H45511EE	1	1	1	1
ADULT TEE CLIP-ON BITE GUARD OPR.	H45521CB	1	1	1	1
ADULT TEE SCANHEAD PROTECTION COVER	H45521CK	1	1	1	1
ADULT TEE CONVENTIONAL BITE GUARD	H45521JH	1	1	1	1
BITE HOLE INDICATOR	H45531HS	1	1	1	1
TEE PROBES UM EN	H45531RA	1	1	1	1
TEE PROBES UM IT	H45531RD	1	1	1	1
TEE PROBES UM ES	H45531RE	1	1	1	1
TEE PROBES UM PT-PT	H45531RF	1	1	1	1
TEE PROBES UM JA	H45531RG	1	1	1	1

TEE PROBES UM SV	H45531RJ	1	1	1	1
TEE PROBES UM NO	H45531RK	1	1	1	1
TEE PROBES UM DA	H45531RL	1	1	1	1
TEE PROBES UM PL	H45531RM	1	1	1	1
TEE PROBES UM FI	H45531RN	1	1	1	1
TEE PROBES UM EL	H45531RP	1	1	1	1
TEE PROBES UM RU	H45531RQ	1	1	1	1
TEE PROBES UM NL	H45531RR	1	1	1	1
TEE PROBES UM HU	H45531PL	1	1	1	1
TEE PROBES UM SK	H45531PM	1	1	1	1
TEE PROBES UM RO	H45531PN	1	1	1	1
TEE PROBES UM CZ	H45531PP	1	1	1	1
TEE PROBES UM LV	H45531PQ	1	1	1	1
TEE PROBES UM LT	H45531PR	1	1	1	1
TEE PROBES UM TR	H45531PS	1	1	1	1
TEE PROBES UM ET	H45531PT	1	1	1	1
TEE PROBES UM KO	H45531PW	1	1	1	1
TEE PROBES UM SR	H45531ZQ	1	1	1	1
TEE PROBES UM BG	H45531ZR	1	1	1	1
TEE PROBES UM HR	H45531RH	1	1	1	1
TEE PROBES UM ID	H45531CG	1	1	1	1
TEE PROBES UM Port EU	H45531AN	1	1	1	1
TEE PROBES UM Ukrainian	H45531PL	1	1	1	1
TEE PROBES UM SL	H45531PT	1	1	1	1
TEE CLEANING SYSTEM	H45551NK	1	1	1	1
TEE STORAGE RACK	H45551NM	1	1	1	1
Software options					
LP7 and LP9 Advanced 3D	H42782LK	1	1	1	1
LP7 and LP9 Auto IMT	H42782LL	1	1	1	1
LP7 and LP9 DICOM	H42782LR	1	1	1	1
LP7 and LP9 Elastography	H42782LS	1	1	1	1
LP7 and LP9 Elastography Quantification	H42782LT	1	1	1	1
LP7 and LP9 Flow Quantification	H42782LW	1	1	1	1
LP7 and LP9 LOGIQView	H42782LY	1	1	1	1
LP7 and LP9 Report Writer	H42782LZ	1	1	1	1
LP7 and LP9 Scan Assistant	H42792LA	1	1	1	1
LP7 and LP9 Stress Echo	H42792LB	1	1	1	1
LP7 and LP9 Tissue Velocity Imaging TVI	H42792LC	1	1	1	1

LP7 and LP9 B Steer+	H42792LD	1	1	1	1
LP7 and LP9 4D TUI Software	H42792LF	1	1	1	1
LP7 and LP9 VOCAL Software	H42792LG	1	1	1	1
LP7 and LP9 VCI Static Software	H42792LH	1	1	1	1
LP7 and LP9 Auto EF	H42792LJ	1	1	1	1
LP7 and LP9 Meas Assist Breast	H42792LK	1	1	1	1
LP7 and LP9 Meas Assist OB	H42792LL	1	1	1	1
LP7 and LP9 Breast Prod	H42792LM	1	1	1	1
LP7 and LP9 Compare Assistant	H42792LN	1	1	1	1
LP7 and LP9 Thyroid Prod	H42792LP	1	1	1	1
LP7 and LP9 SWDVR	H42792LR	1	1	1	1
SWDVR Basic	H42922LY	1	1	1	1
LP7-P9 R2 Cardiac Strain	H42822LY	1	1	1	1
LP7-P9 STIC	H42822LZ	1	1	1	1
LP7-P9 Omniview	H42832LA	1	1	1	1
LP7-P9 R3 HD B-Flow	H42892LR	1	1	1	1
LP7-P9 R3 CEUS	H42892LS	1	1	1	1
LP7-P9 R3 HRes CEUS	H42892LT	1	1	1	1
LP7-P9 R3 HDLive	H42892LW	1	1	1	1
LP7-P9 R3 ShearWave	H42892LY	1	1	1	1
LOGIQ P Apps without Dongle	H42922LM	1	1	1	1
KOIOS SW for LOGIQ P8 P9 P10 R4	H43122LW	1	1	1	1
LOGIQ E10 KOIOS Install	H4919KI	1	1	1	1
UGAP	H43122LK	1	1	1	1
SonoNT SonoIT	H43122LL	1	1	1	1
Sono AVC for Renal	H43122LR	1	1	1	1
Hepatic Assistant	H43132LR	1	1	1	1
Hardware options					
Pencil Probe CW HW Kit for LOGIQ P8 P9 P10 R4	H43132LM	1	1	1	1
LP7 and LP9 4D Kit	H42802LD	1	1	1	1
LP7-P9 R2 Battery option	H42832LG	1	1	1	1
LP7-P9 UVC S300	H42832LJ	1	1	1	1
LP7-P9 UVC S300 Japan	H42832LK	1	1	1	1
LOGIQ P Apps	H42892LZ	1	1	1	1
LP7-P9 R3 ext battery	H42902LM	1	1	1	1

LP7-P9 R3 R3 ODD Option	H42912LE	1	1	1	1
Pwr supply noise filter	H46162LH	1	1	1	1
LP7 P9 CW HW Kit	H46432LN	1	1	1	1
USB FOOTSWITCH 3 BUTTON	H46732LF	1	1	1	1
ISOLATION TRANSFORMER	H48671WN	1	1	1	1
USB barcode reader	H43132LZ	1	1	1	1
Ethernet Protection Cable	H43272LJ	1	1	1	1
ECG options					
ECG Module Option Kit for LOGIQ P8 P9 P10 R4	H43122LZ	1	1	1	1
ECG CABLE - AHA STYLE	H4910EC	1	1	1	1
ECG CABLES IEC STYLE	H4911JC	1	1	1	1
ME Option					
LP7 AND LP9 PAPER TRAY	H42802LE	1	1	1	1
LP7 AND LP9 OPIO TRAY	H42802LG	1	1	1	1
LP7-P9 R3 Rear handle	H42902LC	1	1	1	1
LP7-P9 R3 Cable Hook rear	H42902LD	1	1	1	1
LP7-P9 R3 Gel Warmer	H42902LE	1	1	1	1
LP7-P9 R3 High Cabinet	H42902LG	1	1	1	1
LP7-P9 R3 Drawer	H42902LH	1	1	1	1
LP7-P9 R3 Low Cabinet	H42902LJ	1	1	1	1
LP7-P9 R3 Multi P. holder	H42902LK	1	1	1	1
PROBE CABLE HANGER	H44412LA	1	1	1	1
LOGIQ S7 R3 Small Probe Holder	H46302LB	1	1	1	1
Peripherals					
Printers					
UP-D25MD PRINTER	H44642LW	1	1	1	1
BW Printer Installation Kit for LOGIQ P8 P9 P10 R4	H43132LN	1	1	1	1
UP-D898 BW Printer Kit	H46992LS	1	1	1	1
Wireless LAN					
LP7 P9 W. LESS LAN KIT	H42802LL	1	1	1	1
Power Cords					
Power Cord 220V EU	H46342LZ	1	1	1	1
PWR CORD DK HSP C13 RED	H46712LT	1	1	1	1
PWR CORD DK STD C13 GRY	H46692LK	1	1	1	1

Destination Sets					
LP7-P9 Destination set JAPAN	H40392LA	1	1	1	1
DESTINATION SET TAIWAN	H44512LY	1	1	1	1
DESTINATION SET UK	H46712LM	1	1	1	1
DESTINATION SET S AFRICA	H46712LN	1	1	1	1
DESTINATION SET ARGENTINA	H46712LP	1	1	1	1
DESTINATION SET ISRAEL	H46712LR	1	1	1	1
DESTINATION SET SWISS	H46712LS	1	1	1	1
DESTINATION SET US	H46712LW	1	1	1	1
DESTINATION KIT AUS_NZ	H46712LZ	1	1	1	1
DESTINATION SET CHINA	H46722LA	1	1	1	1
DESTINATION SET INDIA	H46722LB	1	1	1	1
DESTINATION SET ITALY	H46722LD	1	1	1	1
DESTINATION SET BRAZIL	H46752LW	1	1	1	1
Keyboards and Key Cap Language Kits					
AN Keyb. Greek black	H42902LR	1	1	1	1
AN Keyb. Norwegian black	H42902LS	1	1	1	1
AN Keyb. Russian black	H42902LT	1	1	1	1
AN Keyb. French black	H42902LW	1	1	1	1
AN Keyb. Swedish black	H42902LY	1	1	1	1
AN Keyb. German black	H42902LZ	1	1	1	1
AN Keyb. English black	H42912LA	1	1	1	1
Upgrade kit					
LP9 R3 to R4 SW conversion	H43092LM	-	1	-	-
Veterinary Use Only					
Vet kit	H46832LC	1	1	1	1
Vet probe caution label	H48492AW	1	1	1	1

Notes:

[1] *Catalog number identifies the device(s) in the manufacturer's catalog and is usually included on commercial documents like sales contract, order processing documents and shipping documents.*

[2] Probes and accessories may carry the CE-mark and when applicable, the Notified Body number corresponding to the EC Declaration under which the products are CE-marked by their manufacturer. GE Ultrasound Korea Ltd. has verified the mutual compatibility of the devices in combination with LOGIQ P10, LOGIQ P9, LOGIQ P8 and included relevant information to users with the LOGIQ P10, LOGIQ P9 and LOGIQ P8 instructions for use.

End of Document

TÜVRheinland®

Certificate

The Certification Body of
TÜV Rheinland LGA Products GmbH

hereby certifies that the organization

GE ULTRASOUND KOREA, Ltd.
9, Sunhwan-ro 214beon-gil, Jungwon-gu
SEONGNAM-SI, GYEONGGI-DO
Republic of Korea

has established and applies a quality management system for medical devices for the following scope:

(see attachment for scope and additional site included)

Proof has been furnished that the requirements specified in

EN ISO 13485:2016

are fulfilled. The quality management system is subject to yearly surveillance.

Effective Date:	2020-03-17
Certificate Registration No.:	SX 60146260 0001
An audit was performed. Report No.:	32090188 001
This Certificate is valid until:	2021-11-04

Certification Body

DAkkS
Deutsche
Akkreditierungsstelle
D-ZM-14169-01-02

TÜV Rheinland LGA Products GmbH
TÜVRheinland®
Zertifizierungsstelle

Date 2020-03-17

Balazs Bozsik

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg
Tel.: +49 221 806-1371 Fax: +49 221 806-3935 e-mail:cert-validity@de.tuv.com http://www.tuv.com/safety

TÜVRheinland®

TÜV Rheinland
LGA Products GmbH
Tillystraße 2, 90431 Nürnberg

Attachment to Certificate
Registration No.: SX 60146260 0001
Report No.: 32090188 001

Organization: GE ULTRASOUND KOREA, Ltd.
9, Sunhwan-ro 214beon-gil, Jungwon-gu
SEONGNAM-SI, GYEONGGI-DO
Republic of Korea

Scope:

Design and Development, Manufacture and Final Test of Ultrasound Diagnostic Devices and Systems

Site Included:
GE Ultrasound Korea, Ltd.
65-1,Sangdaewon-dong, Jungwon-gu
Seongnami-si, Gyeonggi-do
462-120 Republic of Korea

Design and Development, Manufacture and Final Test of Ultrasound Diagnostic Devices and Systems

Certification Body

DAkkS Deutsche Akkreditierungsstelle D-ZM-14169-01-02

TÜV Rheinland LGA Products GmbH Zertifizierungsstelle

Date: 2020-03-17

Balazs Bozsik

GE Healthcare

LOGIQ P9

MAKE IT EASY. MAKE IT YOUR OWN

Product description

The LOGIQ™ P9 is a workhorse for the demanding physician. Its flagship imaging engine is the foundation for finding the root of the patient's problem, even in difficult patients. Buttons on the transducer turn three-handed procedures into two-handed procedures, giving the physician more control. It all adds up to a system that's walk-up easy-to-use on day one and for the most challenging procedures.

General Specification

Dimensions and Weight	
Height	Articulating monitor arm 1,345mm~1,595mm (53.0 in ~ 62.8 in)
Width	Keyboard: 430 mm (16.9 in) Foot cover: 495 mm (19.5 in) Monitor: 545mm [23.8inch Bezel-less LCD]
Depth	Foot cover: 685 mm (27.0 in) Rear handle: 740 mm (29.1 in)
Weight (max. load)	83 kg/183 lbs
Weight (min. load)	67 kg/148 lbs

Electrical Power	
Voltage	100 – 240 Vac
Frequency	50/60 Hz

Power consumption maximum of 500 VA with peripherals

Console design

- 4 active probe ports (3 x RS and 1 x DLP)
- Integrated Solid State Drive
- Integrated DVD multi-drive (option)
- On board storage for BW printer
- Integrated speakers
- Probe holders
- Front handle
- Gel warmer (option)
- Rear handle (option)
- Probe light

User Interface

Operator Keyboard

- Ergonomic full size keyboard
- Swivel-adjustable, height-adjustable
- Digital TGC and digital A/N keyboard
- Physical A/N keyboard (option)
- 10.4" LCD touch screen

Monitor

- 23.8inch Bezel-less LCD LED backlight monitor

System Overview

Applications

- Abdominal
- Obstetrical
- Gynecological
- Breast
- Small parts
- Musculoskeletal
- Vascular
- Urological
- Pediatric & Neonatal
- Intraoperative[4]
- Cardiac
- Transcranial
- Endocavitary (transvaginal, transrectal)
- Transesophageal

Scanning Methods

- Electronic sector
- Electronic convex
- Electronic micro convex
- Electronic linear
- Real-time 4D volume sweep

Transducer Types

- Sector phased array
- Convex array
- Microconvex array
- Linear array
- Matrix array
- Single CW (pencil) probes
- Volume probes (4D)

Operating Modes

- B-Mode
- Coded Harmonic Imaging
- M-Mode
- Color Flow Mode (CFM)
- Power Doppler Imaging (PDI)
- PW Doppler with high PRF
- M-Color Flow Mode
- Anatomical M-Mode
- Curved Anatomical M-Mode
- B-Flow™/B-Flow Color (option)
- Extended Field of View (LOGIQView option)
- Coded Contrast Imaging[2] (option)
- CW Doppler Mode (option)
- TVI Mode (option)
- Strain Elastography (option)
- Shear Wave Elastography (option)
- 3D/4D Volume Modes (option)
- HD*live*™ (option)
- Offline Scanning Mode (option)
- B-Steer + (option)
- UGAP (option)

System Standard Features

- Advanced User Interface with High Resolution 10.4" wide LCD Touch Screen
- Automatic Optimization
- CrossXBeam™ Compounding
- Speckle Reduction Imaging (SRI-HD)
- Fine Angle Steering
- Coded Harmonic Imaging

Virtual Convex
Patient Information Database
Image Archive on Integrated CD/DVD (option) and SSD
Raw Data Analysis
Real-time Automatic Doppler Calculations
OB Calculations
Fetal Trending
Email to MMS
MyTrainer+
Privacy and Security
Qpath
Tricefy
Multigestational Touch Control
InSite™ Capability
IOTA (International Ovarian Tumor Analysis) LR2 worksheet[4]
Vnav Import
Doppler Assistant
MyPreset
SonoRenderLive

System Options

Auto IMT
Advanced 3D
Cable hook rear
Card reader mounting kit
Strain Elastography
Elastography Quantification[3]
DICOM (DICOM® 3.0 Connectivity)
LOGIQView
B-Flow/B-Flow Color
CF/PDI Quantification (FlowQA)
Breast Productivity Package
Thyroid Productivity Package
Measure Assist OB
AutoEF
B Steer+
Stress Echo
Tissue Velocity Imaging (TVI) with Q-Analysis
Scan Assistant
Compare Assistant
Report Writer
Cardiac Strain
STIC
OmniView
Shear Wave Elastography[4]
LOGIQ P Apps
HD*live*™
Coded Contrast (CEUS)
HRES CEUS
Koios Breast Lesion Decision Support[4]
Koios Thyroid Lesion Decision Support[4]
Hepatic Assistant[4]
Digital Expert[4]
UGAP
Software DVR Basic
Software DVR
SonoAVC
SonoNT/SonoIT
Start Assistant

Peripheral Options

Integrated options for	• Digital BW thermal printer • HDMI output available for compatible devices • S-Video output available for compatible devices • Wireless LAN card for wireless data transfer • External USB printer connection • Power Assistant (battery or extended battery option) for offline scanning

Digital color thermal printer
Foot switch with programmable functionality
Universal video converter
Barcode reader[4]
LOGIQ P Apps (Bluetooth)
Ethernet protection cable[4]

Display Modes

Live and stored display format: full size and split screen – both with “thumbnails” for still and Cine
Review image format: 4x4 and “thumbnails” for still and Cine
Simultaneous capability
B or CrossXBeam/PW
B or CrossXBeam/CFM or PDI
B/M
B/CrossXBeam
Real-time Triplex Mode (B or CrossXBeam + CFM or PDI/PW or CW (option)
Selectable Alternating Modes
B or CrossXBeam/PW
B or CrossXBeam + CFM (PDI)/PW(CW (option))
B/CW (option)
Multi-image (split/quad screen)
Live and/or frozen
B or CrossXBeam + B or CrossXBeam/CFM or PDI
Independent Cine playback
Timeline display
Independent dual B or CrossXBeam/PW display
CW

Display formats	• Top/bottom selectable format • Side/side selectable format

Virtual convex
Timeline only

Display Annotation	
Patient Name: first, last and middle	
Patient ID	
Alternate patient ID	
Age, sex and birth date	
Hospital name	
Date format: 3 types selectable	• MM/DD/YY • DD/MM/YY • YY/MM/DD
Time format: 2 types selectable	• 24 hours • 12 hours
Gestational age from	• LMP • GA • EDD • BBT
Displayed acoustic output	• TIS: Thermal Index Soft Tissue • TIC: Thermal Index Cranial (Bone) • TIB: Thermal Index Bone • MI: Mechanical Index
% of maximum power output	
Probe name	
Map names	
Probe orientation	
Depth scale marker	
Lateral scale marker	
Focal zone markers	
Image depth	
Zoom depth	
B-Mode	
Gain	
Dynamic range	
Imaging frequency	
Frame averaging	
Acoustic frame rate	
Gray map	
SRI-HD	
M-Mode	
Gain	
Dynamic range	
Time scale	
Doppler mode	
Gain	
Angle	
Sample volume depth and width	
Wall filter	
Velocity and/or frequency scale	
Spectrum inversion	
Time scale	
PRF	
Doppler frequency	
Color Flow Mode	
Line density	
Frame averaging	
Packet size	
Color scale: 3 types	• Power • Directional PDI • Symmetrical velocity imaging
Color velocity range and baseline	
Color threshold marker	
Color gain	
PDI	
Inversion	
Doppler frequency	
TGC curve	
Cine gage, image number/frame number	
Body pattern: multiple human and animal types	
Application name	
Measurement results	
Operator message	
Biopsy guide line and zone	
Heart rate	

General System Parameters

System Setup
Pre-programmable categories
User programmable preset capability
Factory default preset data
Languages: English, French, German, Spanish, Italian, Portuguese, Russian, Greek, Swedish, Danish, Dutch, Finnish, Norwegian, Japanese (message only), Chinese (message only)
OB report formats including Tokyo Univ., Osaka Univ., USA, Europe, and ASUM
User defined annotations
Body patterns
Customized comment home position
Reset

Complete User Manual Available On-Board Through Help (F1)
User manual and service manual are included on USB with each system. A printed manual is available upon request.

CINE Memory/Image Memory
776 MB of Cine memory
Selectable cine sequence for Cine review
Prospective Cine mark
Measurements/calculations and annotations on Cine playback
Scrolling timeline memory
Dual image Cine display
Quad image Cine display
Cine gauge and Cine image number display
Cine review loop
Cine review speed

Image Storage

On-board database of patient information from past exams

Storage formats:	• DICOM – compressed/ uncompressed, single/ multiframe, with/without raw data • Export JPEG, JPEG2000, WMV, MPEG 4 and AVI formats
Storage devices:	• USB memory Stick: 64 MB to 4 GB (for exporting individual images/clips) • CD-R storage: 700 MB • DVD storage: -R (4.7 GB) • Solid state drive image storage:~345GB
Compare old images with current exam	
Reload of archived data sets	

Connectivity & DICOM

Ethernet network connection
DICOM 3.0 (option)
Wireless LAN[4] (option)
Verify
Print
Store
Modality worklist
Storage commitment
Modality Performed Procedure Step (MPPS)
Media exchange
Off network/mobile storage queue
Query/retrieve

Public SR template	• Structured reporting – compatible with vascular and OB standard • Direct export DICOM SR and XML

Remote capability InSite™ ExC
DICOM directory import
LOGIQ P Apps (Option)

Physiological Input Panel (Option)

Physiological input
ECG, 2 lead
Dual R-Trigger
Pre-settable ECG R delay time
Pre-settable ECG position
Adjustable ECG gain control
Automatic heart rate display

Report Writer (Option)

On-board reporting package automates report writing
Formats various exam results into a report suitable for printing or reviewing on a standard PC
Exam result reports can include patient info, exam info, measurements, calculations, images, comments and physician diagnosis
Standard templates provided
Customizable templates
Thyroid reporting template

Scanning Parameters

Displayed imaging depth: 0 – 48 cm
Minimum depth of field: 0 – 1 cm (zoom) (probe dependent)
Maximum depth of field: 0 – 48 cm (probe dependent)
Continuous dynamic receive focus/continuous dynamic
Receive aperture
Adjustable dynamic range
Adjustable Field of View (FOV)
Image reverse: right/left
Image rotation of 0°, 90°, 180°, 270°

Digital B-Mode

Adjustable:	• Acoustic power • Gain • Dynamic range • Frame averaging • Gray scale map • Frequency • Line density • Scanning size (FOV or angle – depending on the probe, see probe specifications) • B colorization • Reject • Suppression • SRI-HD • Edge enhance

Digital M-Mode

Adjustable:	• Acoustic power • Gain • Dynamic range • Gray scale map • Frequency • Sweep speed • M colorization • M display format • Rejection

Anatomical M-Mode

M-Mode cursor adjustable at any plane
Can be activated from a Cine loop from a live or stored image
M and A capability
Available with Color Flow Mode
Curved Anatomical M-Mode

Digital Spectral Doppler Mode

Adjustable:	• Acoustic power • Gain • Dynamic range • Gray scale map • Transmit frequency • Wall filter • PW colorization • Velocity scale range • Sweep speed • Sample volume length • Angle correction • Steered linear • Spectrum inversion • Trace method • Baseline shift • Doppler auto trace • Time resolution • Compression • Trace direction • Trace sensitivity

Digital Color Flow Mode

Adjustable:	• Acoustic power • Color maps, including velocity-variance maps • Gain • Velocity scale range • Wall filter • Packet size • Line density • Spatial filter • Steering angle • Baseline shift • Frame average • Threshold • Accumulation mode • Sample volume control • Flash suppression • Quantification (option)

Digital Power Doppler Imaging

Adjustable:	• Acoustic power • Color maps including velocity-variance maps • Gain • Velocity scale range • Wall filter • Packet size • Line density • Spatial filter • Steering angle • Frame average • Threshold • Accumulation mode • Sample volume control • Flash suppression

Continuous Wave Doppler (Option)

Adjustable:	• Acoustic power • Gain • Dynamic range • Gray scale map • Transmit frequency • Wall filter • CW colorization • Velocity scale range • Sweep speed • Angle correction • Spectrum inversion • Trace method • Baseline shift • Doppler auto trace • Compression • Trace direction • Trace sensitivity

Available on 3Sc-RS, 6S-RS, 12S-RS, 6Tc-RS, P2D, P6D and P8D probes

Automatic Optimization

Optimize B-Mode image to improve contrast resolution

Selectable amount of contrast resolution improvement (low, medium, high)

Auto TGC

Auto-spectral optimize adjusts	• Baseline • Invert • PRF (on live image) • Angle correction

Coded Harmonic Imaging

Available on all 2D probes and 4D probes

B-Flow/B-Flow Color (Option)

Available on C1-5-RS, 8C-RS, L6-12-RS, 12L-RS, 9L-RS, ML6-15-RS, L8-18i-RS, L4-12t-RS, L10-22-RS, L3-9i-RS, L3-12-RS, E8CS-RS, IC9-RS, BE9CS-RS, C1-6-D, C2-7-D and 10C-D probes

Background: on/off

Sensitivity/PRI

Line density

Edge enhance

Frame average

Gray scale map

Tint map

Dynamic range

Rejection

Gain

Hybrid B-Flow	• Supported on C1-5-RS, 12L-RS, 9L-RS, ML6-15-RS, L4-12t-RS, L3-12-RS, C1-6-D, C2-7-D and 10C-D probes

	• B & B-Flow simultaneous dual display • B & B-Flow overlay display
B-Flow Color (BFC)	
B-Flow High Definition Color (HD Color)	Supported on C1-5-RS, 12L-RS, ML6-15-RS, L4-12t-RS, L3-12-RS and C1-6-D probes
Accumulation	

Coded Contrast Imaging (Option)

Available on C1-5-RS, 3Sc-RS, IC9-RS, BE9CS-RS, 9L-RS, C1-6-D and C2-7-D probes
2 contrast timers
Timed updates: 0.05 – 10 seconds
Accumulation mode, six levels
Maximum Enhance Mode
Flash
Time Intensity Curve (TIC) Analysis
Auto MI control
The LOGIQ P9 is designed for compatibility with commercially available ultrasound contrast agents. Because the availability of these agents is subject to government regulation and approval, product features intended for use with these agents may not be commercially marketed nor made available before the contrast agent is cleared for use. Contrast related product features are enabled only on systems for delivery to an authorized country or region of use

LOGIQ View (Option)

Extended Field of View imaging
Available on C1-5-RS, 8C-RS, L6-12-RS, 12L-RS, 9L-RS, ML6-15-RS, L8-18i-RS, L4-12t-RS, L10-22-RS, L3-9i-RS, L3-12-RS, E8C-RS, E8CS-RS, IC9-RS, BE9CS-RS, RIC5-9A, 6Tc-RS, RAB2-6-RS, 3SC-RS,6S-RS,12S-RS, C1-6-D, C2-7-D and 10C-D probes
For use in B-Mode
CrossXBeam is available on linear probes
Auto detection of scan direction
Pre or post-process zoom
Rotation
Auto fit on monitor
Measurements in B-Mode

3D

Allows unlimited rotation and planar translations
3D reconstruction from Cine sweep

Advanced 3D (Option)

Acquisition of color data
Automatic rendering
3D landscape technology
3D movie

Real-time 4D (Option)

Acquisition modes	· Real-time 4D · Static 3D
Visualization modes	· 3D rendering (diverse surface and intensity projection modes) · Sectional planes (three section planes perpendicular to each other) · Volume contrast imaging-static (option) · Tomographic ultrasound imaging (option)
Render mode	Surface texture, surface smooth, max-, min- and X-ray (average intensity projection), mix mode of two render modes
Curved 3 point render start	
3D movie	
Scalpel: 3D cut tool	
Display format	· Quad: A-/B-/C-Plane/3D · Dual: A-Plane/3D · Single: 3D or A- or B- or C-Plane
Automated Volume Calculation – VOCAL II (option)	
Betaview	
Auto sweep	
STIC (option)	
HD*live*™ (option)	
VCI Static (option)	
Omniview (option)	VCI OmniView

Scan Assistant (Option)

Factory programs
User defined programs
Steps include image annotations, mode transitions, basic imaging controls and measurement initiation

Shear Wave Elastography (Option)

Available on the following probes: C1-5-RS, L3-12-RS, IC9-RS, ML6-15-RS, C1-6-D and 12L-RS probes
User programmable measurement display in kPa and meters per sec
Single and dual view display

B Steer+ (Option)

Available on C1-5-RS, 8C-RS, L6-12-RS, 12L-RS, 9L-RS, ML6-15-RS, L4-12t-RS, L3-12-RS, RAB2-6-RS, C1-6-D, C2-7-D and 10C-D probes

Strain Elastography (Option)

Available on C1-5-RS, L6-12-RS, 12L-RS, ML6-15-RS, L4-12t-RS, L3-12-RS, IC9-RS, E8CS-RS, BE9CS-RS, 9L-RS and C1-6-D probes

Semi-Quantification[3]

TVI (Option)

Myocardial doppler imaging with color overlay on tissue image

Available on the sector probes

Tissue color overlay can be removed to show just the 2D image, still retaining the tissue velocity information

Curved anatomical M-Mode: free (curved) drawing of M-Mode generated from the cursor independent from the axial plane

Q-Analysis: multiple time motion trace display from selected points in the myocardium

Stress Echo (Option)

Advanced and flexible Stress Echo examination capabilities

Provides exercise and pharmacological protocol templates

8 default templates

Template editor for user configuration of existing templates or creation of new templates

Reference scan display during acquisition for stress level comparison (dual screen)

Baseline level/previous level selectable

Raw data continuous capture

Over 100 sec. available

Wall motion scoring (bulls-eye and segmental)

Smart stress: automatically set up various scanning parameters (for instance, geometry, frequency, gain, etc.) according to same projection on previous level

Compare Assistant (Option)

Allows side-by-side comparison of previous ultrasound and other modality exams during live scanning

Power Assistant (Option)

Allows moving the system without a complete system shutdown and boot-up power cycle

Extended battery for off line scanning (option) provides battery powered live scanning

Breast Productivity Package (Option)

Worksheet summary includes measurements and locations for nodule, parathyroid and lymph node

Feature assessment

BI-RADS® assessment

User editable

Thyroid Productivity Package (Option)

Worksheet summary includes measurements and locations for nodule, parathyroid and lymph node

Feature assessment

User editable

Auto EF (Option)

Allows semi-automatic measurement of the global EF (Ejection fraction)

User editable

Cardiac Strain (Cardiac AFI) (Option)

Allows assessing the left ventricle with all segments at a glance by combining three longitudinal views into one comprehensive bulls-eye view

2D strain based data moves into clinical practice

Virtual Convex

Provides a convex Field of View

Compatible with CrossXBeam

Available on all linear and sector transducers

SRI-HD

Speckle Reduction Imaging

Provides multiple levels of speckle reduction

Compatible with side-by-side DualView display

Compatible with all linear, convex and sector transducers

Compatible with B-Mode, color, contrast agent and 3D imaging

CrossXBeam

Provides 3, 5, 7 or 9 angles of spatial compounding

Live side-by-side DualView display

Compatible with:

- Color Mode
- PW
- SRI-HD
- Coded harmonic imaging
- Virtual convex

Available on C1-5-RS, 8C-RS, L6-12-RS, 12L-RS, 9L-RS, ML6-15-RS, L8-18i-RS, L4-12t-RS, L10-22-RS, L3-9i-RS, L3-12-RS, E8C-RS, E8CS-RS, BE9CS-RS, IC9-RS, RIC5-9A-RS, RAB2-6-RS, C1-6-D, C2-7-D and 10C-D probes

Controls Available While “Live”

Write zoom
B/M/CrossXBeam Mode
Gain
TGC
Dynamic range
Acoustic output
Transmission focus position
Transmission focus number
Line density control
Sweep speed for M-Mode
Number of angles for CrossXBeam
PW-Mode
Gain
Dynamic range
Acoustic output
Transmission frequency
PRF
Wall filter
Spectral averaging
Sample volume gate
- Length
- Depth

Velocity scale
Color Flow Mode
CFM gain
CFM velocity range
Acoustic output
Wall echo filter
Packet size
Frame rate control
CFM spatial filter
CFM frame averaging
CFM line resolution
Frequency/velocity baseline shift

Controls Available on "Freeze" or Recall

Automatic optimization
SRI-HD
CrossXBeam – display non-compounded and compounded
image simultaneously in split screen
3D reconstruction from a stored Cine loop
B/M/CrossXBeam Mode
Gray map optimization
TGC
Colorized B and M
Frame average (loops only)
Dynamic range: Anatomical M-Mode
Max Read Zoom to 20x: baseline shift
Sweep speed
PW Mode
Gray map
Post gain
Baseline shift
Sweep speed
Invert spectral wave form
Compression
Rejection
Colorized spectrum
Display format
Doppler audio
Angle correct
Quick angle correct
Auto angle correct
Color flow
Overall gain (loops and stills)
Color map
Transparency map
Frame averaging (loops only)
Flash suppression
CFM display threshold
Spectral invert for Color/Doppler
Anatomical M-Mode on Cine loop

Measurements/Calculations

General B-Mode

Depth and distance
Circumference (ellipse/trace)
Area (ellipse/trace)
Volume (ellipsoid)
% Stenosis (area or diameter)
Angle between two lines

General M-Mode

M-Depth
Distance
Time
Slope
Heart rate

General Doppler Measurements/Calculations

Velocity
Time
A/B ratio (velocities/frequency ratio)
PS (Peak Systole)
ED (End Diastole)
PS/ED (PS/ED ratio)
ED/PS (ED/PS ratio)
AT (Acceleration Time)
ACCEL (Acceleration)
TAMAX (Time Averaged Maximum Velocity)
Volume Flow (TAMEAN and vessel area)
Heart rate
PI (Pulsatility Index)
RI (Resistivity Index)

Real-time Doppler Auto Measurements/Calculations

PS (Peak Systole)
ED (End Diastole)
MD (Minimum Diastole)
PI (Pulsatility Index)
RI (Resistivity Index)
AT (Acceleration Time)

ACC (Acceleration)
PS/ED (PS/ED ratio)
ED/PS (ED/PS ratio)
HR (Heart Rate)
TAMAX (Time Averaged Maximum Velocity)
PVAL (Peak Velocity Value)
Volume Flow (TAMEAN and vessel area)

OB Measurements/Calculations	
Gestational age by:	• GS (Gestational Sac) • CRL (Crown Rump Length) • FL (Femur Length) • BPD (Biparietal Diameter) • AC (Abdominal Circumference) • HC (Head Circumference) • APTD x TTD (Anterior/ Posterior Trunk Diameter by Transverse Trunk Diameter) • FTA (Fetal Trunk cross-sectional Area) • BD (Binocular Distance) • HL (Humerus Length) • FT (Foot Length) • OFD (Occipital Frontal Diameter) • TAD (Transverse Abdominal Diameter) • TCD (Transverse Cerebellum Diameter) • THD (Thorax Transverse Diameter) • TIB (Tibia Length) • ULNA (Ulna Length)
Estimated fetal weight (EFW) by:	• AC, BPD • AC, BPD, FL • AC, BPD, FL, HC • AC, FL • AC, FL, HC • AC, HC • BPD, APTD, TTD, FL • BPD, APTD, TTD, SL
Calculations and ratios	• FL/BPD • FL/AC • FL/HC • HC/AC • CI (Cephalic Index) • AFI (Amniotic Fluid Index) • CTAR (Cardio-Thoracic Area Ratio) • MCA PS(Middle Cerebral Artery Peak Systolic Velocity) • MCA CP(Middle Cerebral Artery Pulsatility Index Over Umbilical Artery Pulsatility Index Ratio) • MCA PI(Middle Cerebral PI) • MCA RI(Middle Cerebral RI) • UmbArt PI(Umbilical artery PI) • UmbArt RI(Umbilical artery RI) • UtArt PI(Uterine artery PI) • UtArt RI(Uterine artery RI)
Measurements/calculations by: ASUM, ASUM 2001, Berkowitz, Bertagnoli, Brenner, Campbell, CFEF, Chitty, Eik-Nes, Ericksen, Goldstein, Hadlock, Hansmann, Hellman, Hill, Hohler, Jeanty, JSUM, Kurtz, Mayden, Mercer, Merz, Moore, Nelson, Osaka University, Paris, Rempen, Robinson, Shepard, Shepard/Warsoff, Tokyo University, Tokyo/Shinozuka, Yarkoni	
Fetal graphical trending	
Growth percentiles	
Multi-gestational calculations (4)	
Fetal qualitative description (anatomical survey)	
Fetal environmental description (biophysical profile)	
Programmable OB tables	
Over 20 selectable OB calculations	
Expanded worksheets	

GYN Measurements/Calculations
Right ovary length, width, height
Left ovary length, width, height
Uterus length, width, height
Cervix length, trace
Ovarian volume
ENDO (Endometrial Thickness)
Ovarian RI
Uterine RI
Follicular measurements
Summary reports
IOTA (International Ovarian Tumor Analysis) LR2 worksheet[4]

Vascular Measurements/Calculations
SYS DCCA (Systolic Distal Common Carotid Artery)
DIAS DCCA (Diastolic Distal Common Carotid Artery)
SYS MCCA (Systolic Mid Common Carotid Artery)
DIAS MCCA (Diastolic Mid Common Carotid Artery)
SYS PCCA (Systolic Proximal Common Carotid Artery)

DIAS PCCA (Diastolic Proximal Common Carotid Artery)
SYS DICA (Systolic Distal Internal Carotid Artery)
DIAS DICA (Systolic Distal Internal Carotid Artery)
SYS MICA (Systolic Mid Internal Carotid Artery)
DIAS MICA (Diastolic Mid Internal Carotid Artery)
SYS PICA (Systolic Proximal Internal Carotid Artery)
DIAS PICA (Diastolic Proximal Internal Carotid Artery)
SYS DECA (Systolic Distal External Carotid Artery)
DIAS DECA (Diastolic Distal External Carotid Artery)
SYS PECA (Systolic Proximal External Carotid Artery)
DIAS PECA (Diastolic Proximal External Carotid Artery)
VERT (Systolic Vertebral Velocity)
SUBCLAV (Systolic Subclavian Velocity)
Automatic IMT
Summary Report

Urological Calculations
Bladder volume
Prostate volume
Left/right renal volume
Generic volume
Post-void bladder volume

Probes

LOGIQ P9
C1-5-RS, 8C-RS, E8C-RS, E8CS-RS, IC9-RS, BE9CS-RS, ML6-15-RS, L3-12-RS, L4-12t-RS, 12L-RS, L6-12-RS, 9L-RS, L10-22-RS, L8-18i-RS, 3Sc-RS, 6S-RS, 12S-RS, RAB2-6-RS, RIC5-9A-RS, P8D, P6D, P2D, L3-9i-RS,6Tc-RS, C1-6-D, C2-7-D and 10C-D probes

C1-5-RS	
Convex probe	
Applications	Abdomen (incl. Pleural), Vascular (No transcranial), OB/GYN, Urology
Biopsy guide	Multi-angle, disposable with a reusable bracket (H40432LE)

8C -RS	
Micro convex probe	
Applications	Pediatrics, Neonatal
Biopsy guide	N/A

E8C-RS	
Endocavitory micro convex probe	
Applications	OB/GYN (Transvaginal), Urology (Transrectal)
Biopsy guide	Single-angle, disposable with a disposable bracket (E8385MJ, E8333JB), single-angle, reusable bracket (H40412LN)

E8CS-RS	
Endocavitory micro convex probe	
Applications	OB/GYN (Transvaginal), Urology (Transrectal)
Biopsy guide	Single-angle, disposable with a disposable bracket (E8385MJ, E8333JB), single-angle, reusable bracket (H40412LN)

IC9-RS	
Endocavitory micro convex probe	
Applications	OB/GYN, Urology (Transvaginal, Transrectal)
Biopsy guide	Single-angle, disposable with a disposable bracket (H48691YW), single-angle, reusable bracket (H48701MN)

BE9CS-RS	
Endocavitory micro convex probe	
Applications	Urology (Transrectal)
Biopsy guide	Single-angle, disposable with a disposable bracket (E8387M, H42742LH, H42742LJ), single-angle, reusable bracket (E8387MA)

ML6-15-RS	
Matrix array linear probe	
Applications	Small Parts, Vascular Vascular (No transcranial), Pediatric, Neonatal, Musculoskeletal
Biopsy guide	Multi-angle, disposable with a reusable bracket (H40432LJ)

L3-12-RS	
Linear probe	
Applications	Abdomen (incl. Pleural), Vascular (No transcranial), Small Parts,

	Pediatric, Neonatal, Breast
Biopsy guide	Multi-Angle, disposable with a reusable bracket (H48302AA)

L4-12t-RS

Linear probe

Applications	Abdomen (incl. Pleural), Small Parts, Vascular (No transcranial), Pediatric, Neonatal, Musculoskeletal, Breast
Biopsy guide	Multi-angle, disposable with a reusable bracket (H40432LC) single-angle, disposable with a reusable bracket (H48392LT: free hand, H48392LL: transverse)

12L-RS

Linear probe

Applications	Small Parts, Vascular (No transcranial), Pediatric, Neonatal, Musculoskeletal
Biopsy guide	Multi-angle, disposable with a reusable bracket (H40432LC)

L6-12-RS

Linear probe

Applications	Abdomen (incl. Pleural), Vascular (No transcranial), Small Parts, Pediatric, Neonatal
Biopsy guide	Multi-angle, disposable with a reusable bracket (H40432LC)

9L-RS

Linear probe

Applications	Abdomen (incl. Pleural), Small Parts, Vascular (No transcranial), Pediatric
Biopsy guide	Multi-angle, disposable with a reusable bracket (H4906BK)

L10-22-RS

Linear probe

Applications	Small Parts, Musculoskeletal, Neonatal
Biopsy guide	N/A

L8-18i-RS

Linear probe

Applications	Small Parts, Vascular (No transcranial), Neonatal, Pediatrics, Intraoperative[4], Musculoskeletal, Peripheral Vascular
Biopsy guide	N/A

3Sc-RS

Phased array sector probe

Applications	Cardiac, Abdomen (incl. Pleural), Transcranial
Biopsy guide	Multi-angle, disposable with a reusable bracket (H46222LC)

6S -RS

Phased array sector probe

Applications	Cardiac, Pediatrics, Neonatal
Biopsy guide	N/A

12S -RS

Phased array sector probe

Applications	Pediatrics, Neonatal
Biopsy guide	N/A

RAB2-6-RS

Convex volume probe

Applications	Abdomen, OB/GYN, Urology
Biopsy guide	Multi-angle, disposable with reusable bracket (H48681ML)

RIC5-9A-RS

Endocavitory micro convex volume probe

Applications	OB/GYN (Transvaginal), Urology (Transrectal)
Biopsy guide	Single-angle, disposable with a disposable bracket (H48681GF), single-angle, reusable bracket (H46721R)

P8D

CW split crystal probe

Applications	Cardiac, Vascular (No transcranial)

P6D

CW split crystal probe

Applications	Cardiac, Vascular (No transcranial)

P2D	
CW split crystal probe	
Applications	Cardiac, Vascular (No transcranial)

L3-9i-RS	
Linear probe	
Applications	Small Parts, Vascular, Musculoskeletal, Intraoperative[4]
Biopsy guide	N/A

6Tc-RS	
TEE Sector (Trans-esophageal) Probe	
Applications	Cardiac (Transesophageal)
Biopsy guide	N/A

C1-6-D	
Convex probe	
Applications	Abdomen (incl. Pleural), Vascular (No transcranial), OB/GYN, Urology
Biopsy guide	Multi-angle, disposable with a reusable bracket (H4913BB)

C2-7-D	
Convex probe	
Applications	Abdomen (incl. Pleural)
Biopsy guide	Multi Angle, disposable with a reusable bracket (H40482LK), Multi Angle, reusable bracket (H404822LL)

10C-D	
Micro Convex probe	
Applications	Pediatric, Neonatal, Vascular (No transcranial)
Biopsy guide	N/A

Inputs and Outputs
HDMI out
Ethernet network (RJ45)
S-video out
Composite video out
USB (2x in front (USB 3.0), 3x in rear
AC power input

Safety Conformance

The LOGIQ P9 is:
Conforms to the following standards for safety:
Classified to ANSI/AAMI ES60601-1 2005 R1 2012 Medical Electrical Equipment, Part 1: General Requirements for Safety by a Nationally Recognized Test Lab
Certified to CSA CAN/CSA-C22.2 NO. 60601-1 :14 General requirements for safety
CE Marked to Council Directive 93/42/EEC on Medical Devices
• IEC/EN 60601-1 3.1 Edition. Medical electrical equipment – Part 1: General requirements for basic safety and essential performance
• IEC/EN 60601-1-2 Medial electrical equipment – Part 1-2: General requirements for safety Collateral Standard: Electromagnetic compatibility – requirements and tests
• IEC/EN 60601-1-6 Medical electrical equipment Part 1 -6: General requirements for basic safety and essential performance – Collateral Standard: Usability
• IEC/EN 60601-2-37 Medical electrical equipment – Part 2-37: Particular requirements for the safety of ultrasonic medical diagnostic and monitoring equipment
• IEC 61157 (Standard means for the reporting of the acoustic output of medical diagnostic ultrasonic equipment)
• IEC/EN 62366 Application of usability engineering to medical devices
• IEC/EN 62304 Software Life Cycle Processes
• IEC/EN 62359 Ultrasonic - Field characterization - Test methods for the determination of thermal and mechanical indices related to medical diagnostic ultrasonic fields
• EN ISO 15223-1: Symbols to be used with medical device labels, labelling and information to be supplied
• ISO 10993-1 Biological evaluation of medical devices – Part 1 Evaluation and testing
• ISO14971:2012(Medical devices - Application of risk management to medical devices)
• EMC Emissions Group 1, class A, Class B device requirements as per Sub clause 4.2 of CISPR 11
• WEEE (Waste Electrical and Electronic Equipment)
• ROHS according to 2011/65/EU Including national deviations
• Wireless equipment shall be certified to FCC, RED and Japan Radio Law
•Medical Device Good Manufacturing Practice Manual issued by the FDA (Food and Drug Administration, Department of Health, USA).

1. The LOGIQ P10 is a highly mobile and easy to use, performance multi-purpose color doppler imaging system, designed for Abdominal, Small Parts, Musculoskeletal, Breast, Vascular, Cardiology, Transcranial, Urology, Pediatric, Neonatal, Obstetrics Transesophageal and Gynecology applications.
2. Contrast Enhanced Ultrasound is available in the U.S. for characterization of focal liver lesions and left ventricle opacity only.
3. Elastography with semi-Quantification (Elastography Quantification) described in this material has not been cleared by the U.S. FDA and is not available for promotion or sale in the United States.
4. Available on region regulatory clearance

Imagination at work

Product may not be available in all countries and regions. Full product technical specification is available upon request. Contact a GE Healthcare Representative for more information. Please visit www.gehealthcare.com/promotional-locations

Data subject to change.

Nothing in this material should be used to diagnose or treat any disease or condition. Readers must consult a healthcare professional.

February

2021

DOC2463985

LOGIQ™ P9 XDclear™

Probe Guide

The LOGIQ P9 XDclear is a highly capable ultrasound system that provides excellent image quality and productivity through easy-to-use tools across a wide range of applications in a portable, ergonomic, budget-friendly system design.

gehealthcare.com

	Description	Applications	FOV	Bandwidth	Biopsy Guide
	Convex Array				
 C1-5-RS H40462LA	Wideband convex array probe	Abdomen, OB/GYN, Urology, Vascular	70°	1 – 6 MHz	Multi-angle, disposable with a reusable bracket (H40432LE)
 C1-6-D	Broad-spectrum convex probe	Abdominal, Obstetrics, Gynecology	70°	1 – 6 MHz	Multi-angle, disposable with a reusable bracket (H4913BB)
 C2-7-D	Broad-spectrum micro-convex biopsy probe	Abdominal	110°	1 – 6 MHz	Multi-angle, disposable with a reusable bracket (H40482LK)or a reusable stainless bracket (H40482LK)
	Micro-convex Array				
 8C-RS H40402LS	Wideband micro-convex array probe	Neonatal, Pediatrics	132°	3 – 11 MHz	No
 10C-D	Broad-spectrum micro-convex probe	Neonatal, Pediatrics, Vascular	102°	4 – 12 MHz	No
 E8C-RS H40402LN	Wideband micro-convex intra-cavitary array probe	OB/GYN, Urology, Endocavity	132°	3 – 11 MHz	Single-angle, disposable with a disposable bracket (E8385MJ, E8333JB), Single-angle, reusable bracket (H40412LN)
 E8Cs-RS H48062AF	Wideband micro-convex intra-cavitary array probe	OB/GYN, Urology, Endocavity	168°	3 – 11 MHz	Single-angle, disposable with a disposable bracket (E8385MJ, E8333JB), single-angle, reusable bracket (H40412LN)
 IC9-RS H48691PJ	Wideband micro-convex intracavity array probe	OB/GYN, Urology, Endocavity	168°	2 – 11 MHz	Single-angle, disposable with a disposable bracket (H48691YW), Single-angle, reusable bracket (H48701MN)
 BE9CS-RS H40482LN	Wideband micro-convex intra-cavitary bi-plane array probe	Urology, Transrectal	127° x 2	3 – 12 MHz	Single-angle, reusable (E8387MA), disposable (E8387M), disposable starter kit (H42742LH), disposable starter kit (H42742LJ)

	Description	Applications	FOV	Bandwidth	Biopsy Guide
	Linear Array				
 ML6-15-RS H40462LM	Wideband linear matrix array probe	Small Parts, Vascular, Neonatal, Pediatrics, Musculoskeletal	50 mm	4 – 15 MHz	Multi-angle, disposable with a reusable bracket (H40432LJ)
 L3-12-RS H44901AP	Wideband Linear Array Probe	Vascular, Small Parts, Neonatal, Pediatrics, Abdomen	51.2 mm	2 – 11 MHz	Multi-angle, disposable with a reusable bracket (H48032AA)
 L10-22-RS H48312AH	Wideband linear array probe	Small Parts, Neonatal, Musculoskeletal	13 mm	7 – 20 MHz	No
 12L-RS H40402LY	Wideband linear array probe	Small Parts, Vascular, Pediatrics, Neonatal, Musculoskeletal	38 mm	3 – 12 MHz	Multi-angle, disposable with a reusable bracket (H40432LC), transverse disposable with a reusable bracket (H48392LL), infinite angle disposable with a reusable bracket (H48392LT)
 L4-12t-RS H48062AB	Wideband linear array probe	Small Parts, Vascular, Pediatric, Neonatal, Musculoskeletal	38 mm	3 – 12 MHz	Multi-angle, disposable with a reusable bracket (H40432LC), multi-angle, disposable with a reusable bracket (H48392LL), multi-angle, disposable with a reusable bracket (H48392LT)
 9L-RS H40442LL	Wideband linear array probe	Vascular, Small Parts, Pediatrics, Abdomen	44 mm	2 – 8 MHz	Multi-angle, disposable with a reusable bracket (H4906BK)
 L6-12-RS H48062AC	Wideband linear array probe	Small Parts, Vascular, Pediatrics, Neonatal, Abdomen	38.4 mm	5 – 11 MHz	Multi-angle, disposable with a reusable bracket (H40432LC)
 L8-18i-RS H40462LF	Wideband linear array probe	Small Parts, Vascular, Pediatrics, Neonatal, Intraoperative	25 mm	4 – 15 MHz	No
 L3-9i-RS H46442LK	Wideband linear array probe	Small Parts, Vascular, Musculoskeletal, Intraoperative	38 mm	2 – 9 MHz	No

	Description	Applications	FOV	Bandwidth	Biopsy Guide
	Sector Array				
 3Sc-RS H45041DL	Wideband sector array probe	Cardiac, Abdomen, Transcranial	120°	1 – 5 MHz	Multi-angle, disposable with a reusable bracket (H46222LC)
 6S-RS H45021RP	Wideband sector array probe	Cardiac, Neonatal, Pediatric	90°	2 – 8 MHz	No
 12S-RS H44901AB	Wideband sector array probe	Pediatric, Neonatal	90°	4 – 12 MHz	No
 6Tc-RS H45551ZE	TEE probe	Cardiac	90°	2 – 8 MHz	No
	Real-time 4D				
 RAB2-6-RS H48681WR	Wideband real-time 4D probe	Abdomen, OB/GYN, Urology	66° (B), 85° (Volume scan)	1 – 5 MHz	Multi-angle, disposable with a reusable bracket (H48681ML)
 RIC5-9A-RS H48701EJ	Wideband real-time 4D intra-cavitary probe	Endocavity, OB/GYN, Urology	146° (B) 120° (Volume angle)	3 – 10 MHz	Single-angle, reusable bracket (H46721R), Single-angle, disposable (H48681GF)
	Specialty				
 P8D H46312LZ	CW split crystal pencil probe	Cardiac, Vascular	N/A	8 MHz	No
 P6D H4830JG	CW split crystal pencil probe	Cardiac, Vascular	N/A	6 MHz	No
 P2D H4830JE	CW split crystal pencil probe	Cardiac, Vascular	N/A	2 MHz	No

April 2021
DOC2545209

LOGIQ P9 R4 Product Spec Sheet (Global version)

DOC2589390 Rev1

June 24, 2021

General Specifications

Dimensions and Weight

Height	• Articulating monitor arm (standard) – Maximum: 1345 mm (53.0 inch) – Minimum: 1595 mm (62.8 inch)
Width	• Keyboard: 430 mm (16.9 inch) • Foot cover: 495 mm (19.5 inch) • Monitor: 545 mm (21.5 inch; 23.8 Bezel-less LCD)
Depth	• Foot cover: 685 mm (27.0 in) • Rear handle: 740 mm (29.1 in)
Weight (max. load)	• 83 kg/183 lbs
Weight (min. load)	• 67 kg/148 lbs

Electrical Power

Voltage: 100 – 240 Vac

Frequency: 50/60 Hz

Power consumption maximum of 500 VA with peripherals

Maximum thermal output: 700 BTU/hr

Console Design

4 active probe ports (3 x RS and 1 x DLP)

1 CW pencil probe port

Probe light

Integrated Solid State Drive (capacity: 500 GB)

Integrated DVD ± R/W multi drive (option)

On-board storage for B/W-printer

Integrated speakers

Wheels:	• Wheel diameter: 125 mm • Locking mechanism that provides rolling lock and caster swivel lock

Probe holders, removable for cleaning and washing

Gel holder with integrated gel warmer (option), removable for cleaning and washing

Integrated cable management

Easily removable air filters

Front and rear handles (option)

User Interface

Operator Keyboard

Operating keyboard adjustable in two dimensions:	• Height: 810-910 mm • Rotation: ±30°

Digital TGC and digital A/N keyboard

Backlit alphanumeric keyboard (option), 16 mm spacing

Ergonomic hard key layout

Multigestational Touch control	
Interactive back-lighting	
Integrated recording keys for remote control of up to 8 peripheral devices or DICOM® devices	
Touch Screen	
10.4'' wide LCD, high resolution, color touch screen	
Interactive dynamic software menu	
Brightness adjustment	
User-configurable layout	
Monitor	
23.8inch Bezel-less LCD LED backlight monitor	
Tilt/rotate/translate	• Tilt angle +15°/-90° • Rotate angle ±90° • Translate horizontal 660 mm • Translate vertical 150 mm
Fold-down and lock mechanism for transportation	
Brightness and contrast adjustment	
Horizontal/vertical viewing angle of ±178°	
Articulating monitor arm	

System Overview

Applications	
Abdominal	
Obstetrical	
Gynecological	
Breast	
Small Parts	
Musculoskeletal and Superficial	
Vascular	
Urological	
Endocavitary	• Transvaginal • Transrectal
Pediatric and Neonatal	
Transcranial	
Transesophageal	
Cardiac	
Intraoperative	
Scanning Methods	
Electronic sector	
Electronic convex	
Electronic micro convex	
Electronic linear	
Real-time 4D volume sweep	
Transducer Types	
Sector phased array	
Convex array	
Microconvex array	
Linear array	
Matrix array	
Single CW (pencil) probes	
Volume probes (4D)	

Operating Modes	
B-Mode	
Coded Harmonic Imaging	
M-Mode	
Color Flow Mode (CFM)	
Power Doppler Imaging (PDI) with directional map	
PW Doppler with high PRF	
M-Color Flow Mode	
Anatomical M-Mode	
Anatomical M-Color Mode	
B-Flow™/B-Flow Color Mode (option)	
Extended Field of View (LOGIQView, option)	
B Steer+ (option)	
Coded Contrast Imaging (option)	
CW Doppler Mode (option)	
Tissue Velocity Imaging (TVI) Mode (option)	
Strain Elastography (option)	
SW DVR (option)	
Shear Wave Elastography (option)	
HD*live* ™ (option)	
UGAP (option)	
3D/4D Volume Modes:	• 3D static (option) • 4D real-time (option)

System Standard Features	
SSD disk partition of 345 GB for image storage without compression	
Storage formats	• DICOM: compressed/ uncompressed, single/multi-frame, with/without raw data • Export JPEG, WMV (MPEG 4), and AVI formats
Advanced user interface with high resolution 10.4'' wide LCD touch panel	
Automatic optimization	• Auto tissue optimization • Auto spectral optimization • Auto TGC
CrossXBeam™ compounding	
Speckle Reduction Imaging (SRI-HD)	
Fine angle steer	
Coded Harmonic Imaging	
Virtual convex	
Easy 3D	
Anatomical M-Mode	
Patient information database	
Image archive on integrated CD/DVD (option) and SSD	
Easy backup to media for data security	
TruAccess, raw data processing and analysis	
Real-time automatic doppler calcs	
OB calcs	

Fetal trending
Multi gestational calcs
Hip dysplasia calcs
Gynecological calcs
Vascular calcs
Cardiac calcs
Urological calcs
Renal calcs
InSite™ ExC capability, remote service
iLinq capability, remote service
On-board electronic documentation (PDF format)
MPEGVue
Key macro
Network storage
Quick save
Quick patient entry
TIC motion tracking
My Page
My Trainer+
Email to MMS
Reset
Tricefy™
Privacy and Security
Multigestational Touch control
IOTA (International Ovarian Tumor Analysis) LR2 worksheet *Note) IOTA is not available in USA, Japan and China.*
Vnav Import
Doppler Assistant
MyPreset
SonoRenderLive
System Options
Auto IMT
AutoEF
Strain Elastography
Elastography Quantification
Advanced 3D with 3D landscape
DICOM 3.0 connectivity
LOGIQView
B-Flow/B-Flow Color
CF/PDI Quantification
Measure assist breast
Measure assist OB
Breast productivity package
Thyroid productivity package
B Steer+
Stress Echo
Tissue Velocity Imaging (TVI) with Q-Analysis
Scan assistant
Compare assistant
Cardiac Strain

Report writer	
ECG	
ECG AHA cable	
ECG IEC cable	
CW Doppler	
Q-Path	
SW DVR Basic	
SW DVR	• Storage: CD/DVD media • Storage: USB memory stick
Real-time 4D	
4D TUI	
Static 3D color	
Volume review	
VOCAL	
VCI static	
STIC	
OmniView	
Offline scanning	
Shear Wave Elastography	
HD*live*	
HRES CEUS	
LOGIQ P Apps (Software key only)	
AFI	
Coded Contrast (CEUS)	
Koios Breast Lesion Decision Support4	
UGAP	
Hepatic Assistant	
SonoAVC Renal	
SonoNT/SonoIT	
Start Assistant	
Digital Expert	
High cabinet	
Low cabinet	
Drawer	
Side tray	
Small probe adaptor	
Vertical endocavitary probe holder	
Probe cable hanger	
Cable hook rear	
Card reader mounting kit	
Paper tray	
OPIO tray	
Gel warmer	
Multipurpose holder	
Physical A/N keyboard	
Peripheral Options	
Integrated mounting kits and remote controls provided for B/W digital thermal printer	
Digital color A6 thermal printer	
Digital color A5 thermal printer	
Barcode reader (for reading needle information)	
External USB printer connection	

Wireless LAN card for wireless data transfer
LOGIQ P apps (Bluetooth)
HDMI output available for compatible devices
Foot switch, with programmable functionality, 3-pedal
Universal video converter
Power assistant (battery or extended battery option) for offline scanning
Isolation transformer
S-video
Composite output
EMI filter
Display Modes
Live and stored display format: full size and split screen – both with thumbnails. For still and CINE
Review image format: 4x4, and “thumbnails.” For still and CINE

Simultaneous capability	• B/PW • B/CFM or PDI • B/M • B + CFM/M • Real-time Triplex Mode (B + CFM or PDI/PW or CW) • B-Flow + PW • Dual B (B/B)
Selectable alternating modes	• B/M • B/PW • B + CFM/M • B + CFM (PDI)/PW (CW) • B-Flow + PW • 3D – Mode • 3D – Mode Color • B/CW • B + CFM (PDI)/CW
Multi-image split screen (quad screen)	• Live and/or frozen • B + B/CFM or PDI • PW/M

Independent CINE playback
Zoom: write/read/pan

Colorized image	• Colorized B • Colorized M • Colorized PW • Colorized CW • Colorized B-Flow

Time line display
Independent dual B/PW display
CW

Display formats:	• Top/bottom selectable format (size: 1/2:1/2; 1/3:2/3; 2/3:1/3) • Side/side selectable format (size: 1/2:1/2; 1/3:2/3; 0:1) switchable after freeze

Timeline only	
Virtual convex	
CrossXBeam	
Tissue Velocity Imaging (TVI) Mode	
Elastography and simultaneous B/Elasto	
UGAP/SWE simultaneous	
Display Annotation	
Patient name: first, last and middle name each store 27 characters. Up to 64 total characters displayed	
Patient ID: 31 characters. Up to 27 characters displayed	
2nd patient ID	
Age, sex and date of birth	
Hospital name: 23 characters	
Date format: 3 types selectable	• MM/DD/YY • DD/MM/YY • YY/MM/DD
Time format: 2 types selectable	• 24 hours • 12 hours
Gestational age from LMP/EDD/GA/BBT	
Probe name	
Map names	
Probe orientation	
Depth scale marker	
Lateral scale marker	
Focal zone markers	
Image depth	
Zoom depth	
B-Mode	• Gain • Dynamic range • Imaging frequency • Edge enhance • Frame averaging • Gray map • ATO on/off • SRI-HD • CrossXBeam
M-Mode	• Gain • Dynamic range • Time scale
Doppler Mode	• Gain • Angle • Sample volume depth and width • Wall filter • Velocity and/or frequency scale • Spectrum inversion • Time scale • PRF • Doppler frequency

Color Flow Mode	• Line density • Frame averaging • Packet size • Color scale: 3 types – Power – Directional PDI – Symmetrical velocity imaging • Color velocity range and baseline • Color threshold marker • Color gain • PDI • Color scale inversion • Color doppler frequency
TGC curve	
Acoustic frame rate	
CINE gage, image number/frame number	
DVR counter and status	
Body pattern: multiple human and animal types	
Application name	
Measurement results	
Operator message	
Displayed acoustic output	• TIS: Thermal Index Soft Tissue • TIC: Thermal Index Cranial (Bone) • TIB: Thermal Index Bone • MI: Mechanical Index
% of power output	
Biopsy guide line and/or zone	
Heart rate	

General System Parameters

System Setup

8 pre-programmable categories
User programmable preset capability
Factory default preset data
Languages: English, French, German, Spanish, Italian,
Portuguese, Russian, Greek, Swedish, Danish, Dutch,
Finnish, Norwegian, Japanese (message only), Chinese (message only)
OB report format: 5 types, Tokyo Univ., Osaka Univ., USA, Europe, and ASUM
EFBW: 10 types, Japan, USA and Europe (Tokyo Uni., Osaka Univ., Tokyo Shinozuka, JSUM, German, Shepard, Merz, Hadlock/Shepard, Williams, Brenner)
Pre-defined annotations and user programmable
User defined libraries/annotations
Body patterns
Customized comment home position

Complete User Manual Available On Board Through Help (F1)

User manual and service manual are included in eDoc USB stick with each system. A printed manual is available upon request.

CINE Memory/Image Memory

CINE memory: 776 MB	
Selectable CINE sequence for CINE review	
Prospective CINE mark	
Measurements/calculations and annotations on CINE playback	
Scrolling timeline memory	
CINE capture function	
Digital continuous CINE capture	
Dual image CINE display	
Quad image CINE display	
CINE gauge and CINE image number display	
CINE review loop	
CINE review speed: 10 steps (11, 13, 14, 17, 22, 25, 31, 100, 200, 400%)	
Image Storage	
On-board database of patient information from past exams	
Storage formats:	• DICOM: compressed/ uncompressed, single/multi-frame, with/without Raw Data
Storage formats: (cont.)	• Export JPEG, JPEG2000, WMV (MPEG 4), and AVI formats
DICOM still image storage size: ~2.1 MB	
Gray image: ~1.3 to ~3.5 MB	
Color image: ~1.8 to ~5.0 MB	
Display format: full size, 4x4 and “thumbnails”	
Storage devices:	• Internal Solid-State Drive partition of 345 GB for image storage • External USB 2.0 hard drive support for import, export, DICOM read, SaveAs and MPEGVue • USB memory stick support for SaveAs and MPEGVue (64 MB to 4 GB) • CD-R storage: 700 MB • DVD storage: -R (4.7 GB)
Conversion to formats: JPEG, AVI, WMV	
Live image and stored image side-by-side display	
Compare old images with current exam	
Reload of archived date sets	
Network storage support for import, export, DICOM read, SaveAs, MPEGVue	
Connectivity & DICOM	
Privacy and Security	• Password Policies • Provides the ability to specify password policies for user accounts • Session Management • Lock screen after minutes (configurable) • Hard Disk Encryption • Encrypts patient data archive partition • Provides whitelisting type malware protection • TPM Support for security

DICOM 3.0 (option)	• Verify • Print • Store • Modality worklist • Storage commitment • Modality Performed Procedure Step (MPPS) • Media exchange • Off network/mobile storage queue • Query/retrieve • Structured reporting • Public SR template • Structured reporting – compatible with vascular and OB standard • Direct export DICOM SR and XML • Media store of SR • InSite ExC capability
Ethernet network connection	
Wireless LAN (option)	
LOGIQ P Apps	
Physiological Input Panel	
Physiological input	
ECG, 2 lead	
Dual R trigger	
Pre-settable ECG R delay time	
Re-settable ECG position	
Adjustable ECG gain control	
Automatic heart rate display	
Scanning Parameters	
Digital P-Agile beamformer architecture	
386,469 system processing channels	
Max. frame rate up to 3229 F/s	
Displayed imaging depth: 0 – 48 cm	
Minimum Depth of Field: 0 – 1 cm (zoom, probe dependent)	
Maximum Depth of Field: 0 – 48 cm (probe dependent)	
Transmission focus: 1 – 8 focal points selectable (probe and application dependent)	
Quad beamforming	
Continuous dynamic receive focus/aperture	
Multi-frequency/wideband technology	
Frequency range: 2 – 22 MHz	
256 shades of gray	
Dynamic range > 400dB in system level (composite dynamic level)	
Adjustable dynamic range	
Adjustable Field Of View (FOV): Up to 168 degree (depending on probe)	
Image Reverse: right/left	
Image rotation: 4 steps of 0°, 90°, 180°, 270°	
Digital B-Mode	
Acoustic power output: 0 – 100%, 25 steps	
Gain: from 0 – 90 dB, 1 dB step	
Dynamic range: 36 – 96 dB, 3 dB or 6 dB steps	

Frame averaging: 8 steps
Gray scale map: 7 types
Tint map: 9 types
Frequency: up to 5 selectable (depending on probe)
Speed of sound (probe, application dependent)
Line density: 5 steps
Line density zoom: 5 steps
Thermal index: TIC, TIS, TIB
Image reverse: on/off
Focus number: 8 steps
Focus width: 3 types
Suppression: 6 steps
Edge enhance: 7 steps
Rejection: 6 steps
Steered linear: ±12°
Scanning size (FOV or angle – depending on the probe)
SRI-HD: up to 6 levels selectable
CrossXBeam: up to 9 angles selectable
Depth: 1 – 48 cm, 1 cm step, probe dependent
Digital M-Mode
Gain: -20 – 20 dB, 1 dB step
Compression: 0.5 – 2.4, 13 steps
Sweep speed: 0 – 7, 8 steps
Frame averaging
Gray scale map: 7 types
M colorization: 9 types
Frequency
Line density
Scanning size (FOV or angle – depending on probe, see probe specifications)
Rejection: 6 steps
M/PW display format: V-1/3B, V-1/2B, V-2/3B, H-1/2B, H-1/4B, timeline only
Anatomical M-Mode
M-Mode cursor adjustable at any plane
Can be activated from a CINE loop, from a live or stored image
M & A capability
Available with Color Flow Mode
Curved Anatomical M-Mode
Digital Spectral Doppler Mode

Adjustable:	• Acoustic power: 0 – 100, 25 steps • Gain: 0 – 85, 86 steps • Gray scale map: 8 types • Transmit frequency: up to 5 steps, depends on probe • Wall filter: 5.5 – 5000 Hz, 27 steps • PW colorization: 6 types • Velocity scale range: 8 steps • Sweep speed: 8 steps • Sample volume length: 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16 mm • Angle correction: ±90°, 1° step • Steered linear: 7 steps • Spectrum inversion: on/off • Trace method: 3 steps • Baseline shift: 5 to 95%, 11 steps • Doppler auto trace: 3 steps • Compression: 12 steps • Trace direction: 3 steps • Trace sensitivity: 21 steps

Digital Color Flow Mode
Baseline: 0 – 100%, 11 steps
Invert: on/off
CF/PDI focus depth: default pre-settable for 10 – 100% of ROI in depth, 6 steps
CF/PDI flash suppression: 5 steps
CF/PDI angle steer: 0, ±20°
Packet size: 8 – 24, dependent on probe and application
Line density: 5 steps
Line density zoom: 5 steps
Frame average: 7 steps
PRF: 0.1 – 23.5 kHz/20 steps
Spatial filter: 6 steps
Gain: 0 – 40 dB, 0.5 dB steps
Composite dynamic range: 174 – 270 dB, 3 dB or 6 dB steps
Wall filter: 4 steps, dependent on probe and application
Scanning size (FOV or angle): probe dependent
CF/PDI vertical size (mm) of ROI: default pre-settable
CF/PDI center depth (mm) of ROI: default pre-settable
CF/PDI frequency: up to 5, depending on probe
Color maps, including velocity-variance maps: 20 types depending on application
Transparent: 5 steps
Color threshold: 0 – 100%, 11 steps
Arbitration threshold: 15 steps pre-settable
Auto line density: on/off pre-settable
PW/CF ratio: 1, 2, 4
Accumulation: 8 steps
Quantification
Digital Power Doppler Imaging
PDI map: 16 types
CF/PDI focus depth: default pre-settable for 10 – 100% of ROI in depth, 6 steps
CF/PDI acoustic output: 0 – 100%, 10% steps

CF/PDI angle steer: 0, ±20°	
Packet size: 8 – 24, dependent on probe and application	
Spatial filter: 6 steps	
Frame average: 7 steps	
PRF: 0.1 – 23.5 kHz/20 steps	
Power threshold: 0 – 100%, 11 steps	
Arbitration threshold: 15 steps pre-settable	
Gain: 0 – 40 dB, 0.5 dB steps	
Wall filter: 4 steps depending on probe and application	
CF/PDI frequency: up to 5 steps, depending on probe	
Auto line density: on/off pre-settable	
Transparent: 5 steps	
Invert: on/off	
Accumulation: 8 steps	
Flash suppression	
PW/CW Wave Doppler	
Velocity scale:	• Max. 10.34 m/s • Min. 0.06 m/s
Gray scale map: 8 types	
Baseline: 5 – 95%, 11 steps	
SV gate: 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16 mm	
Angel correct: ± 90°, 1° step	
Spectral color: 6 types	
PW sweep speed: 8 steps	
Invert: on/off	
M/PW display format: V-1/3B, V-1/2B, V-2/3B, H-1/2B, H-1/4B, timeline only	
Duplex: on/off (PW only)	
PW/CF ratio: 1, 2, 4	
Gain: 0 – 85 dB, 1 dB steps	
Wall filter: 5.5 – 5000 Hz, 27 steps, dependent on probe and application	
PW angle steer: 0, ±10, 15, 20°	
PRF: 0.5 – 26.7 kHz with PW, 0.4 – 49.0 kHz with CW	
Sample volume depth: 30 steps default pre-settable	
CW-Mode is available on the following probes:	• 3Sc-RS • 6S-RS • 12S-RS • P2D • P8D • P6D
Steerable CW Mode includes	
Transmit frequency	
CW colorization	
Velocity scale range	
Spectrum inversion	
Trace method	
Doppler auto trace	
Trace direction	
Trace sensitivity	
Automatic Optimization	

Optimize B-Mode, B-Flow image to improve contrast resolution. Selectable amount of contrast resolution improvement (low, medium, high)

Auto TGC	
CTO	
Auto-spectral optimize adj	• Baseline • Invert • PRF (on live image) • Angle correction

Coded Harmonic Imaging

Available on all imaging probes

Line density: 5 steps

Line density zoom 5 steps

Suppression: 6 steps

Edge enhance: 7 steps

Gray scale map: 7 types

Tint map: 9 types

Gain: 0 – 90 dB, 1 dB step

Dynamic range: 36 – 96 dB, 3 dB or 6 dB steps

Rejection: 6 steps

Frequency: up to 4 steps, probe depended

B-Flow/B-Flow color (option)

Available on C1-6-D, C2-7-D, 10C-D, 9L-RS, 12L-RS, ML6-15-RS, L8-18i-RS, C1-5-RS, 8C-RS, L6-12-RS, L4-12t-RS, L10-22-RS, L3-9i-RS, E8CS-RS, BE9CS-RS, L3-12-RS, IC9-RS probes

Hybrid B-Flow: Available on C1-5-RS, 12L-RS, 9L-RS, ML6-15-RS, L4-12t-RS, L3-12-RS, C1-6-D, C2-7-D and 10C-D

B & B-Flow simultaneous dual display

B & B-Flow overlay display

B-Flow High Definition Color (HD Color): Available on C1-5-RS, 12L-RS, ML6-15-RS, L4-12t-RS, L3-12-RS and C1-6-D probes

Background: on/off

Sensitivity/PRI: 17 steps

Line density: 5 steps

Edge dnhance: 7 steps

Frame average: 8 steps

Gray scale map: 8 types

Tint map: 9 types

Dynamic range: 36 – 96 dB, 3 dB or 6 dB steps

Rejection: 6 steps

Gain: 0 – 90 dB, 1 dB step

Dual Beam: on/off pre-settable

B-Flow Color: 8 color maps and 6 directional maps

Accumulation: 8 steps

Coded Contrast Imaging (option.)

AM mode : Available on C1-6-D, C2-7-D, C1-5-RS, 9L-RS, 3Sc-RS, BE9CS-RS, IC9-RS

HRes mode : Available on C1-6-D, C2-7-D, C1-5-RS, 9L-RS, 3Sc-RS

AM mode frequency : General, Resolution and Penetration

HRes mode frequency : General

Tissue background selection: 4 steps

Display tissue image and contrast enhanced image simultaneously in split screen

2 separate contrast timers

Timed updates: 0.05 – 10 seconds

Accumulation mode: 6 steps

Max Enhancement Mode: on/off
Gray scale map: 21 types
Colorization: on/off
Time trigger scan: 0.3 & 0.5 – 10 sec, 0.5 sec step
Flash/Burst Mode
Time Intensity Curve (TIC) analysis
Auto MI control

The LOGIQ P9 is designed for compatibility with commercially available ultrasound contrast agents. Because the availability of these agents is subject to government regulation and approval, product features intended for use with these agents may not be commercially marketed nor made available before the contrast agent is cleared for use. Contrast related product features are enabled only on systems for delivery to an authorized country or region of use.

LOGIQView (option)
Extended Field of View imaging
Available on all imaging probes
For use in B-Mode
CrossXBeam is available on linear probes
Auto detection of scan direction
Pre or post-process zoom up to 10x
Rotation
Auto best fit on monitor
Measurements in B-Mode
Up to 60 cm scan length
Easy 3D (available on all imaging probes)
Colorize image
Threshold (opacity)
Render
Texture
Gray surface
Scalpel
Auto movie
Undo
Reset
Allows unlimited rotation and planar translation
3D reconstruction from CINE sweep
Advanced 3D (Available On All Imaging Probes) (option)
Acquisition of color data
Automatic rendering
3D landscape technology
3D movie
Main Mode
Real-time 4D (option)

Acquisition modes:	• Real-time 4D mode • Static 3D mode

Visualization modes:	• 3D rendering (diverse surface and intensity projection modes) • Sectional planes (3 section planes perpendicular to each other) • Volume contrast imaging-static • Tomographic ultrasound imaging
Render mode:	• Surface texture, surface smooth, max-, min- and X-ray (average intensity projection), mix mode of two render modes
Curved 3 point Render start	
3D Movie	
Scalpel: 3D Cut tool	
Display format:	• Quad: A-/B-/C-Plane/3D • -Dual: A-Plane/3D • Single: 3D or A- or B- or C-Plane
Automated Volume Calculation - VOCAL II (option)	• Betaview • Auto sweep
STIC (option)	
HDlive™ (option)	
VCI Static (option)	
Omniview (option)	VCI OmniView
Scan Assistant (option)	
Workflow enhancement tool for standardized and repetitive exams	
Include factory programs	
User-defined programs and import functionality	
Steps include image annotations, mode transitions, basic imaging controls and measurement initiation	
Compare Assistant (Option)	
Side-by-side comparison of previous ultrasound and other modality exams during live scanning	
Report Writer (option)	
On-board reporting package automates report writing	
Formats various exam results into a report suitable for printing or reviewing on a standard PC	
Exam results include patient info, exam info, measurements, calculations, images, comments and diagnosis	
Standard templates provided	
Customizable templates	
Thyroid reporting template	
Strain Elastography (option)	
Available on C1-6-D, C1-5-RS, ML6-15-RS, 9L-RS, 12L-RS, L6-12-RS, L4-12t-RS, E8CS-RS, BE9CS-RS, L3-12-RS, IC9-RS probes	
E index: 8 maximum	
E ratio: 7 maximum	
B Steer+ (option)	

Available on C1-5-RS, 8C-RS, L6-12-RS, 12L-RS, 9L-RS, ML6-15-RS, L4-12t-RS, L3-12-RS, RAB2-6-RS, C1-6-D, C2-7-D and 10C-D probes

TVI (option)
Myocardial Doppler Imaging with color overlay on tissue image
Available on all sector probes
Tissue color overlay can be removed to show just the 2D image, still retaining the tissue velocity information
Curved Anatomical M-Mode: free (curved) drawing of M-Mode generated from the cursor independent from the axial plane
Q-Analysis: Multiple time-motion trace display from selected points in the myocardium
Stress Echo (option)
Advanced and flexible stress-echo examination capabilities
Provides exercise and pharmacological protocol templates
8 default templates
Template editor for user configuration of existing templates or creating new templates
Reference scan display during acquisition for stress level comparison (dual screen)
Baseline level/previous level selectable
Raw data continuous capture (over 180 sec available)
Wall motion scoring (bulls-eye and segmental)
Smart stress: automatically set up various scanning parameters (e.g. geometry, frequency, gain, etc.) according to same projection on previous level
Shear Wave Elastography (Option)
Available on C1-5-RS, L3-12-RS, IC9-RS, ML6-15-RS, C1-6-D and 12L-RS probes
User programmable measurement display in kPa and meters per sec.
Measurement range in m/s (Min. – Max.) : 0-10 m/s
Measurement range in kPa (Min. – Max.) : 0-300 kPa
Single and dual view display
Auto EF (Option)
Allows semi-automatic measurement of the global EF (Ejection Fraction)
User editable
Virtual Convex
Provides a convex Field of View
Compatible with CrossXBeam
Available on all linear and sector transducers
SRI-HD
High definition speckle reduction imaging
Provides multiple (6) levels of speckle reduction
Compatible with side-by-side DualView display
Compatible with all linear, convex and sector transducers
Compatible with B-Mode, color, contrast agent and 3D/4D imaging
Pre and post processing
CrossXBeam
Provides 3, 5, 7 or 9 angles of spatial compounding
Live side-by-side DualView display

Compatible with	• Color Mode • PW • SRI-HD • Coded Harmonic Imaging • Virtual convex on linear probes

Available on C1-5-RS, 8C-RS, E8C-RS, 9L-RS, 12L-RS, ML6-15-RS, L8-18i-RS, RAB2-6-RS, L6-12-RS, L4-12t-RS, L10-22-RS, L3-9i-RS, E8CS-RS, BE9CS-RS, RIC5-9A-RS, L3-12-RS, IC9-RS probes

Controls Available While "Live"	
Write zoom	
B/M/CrossXBeam-Mode	• Gain • TGC • Dynamic range • Acoustic output • Transmission focus position • Transmission focus number • Line density control • Sweep speed for M-Mode • Number of angles for CrossXBeam
PW-Mode	• Gain • Dynamic range • Acoustic output • Transmission frequency • PRF • Wall filter • Spectral averaging • Sample volume gate – Length – Depth • Velocity scale
Color Flow-Mode	• CFM gain • CFM velocity range • Acoustic output • Wall echo filter • Packet size • Frame rate control • CFM spatial filter • CFM frame averaging • CFM line resolution • Frequency/velocity baseline shift

Controls Available on "Freeze" or Recall
Automatic optimization
SRI-HD
CrossXBeam – display non-compounded and compounded image simultaneously in split screen
3D reconstruction from a stored CINE loop

B/M/CrossXBeam-Mode	• Gray map optimization • TGC • Colorized B and M • Frame average (loops only) • Dynamic range
Anatomical M-Mode	
Max. read zoom to 8x	
Baseline shift	
Sweep speed	
PW-Mode	• Gray map • Post gain • Baseline shift • Sweep speed • Invert spectral wave form • Compression • Rejection • Colorized spectrum • Display format • Doppler audio • Angle correct • Quick angle correct • Auto angle correct
Color Flow-Mode	• Overall gain (loops and stills) • Color map • Transparency map • Frame averaging (loops only) • Flash suppression • CFM display threshold • Spectral invert for Color/Doppler
Anatomical M-Mode on CINE loop	
4D	• Gray map, colorize • Post gain • Change display – single, dual, quad sectional or rendered

Measurements/Calculations

General B-Mode
Depth & distance
Circumference (ellipse/trace)
Area (ellipse/trace)
Volume (ellipsoid)
% Stenosis (area or diameter)
Angle between two lines
General M-Mode
M-Depth
Distance
Time
Slope

Heart rate
General Doppler Measurements/Calculations
Velocity
Time
A/B ratio (Velocities/Frequency ratio)
PS (Peak Systole)
ED (End Diastole)
PS/ED ratio
ED/PS ratio
AT (Acceleration Time)
ACC (Acceleration)
TAMAX (Time Averaged Maximum velocity)
Volume flow (TAMEAN and vessel area)
Heart rate
PI (Pulsatility Index)
RI (Resistivity Index)
Real-time Doppler Auto Measurements/Calculations
PS (Peak Systole)
ED (End Diastole)
MD (Minimum Diastole)
PI (Pulsatility Index)
RI (Resistivity Index)
AT (Acceleration Time)
ACC (Acceleration)
PS/ED ratio
ED/PS ratio
HR (Heart Rate)
TAMAX (Time Averaged Maximum velocity)
PVAL (Peak Velocity value)
Volume flow (TAMEAN and vessel area)

OB Measurements/Calculations	
Gestational age by:	• GS (Gestational Sac) • CRL (Crown Rump Length) • FL (Femur Length) • BPD (Biparietal Diameter) • AC (Abdominal Circumference) • HC (Head Circumference) • APTD x TTD (Anterior/ Posterior Trunk Diameter by Transverse Trunk Diameter) • LV (Length of Vertebra) • FTA (Fetal Trunk Cross-sectional Area) • HL (Humerus Length) • BD (Binocular Distance) • FT (Foot Length) • OFD (Occipital Frontal Diameter) • TAD (Transverse Abdominal Diameter) • TCD (Transverse Cerebellum Diameter) • THD (Thorax Transverse Diameter) • TIB (Tibia Length) • ULNA (Ulna Length)

Estimated Fetal Weight (EFW) by:	• AC, BPD • AC, BPD, FL • AC, BPD, FL, HC • AC, FL • AC, FL, HC • AC, HC • BPD, APTD, TTD, FL • BPD, APTD, TTD, SL
Calculations and ratios	• FL/BPD • FL/AC • FL/HC • HC/AC • CI (Cephalic Index) • AFI (Amniotic Fluid Index) • CTAR (Cardio-Thoracic Area Ratio)

Measurements/calculations by: ASUM, ASUM 2001, Bahlmann, Baschat, Berkowitz, Bertagnoli, Brenner, Campbell, CFEF, Chitty, Ebbing, Eik-Nes, Ericksen, Goldstein, Hadlock, Hansmann, Hellman, Hill, Hohler, Jeanty, JSUM, Kurmanavicius, Kurtz, Mari, Mayden, Mercer, Merz, Moore, Nelson, Osaka Univ., Paris, Rempen, Robinson, Shepard, Shepard/Warsoff, Tokyo Univ., Tokyo/Shinozuka, WHO, Yarkoni

Fetal graphical trending
Growth percentiles
Multi-gestational calculations (4)
Fetal qualitative description (anatomical survey)
Fetal environmental description (biophysical profile)
Programmable OB tables
Over 20 selectable OB calcs
Expanded worksheets
Growth percentiles: Hadlock, Brenner, Williams, Kramer (f), Kramer (m)
Measure Assistant Breast (Option)
Allows automatic contour and measurement of breast lesions in a user selected ROI
Feature assessment
BI-RADS® assessment
User editable
Measure Assistant OB (Option)
Allows automatic measurement of BPD, HC, FL and AC
User editable
GYN Measurements/Calculations
Right ovary length, width, height
Left ovary length, width, height
Uterus length, width, height
Cervix length, trace
Ovarian volume
ENDO (Endometrial thickness)
Ovarian RI
Uterine RI
Follicular measurements

IOTA (International Ovarian Tumor Analysis) LR2 worksheet

Note) IOTA is not available in USA, Japan and China.

Summary reports
Vascular Measurements/Calculations
SYS DCCA (Systolic Distal Common Carotid Artery)
DIAS DCCA (Diastolic Distal Common Carotid Artery)
SYS MCCA (Systolic Mid Common Carotid Artery)
DIAS MCCA (Diastolic Mid Common Carotid Artery)
SYS PCCA (Systolic Proximal Common Carotid Artery)
DIAS PCCA (Diastolic Proximal Common Carotid Artery)
SYS DICA (Systolic Distal Internal Carotid Artery)
DIAS DICA (Systolic Distal Internal Carotid Artery)
SYS MICA (Systolic Mid Internal Carotid Artery)
DIAS MICA (Diastolic Mid Internal Carotid Artery)
SYS PICA (Systolic Proximal Internal Carotid Artery)
DIAS PICA (Diastolic Proximal Internal Carotid Artery)
SYS DECA (Systolic Distal External Carotid Artery)
DIAS DECA (Diastolic Distal External Carotid Artery)
SYS PECA (Systolic Proximal External Carotid Artery)
DIAS PECA (Diastolic Proximal External Carotid Artery)
VERT (Systolic Vertebral Velocity)
SUBCLAV (Systolic Subclavian Velocity)
Auto IMT
Summary reports
Urological Measurements/Calculations
Bladder volume
Prostate volume
Left/right renal volume
Generic volume
Post-void bladder volume
Cardiac Measurements/Calculations
Cardiac calculation package including extensive measurements and display of multiple repeated measurements

Parameter annotation follow ASE standard
My Trainer+
An electric manual for first time user for the system
Available self-setup system
System setup
Maintenance
Ergonomics
Basic operation (button/layout/touch panel layout/monitor layout/basic workflow)

My Page
Collection of user's favorite parameters from measurement/comments/body patterns
Programmable buttons
Measurement for B/M/Doppler
User defined annotation for selected exam category
Body pattern for the selected exam category
Function Available Arrow; Create Macro, Eject, Grab Last, Help, Home, My Trainer, Set Home. Spooler, Text Overlay, Word Delete

Offline Scanning
Normal scanning with battery
Indication/message
Battery capacity
Battery operation
Power assistant in low battery

Probes

Probes
C1-6-D, C2-7-D, 10C-D, C1-5-RS, 8C-RS, E8C-RS, E8CS-RS, BE9CS-RS, 9L-RS, 12L-RS, L8-18i-RS, L6-12-RS, L4-12t-RS, L10-22-RS, L3-9i-RS, ML6-15-RS, 3Sc-RS, 6S-RS, 12S-RS, RAB2-6-RS, RIC5-9A-RS, P6D, P8D, L3-12-RS, IC9-RS, 6Tc-RS, P2D

C1-5-RS Convex Probe
Applications: Abdomen, Vascular, OB/GYN, Urology
Probe band width: 1 - 6 MHz
Number of element: 192
Convex radius: 55 mmR
FoV (max): 70°
Physical foot print: 67 x 11.5 mm
B-Mode frequency: 2, 3, 4 MHz
Harmonic frequency: 3, 4, 5 MHz
Doppler frequency: 1.9, 2.1, 2.5, 3.6 MHz
Biopsy guide: multi-angle, disposable with a reusable bracket (40432LE)

C1-6-D Convex Probe
Applications: Abdomen, OB, Gynecology, Vascular, Urology
Probe band width: 1 - 6 MHz
Number of element: 192
Convex radius: 55 mmR
FoV (max): 70°
Physical foot print: 67.2 x 11.5 mm
B-Mode frequency: 2, 3, 4, 5, 6 MHz
Harmonic frequency: 1.5, 2.5, 2.8, 3, 4, 5, 6 MHz
Doppler frequency: 1.7, 1.9, 2.1, 2.5, 3.1, 3.6 MHz
Biopsy guide: multi-angle, disposable with a reusable bracket (H4913BB)

C2-7-D Convex Probe
Applications: Abdomen
Probe band width: 1 - 6 MHz
Number of element: 144
Convex radius: 19.74 mmR
FoV (max): 110°
Physical foot print: 29.7 x 10.5 mm
B-Mode frequency: 2.5, 4, 5, 6 MHz
Harmonic frequency: 3, 4, 5, 6 MHz
Doppler frequency: 2.1, 2.5, 3.6, 4.2 MHz
Biopsy guide: multi-angle, disposable with a reusable bracket (H40482LK)or a reusable stainless bracket (H40482LK)

10C-D Convex Probe
Applications: Neonatal, Pediatrics, Vascular

Probe band width: 4 – 12 MHz
Number of element: 128
Convex radius: 10 mmR
FoV (max): 102°
Physical foot print: 17.9 x 4.8 mm
B-Mode frequency: 4, 6, 8, 10 MHz
Harmonic frequency: 7, 8, 9, 10 MHz
Doppler frequency: 4.2, 5.0, 6.3, 7.4, 8.3 MHz
Biopsy guide: none

8C-RS Micro Convex Probe

Applications: Neonatal, Pediatrics
Probe band width: 3 - 11 MHz
Number of element: 128
Convex radius: 10.7 mmR
FoV (max): 132°
Physical foot print: 24.7 x 5 mm
B-Mode imaging frequency: 6.0, 7.0, 8.0 MHz
Harmonic frequency: 8.0, 9.0, 10.0 MHz
Doppler frequency: 3.6, 4.2, 5.0, 6.3 MHz
Biopsy guide: none

E8C-RS Endo Micro Convex Probe

Applications: OB/GYN, Urology, Transvaginal, Transrectal
Probe band width: 3 - 11 MHz
Number of element: 128
Convex radius: 10.7 mmR
FoV (max): 132°
Physical foot print: 24.7 x 5 mm
B-Mode frequency: 6, 7, 8 MHz
Harmonic frequency: 8, 9, 10 MHz
Doppler frequency: 3.6, 4.2, 5.0, 6.3 MHz
Biopsy guide: single-angle, disposable with a disposable bracket (E8385MJ, E8333JB), single-angle, reusable bracket (H40412LN)

E8CS-RS Endo Micro Convex Probe

Applications: OB/GYN (Transvaginal), Urology (Transrectal)
Probe band width: 3 - 11 MHz
Number of element: 128
Convex radius: 8.7 mmR
FoV (max): 168°
Active area: 25.6 x 4.3 mm
B-Mode frequency: 6, 7, 8 MHz
Harmonic frequency: 7, 8, 9, 10 MHz
Doppler frequency: 3.6, 4.2, 5.0, 6.3 MHz
Biopsy guide: single-angle, disposable with a disposable bracket (E8385MJ, E8333JB), single-angle, reusable bracket (H40412LN)

IC9-RS Endo Micro Convex Probe

Applications : OB/GYN, Urology, (Transvaginal, Transrectal)

Probe band width: 2 - 11 MHz
Number of element: 192
Convex radius: 9.24 mmR
FoV (max): 168°
Physical foot print: 24.2 x 6 mm
B-Mode frequency: 6, 7, 8 MHz
Harmonic frequency: 7, 8, 9 MHz
Doppler frequency: 3.6, 4.2, 5.0, 6.3 MHz
Biopsy guide: single-angle, disposable with a disposable bracket (H48691YW), single-angle, reusable bracket (H48701MN)

BE9CS-RS Biplane Micro Convex Probe

Applications: Urology, Transrectal
Probe band width: 3 - 12 MHz
Number of element: 96 x 2
Convex radius: 9 mmR
FoV (max): 127°
Active area: 20.8 x 5 mm
B-Mode frequency: 6, 8, 10 MHz
Harmonic frequency: 8, 9, 10 MHz
Doppler frequency: 4.2, 5.0, 6.3 MHz
Biopsy guide: single-angle, reuseable (E8387MA), disposable (E8387M), disposable starter kit (H42742LH), disposable starter kit (H42742LJ)

RAB2-6-RS Convex Volume Probe

Applications: Abdomen, OB/GYN, Urology
Probe band width: 1 - 5 MHz
Number of element: 128
Convex radius: 47 mmR
FoV (max): 66°, volume angle: 85°
Physical foot print: 53.8 x 13 mm
B-Mode frequency: 3, 4, 5 MHz
Harmonic frequency: 4, 5, 6 MHz
Doppler frequency: 1.9, 2.5, 3.1, 3.6 MHz
Biopsy guide: multi-angle, disposal with reusable bracket (H48681ML)

RIC5-9A-RS Convex Volume Probe

Applications: OB/GYN, Urology, Endocavity
Probe band width: 3 - 10 MHz
Number of element: 192
Convex radius: 10.1 mmR
FoV (max): 146°, volume angle: 120°
Active area: 26.5 x 6 mm
B-Mode frequency: 5, 7, 9 MHz
Harmonic frequency: 7, 8, 9 MHz
Doppler frequency: 3.6, 4.2, 5.0, 6.3 MHz
Biopsy guide: single-angle, reusable bracket (H46721R), single-angle, disposable (H48681GF)

ML6-15-RS Matrix Array Linear Probe

Applications: Small Parts, Vascular, Pediatric, Neonatal, Musculoskeletal

Probe band width: 4 - 15 MHz
Number of element: >1000
FoV (max): 50.4 mm
Physical foot print: 50.4 x 6 mm
B-Mode frequency: 9, 11, 13, 15 MHz
Harmonic frequency: 8, 10, 12, 15 MHz
Doppler frequency: 5, 6.3, 8.3 MHz
Biopsy guide: multi-angle, disposable with a reusable bracket (H40432LJ)

12L-RS Linear Probe
Applications: Small Parts, Vascular, Pediatric, Neonatal, Musculoskeletal
Probe band width: 3 - 12 MHz
Number of element: 192
FoV (max): 38.4 mm
Physical foot print: 38.4 x 4 mm
B-Mode frequency: 7, 9, 11 MHz
Harmonic frequency: 9, 11, 12 MHz
Doppler frequency: 4.2, 5, 6.3, 8.3 MHz
Biopsy guide: Multi-angle, disposable with a reusable bracket (H40432LC)

9L-RS Linear Probe
Applications: Vascular, Small Parts, Pediatric, Abdomen
Probe band width: 2 - 8 MHz
Number of element: 192
FoV (max): 44.2 mm
Physical foot print: 44.2 x 6 mm
B-Mode frequency: 5, 7, 9 MHz
Harmonic frequency: 8, 9, 10 MHz
Doppler frequency: 3.1, 3.6, 4.2, 5 MHz
Biopsy guide: multi-angle, disposable with a reusable bracket (H4906BK)

L6-12-RS Linear Probe
Applications: Small Parts, Vascular, Pediatric, Neonatal, Abdomen
Probe band width: 5 - 11 MHz
Number of element: 128
FoV (max): 38.4 mm
Physical foot print: 38.4 x 4 mm
B-Mode frequency: 7, 9, 11 MHz
Harmonic frequency: 9, 11, 12 MHz
Doppler frequency: 4.2, 5, 6.3, 8.3 MHz
Biopsy guide: multi-angle, disposable with a reusable bracket (H40432LC)

L8-18i-RS Linear Probe
Applications: Small Parts, Vascular, Pediatric, Neonatal, Intraoperative(Not for China), Musculoskeletal
Probe band width: 4 - 15 MHz
Number of element: 168
FoV (max): 25.2 mm
Physical foot print: 25.2 x 4 mm

B-Mode frequency: 8, 9, 12, 15, 18 MHz
Harmonic frequency: 9, 15, 18 MHz
Doppler frequency: 5, 6.3, 8.3 MHz
Biopsy guide: none

L4-12t-RS Linear Probe
Applications: Small Parts, Vascular, Pediatric, Neonatal, Musculoskeletal
Probe band width: 3 - 12 MHz
Number of element: 192
FoV (max): 38.4 mm
Active area: 38.4 x 4 mm
B-Mode frequency: 7, 9, 11 MHz
Harmonic frequency: 9, 11, 12 MHz
Doppler frequency: 4.2, 5, 6.3, 8.3 MHz
Biopsy guide: multi-angle, disposable with a reusable bracket (H40432LC), multi-angle, disposable with a reusable bracket (H48392LL), multi-angle, disposable with a reusable bracket (H48392LT)

L10-22-RS Linear Probe
Applications: Small Parts, Neonatal, Musculoskeletal
Probe band width: 7 - 20 MHz
Number of element: 128
FoV (max): 12.8 mm
Active area: 12.8 x 1.5 mm
B-Mode frequency: 10, 12, 16, 20 MHz
Harmonic frequency: 16, 19, 22 MHz
Doppler frequency: 11.1, 12.5, 14.3 MHz
Biopsy guide: none

L3-9i-RS Linear Probe
Applications: Small Parts, Vascular, Neonatal, Musculoskeletal, Intraoperative (Not for China)
Probe band width: 2 - 9 MHz
Number of element: 192
FoV (max): 38.4 mm
Active area: 38.4 x 4 mm
B-Mode frequency: 5, 7, 9 MHz
Harmonic frequency: 7, 8, 9, 10 MHz
Doppler frequency: 3.6, 4.2, 5 MHz
Biopsy guide: none

L3-12-RS Linear Probe
Applications: Vascular, Small Parts, Neonatal,Pediatrics, Abdomen
Probe band width: 2 - 11 MHz
Number of element: 256
FoV (Max): 51.2 mm
Physical foot print: 51.2 x 5 mm
B-Mode frequency: 5.0, 7.0, 9.0, 11.0 MHz
Harmonic frequency: 8, 10, 12 MHz
Doppler frequency: 3.6, 4.2, 5, 6.3, 8.3 MHz

Biopsy guide: multi-angle, disposable with a reusable bracket (H48302AA)

3Sc-RS Phased Array Sector Probe
Applications: Cardiac, Transcranial, Abdomen
Probe band width: 1 - 5 MHz
Number of element: 64
FoV (max): 120°
Physical foot print: 15 x 14 mm
B-Mode frequency: 2, 3, 4 MHz
Harmonic frequency: 3, 3.5, 4.0, 5.0 MHz
Doppler frequency: 1.7, 2.1, 2.5, 3.1, 3.6 MHz
Biopsy guide: multi-angle, reusable bracket (H46222LC)

6S-RS Phased Array Sector Probe
Applications: Cardiac Neonatal, Pediatric
Probe band width: 2 - 8 MHz
Number of element: 64
FoV (max): 90°
Physical foot print: 10.2 x 5.5 mm
B-Mode frequency: 4, 5, 6.5, 8 MHz
Harmonic frequency: 4.8, 5.4, 6.2 MHz
Doppler frequency: 2.8, 3.1, 3.6, 4.2, 5.0 MHz
Biopsy guide: none

12S-RS Phased Array Sector Probe
Applications: Pediatric, Neonatal
Probe band width: 4 - 12 MHz
Number of element: 96
FoV (max): 90°
Active area: 9.3 x 5.5 mm
B-Mode frequency: 7, 8, 9 MHz
Harmonic frequency: 7, 8, 9 MHz
Doppler frequency: 5.0, 6.3 MHz
Biopsy guide: none

P8D CW Split Crystal Probe
Applications: Cardiac, Vascular
P6D CW Split Crystal Probe
Applications: Cardiac, Vascular
P2D CW Split Crystal Probe
Applications: Cardiac, Vascular
6Tc-RS TEE Sector (Trans-esophageal) Probe
Applications : Cardiac (Transesophageal)
Probe band width: 2 - 8 MHz
Number of element: 64
FoV (Max): 90°
Physical foot print: 14 x 12 mm
B-Mode frequency: 6.0, 7.0, 8.0 MHz

Harmonic frequency: 6 MHz
Doppler frequency: 2.8, 3.1, 3.6, 4.2, 5 MHz
Biopsy guide: none

Inputs and Outputs	
HDMI out	
Ethernet network (RJ45)	
External audio out	
USB ports	• OPIO Ext USB3.0 x 2 pcs • Monitor USB2.0 x 2 pcs • Rear USB2.0 x 3 pcs
AC power input	
Probe connectors	

Regulatory and Standard

Safety Conformance

The LOGIQ P9 is:

• Classified to ANSIAAMI ES60601-1 2005 R1 2012 Medical Electrical Equipment, Part 1: General Requirements for Safety by a Nationally Recognized Test Lab
• Certified to CSA CAN/CSA-C22.2 NO. 60601-1 :14 General requirements for safety
• CE Marked to Council Directive 93/42/EEC on Medical Devices Conforms to the following standards for safety:
• IEC/EN 60601-1 3.1 Edition. Medical electrical equipment – Part 1: General requirements for basic safety and essential performance
• IEC/EN 60601-1-2 Medial electrical equipment – Part 1-2: General requirements for safety Collateral Standard: Electromagnetic compatibility – requirements and tests
• IEC/EN 60601-1-6 Medical electrical equipment Part 1 -6: General requirements for basic safety and essential performance – Collateral Standard: Usability
• IEC/EN 60601-2-37 Medical electrical equipment – Part 2-37: Particular requirements for the safety of ultrasonic medical diagnostic and monitoring equipment
• IEC 61157 (Standard means for the reporting of the acoustic output of medical diagnostic ultrasonic equipment)
• IEC/EN 62366 Application of usability engineering to medical devices
• IEC/EN 62304 Software Life Cycle Processes
• IEC/EN 62359 Ultrasonic - Field characterization - Test methods for the determination of thermal and mechanical indices related to medical diagnostic ultrasonic fields

• EN ISO 15223-1: Symbols to be used with medical device labels, labelling and information to be supplied

- ISO 10993-1 Biological evaluation of medical devices – Part 1 Evaluation and testing
- ISO14971:2012(Medical devices - Application of risk management to medical devices)
- EMC Emissions Group 1, class A, Class B device requirements as per Sub clause 4.2 of CISPR 11
- WEEE (Waste Electrical and Electronic Equipment)
- ROHS according to 2011/65/EU Including national deviations
- Wireless equipment shall be certified to FCC, RED and Japan Radio Law
- Medical Device Good Manufacturing Practice Manual issued by the FDA (Food and Drug Administration, Department of Health, USA).