

TE Air e5M

Handheld Ultrasound System

Performance Specifications

System Overview

The TE Air is a wireless handheld ultrasound system. The wireless transducer is paired with App on mobile devices via Wi-Fi

Applications

Cardiac
Abdominal
Thoracic/pleural
Gynecology
Obstetrics
Vascular
Urology
Small organ
Musculoskeletal
Nerve

Imaging Modes

B-Mode
M-Mode
Color Doppler Imaging
Power Doppler Imaging
Pulsed Wave Doppler
TDI (Tissue Doppler Imaging)

Standard Features

B-Mode
M-Mode
Color Doppler Imaging
Power Doppler Imaging
Pulsed Wave Doppler
iClear™ (Speckle Suppression Imaging)
iTouch+ (Auto Image Optimization Plus)
Smart Bladder (Automated Bladder Volume)
VA Grid (Vascular Access Grid)
Smart Calc (Auto Diameter and Area - Measurement)
iWorks (Workflow Protocol)
iScanHelper (Embedded Tutorial Function)
iNeedle (Needle Visualization Enhancement)

Optional Features

iNeedle (Needle Visualization Enhancement)
iTouch+ (Auto Image Optimization Plus)
Smart Calc (Auto Diameter and Area Measurement of Lesions)
iWorks (Workflow Protocol)
iScanHelper (Embedded Tutorial Function)
Air Capsule
Input voltage: 5V DC
Input current: 3 A
Output voltage: 5V DC
Output current: 3 A
Battery: 3.6 V, 3000 mAh
Charging Cycle: about 2.5 times for a transducer
Wired charging: Type-C charging cable, charging time 4 hours
Wireless charging: wireless charging dock, charging time 8 hours

Language support

Software: English and Chinese
User manual: German, Spanish, French, Italian, Portuguese, Polish, Danish, Russian, Dutch, Turkish

Transducer Specifications

Power Supply

Input voltage: 5 V or 9 V
Input current: 3 A Max
Adaptor:
Output interface: USB Type A
Output voltage: 5 V DC
Output current: 3 A

Built-in Battery

Lithium-Ion battery: 3.85 V, 1650 mAh
Supports fast charging by adaptor and Air Capsule, charging time from 0% to 90%: 35 mins
Fast charging environment
Ambient temperature: 10~26° C
The transducer is in a state of temperature equilibrium, usually shut down for > 1 hour
The transducer or Air Capsule is in an open desktop environment, without cover, without surrounding heat sources, and without direct sunlight
Wired charging: Type-C charging cable
Wireless charging: Air Capsule
Battery power supply duration: no less than 90 min in B mode when the battery is fully charged
Continuous scanning duration for battery power supply: Provides 90-120 minutes of B-mode scanning with mixed use on a fully charged battery

Operating Environment

Ambient temperature: 0-35 °C
Relative humidity: 20%-85% (no condensation)
Atmospheric pressure: 700 hPa-1060 hPa

Storage & Transportation Environment

Ambient temperature: -20 – 45° C
Relative humidity: 20% – 85% (no condensation)
Atmospheric pressure: 700 hPa – 1060 hPa

Dimensions and Weight

Dimensions: 70×33×170 mm (e5M)
Weight: 229±3 g (e5M)



Dustproof and waterproof

IP68 rated

Programmable button

User-defined functions

User Interface

Comments

Supports text input and arrow
Support freehand marking
Covers various applications
User defined

Body mark

251 body marks for versatile application

Numbers of exam mode presets

23 system exam modes

Screen information*

Acoustic power
Imaging parameters

* Not all items are listed in this part.
For detail information, please refer to the user manual

Imaging Parameters

Overview

Up to 8-beamforming

B-mode

A.Power
TGC: 6 sliders
Depth: 30 Levels
Gain: 0-100, 1/step
Image Quality
Dyn Ra.: 30-240
iClear: On/Off
L/R Flip: Right, Left
TIS/TIC/TIB

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Performance Specifications

Imaging Parameters (continued)

iTouch:	On/Off
iTouch ⁺ :	On/Off (only for e5M)
Zoom	
VA Grid	

M-mode

A.Power	
Gain:	0-100, 1/step
Depth:	the same as B mode
Image Quality:	the same as B mode
Speed:	20, 25, 35, 50, 75, 145 mm/s
Dyn Ra.:	30-240

Color Doppler Imaging

A.Power	
Max velocity:	146 cm/s
Gain:	0-100, 2/step
Scale	
ROI Width:	random adjustable
ROI Height:	random adjustable
Image Quality:	3 levels
iTouch:	On/Off
iTouch ⁺ :	On/Off (only for e5M)
Steer	
Q-Steer	

Power Doppler Imaging

A.Power	
Gain:	0-100, 2/step
Scale:	30 levels
ROI Width:	random adjustable
ROI Height:	random adjustable
Image Quality:	3 levels
iTouch:	On/Off
iTouch ⁺ :	On/Off (only for e5M)
Steer	
Q-Steer	

PW-Mode

A.Power	
PW velocity:	
max. 1265.20 cm/s	
min. 1.0 cm/s	
Gain:	0-100, 2/step
Baseline:	random adjustable
Scale:	30 levels
Image Quality:	3 levels
Speed:	20, 25, 35, 50, 75, 145 mm/s
SV:	0.5-20 mm, random adjustable
Dyn Ra.:	24-72, 2/step
Angle:	random adjustable
iTouch:	On/Off
iTouch ⁺ :	On/Off (only for e5M)
Auto Calc:	

Auto Calc Cycle:	1-4, 1/step
Auto Calc Parameter	
Trace Sensitivity:	-3-3, 1/step
Trace Smooth:	-2-2, 1/step
Trace area:	Above, Below, All

iNeedle

Needle visualization enhancement	
Needle Dir.:	Left, Right
Only for e5M	

VA Grid

Vascular Access Grid	
Only for e5M	

iWorks

Auto workflow protocol	
Templates are user configurable	
Functions:	select view, delete view
iWorks setup mode:	B/Dual/ B+Color/ B+PW/ B+Color+PW/ B+CW B+Color+CW/ B+M

iWorks setup	
protocols and views:	select existing library

iScanHelper

Tutorial function as a guidance to show basic scanning skill with graphic of probe position, schematic of anatomy and example clinical image	
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Cine Review and Raw Data Processing

Cine review

Available in all modes	
Playback available	
Maximum cine memory up to 125 frames	
Freeze and real-time storage are available	
and length is pre-settable:	2~5 s

Post processing

B-mode:	
Dyn Ra.	
iClear	
L/R Flip	
Zoom	
M-mode:	
Speed	
Dyn Ra.	
PW:	
Baseline	
Speed	
Dyn Ra.	
Angle	

Measurement

Adult Cardiac

B-mode	
Distance	
Area	

AutoEF	
LVOT Diam	
Simpson	
Color/Power mode	
Distance	
Area	
PW	
Vel	
HR	
Time	
VTI	
MV E Vel	
MV A Vel	
LVOT VTI	

M-mode

Distance	
HR	
Time	
Slope	
LVIDd	
LVIDs	
IVC	

EM FAST

B-mode

Distance	
Area	
Volume	
Color/Power mode	
Distance	
Area	
PW/CW mode	
PS/ED	
Vel	
HR	
Time	
M-mode	
HR	

Lung

B-mode	
Distance	
Color/Power mode	
Distance	
Area	
PW/CW mode	
PS/ED	
Vel	
HR	
Time	
M-mode	
Distance	

Abdomen

B-mode	
Distance	
Area	
Volume	
Angle	
Volume Flow	

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Performance Specifications

Cine Review and Raw Data Processing (continued)

Color/Power mode
Distance
Area
PW/CW mode
PS/ED
Vel
Time
Volume Flow
M-mode
Distance
IVC

Abdomen Diff

B-mode
Distance
Area
Volume
Angle
Volume Flow
Color/Power mode
Distance
Area
PW/CW mode
PS/ED
Vel
Time
Volume Flow
M-mode
Distance
IVC

EM AAA

B-mode
Distance
Area
Volume
Stenosis (D)
Stenosis (A)
Volume Flow
Color/Power mode
Distance
Area
PW/CW mode
PS/ED
Vel
Time
Volume Flow
M-mode
Distance

Bladder

B-mode
Distance
Volume
Smart Bladder
Color/Power mode
Distance
Area

PW/CW mode

PS/ED
Vel
Time
M-mode
Distance

GYN

B-mode
Distance
Area
Volume
Volume Flow
Color/Power mode
Distance
Area
PW/CW mode
PS/ED
Vel
Time
Volume Flow
M-mode
Distance

OB

B-mode
Distance
Area
Volume
Volume Flow
BPD
HC
AC
FL
AFI
Color/Power mode
Distance
Area
PW/CW mode
PS/ED
HR
Vel
Time
Volume Flow
Umb A
M-mode
Distance
HR
Time

Vascular

B-mode
Distance
Area
Stenosis (D)
Stenosis (A)
Volume Flow

Color/Power mode

Distance
Area
PW/CW mode
PS/ED
HR
Vel
Time
Volume Flow
M-mode
Distance

Exam Storage and Management

Exam Management

Direct digital storage of single frame and cine 2D, color and Doppler
Exam management
iStation™ workstation dedicated for patient exam management
Patient exam query/retrieve
Support review of current and past exam
Export images as JPG format; export cine as MP4 format
Support data encryption and transmission encryption

Connectivity

Ethernet Network Connection

Wireless connection

DICOM 3.0

DICOM basic
Store
Media Exchange
DICOM Worklist

Q-path

Tricefy

You can use the ultrasound system to send data (exam images and report) to the Tricefy

Shared folder

After preset, you can send data (exam images and worksheet) to the specified PC folder

Transducers

e5M

Application:

Linear: Small Organ, Vascular, Musculo-skeletal, Nerve;
Convex: Abdominal, Gynecology, Obstetrics, Cardiac, Urology, Thoracic/Pleural, Small Organ, Vascular, Musculo-skeletal, Nerve

Bandwidth: 2.0-9.0 MHz

Number of Elements: 128

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Performance Specifications

Transducers (continued)

Field of View (max):	
Linear:	180°
Convex:	70°
Extended FOV:	
Linear:	180°
Convex:	70°
Depth:	2-38 cm
Physical	
Footprint:	66.3 mm x 29.8 mm
Footprint:	44.2 mm x 11.5 mm
Depth:	1.5-40.0 cm
B-mode Frequencies:	
Linear:	2.0~5.2, 4.0~7.4, 5.0~8.2 MHz
Convex:	2.0~3.6, 2.2~3.8, 3.0~5.0 MHz
Harmonic Frequencies:	
Linear:	6.0, 7.0, 8.0 MHz
Convex:	4.4, 4.43, 4.43b MHz
Color Frequencies:	
Linear:	4.0, 4.4, 5.0 MHz
Convex:	2.5, 2.8, 3.3 MHz
TDI:	3.3, 4.0 MHz
PW Frequencies:	
Linear:	4.0, 4.4, 5.0 MHz
Convex:	2.5, 2.8, 3.3 MHz
TDI:	3.3, 4.0 MHz
Biopsy Guide:	not available

Safety and Conformance

Quality Standards

ISO 9001
ISO 13485

Design Standards

EN 60601-1 and IEC 60601-1
EN 60601-1-2 and IEC 60601-1-2
EN 60601-1-6 and IEC 60601-1-6
EN 60601-2-37 and IEC 60601-2-37
EN 62304 and IEC 62304
EN 62366 and IEC 62366
EN ISO 17664 and ISO 17664

Operating Environment

iPhone

Processor:	Apple A10 processor or newer
Operating System:	iOS 13 or above
Capacity:	128 GB or larger
Running memory:	2 GB or larger
Display size:	4.7 inches (Diagonal) or larger
Display resolution:	1334 x 750 or higher
Display brightness:	400 nit

iPad

Processor:	Apple A12 processor or newer
Operating System:	iOS 14 or above
Capacity:	64 GB or larger
Running memory:	3 GB or larger
Display size:	7.9 inches (Diagonal) or larger
Display resolution:	2048 x 1536 or higher
Display brightness:	500 nit

Android Phone

Processor:	Qualcomm Snapdragon 855
Operating System:	Android 10 or above
Capacity:	256 GB or larger
Running memory:	8 GB or larger
Display size:	6.41 inches (Diagonal) or larger
Display resolution:	2340 x 1080 or higher
Display brightness:	400 nit

Android Tablet

Processor:	Qualcomm Snapdragon 855
Operating System:	Android 10 or above
Capacity:	256 GB or larger
Running memory:	6 GB or larger
Display size:	10.5 inches (Diagonal) or larger
Display resolution:	2560 x 1600 or higher
Display brightness:	200 nit

Compatible Devices

Apple iPad

2020 iPad 8th
2021 iPad 9th
2022 iPad 10th
2019 iPad Air 3th
2020 iPad Air 4th
2022 iPad Air 5th
2019 iPad mini 5th
2021 iPad mini 6th
2018 iPad Pro 3th
2020 iPad Pro 4th
2021 iPad Pro 5th
2022 iPad Pro 6th
2018 iPad Pro 1th
2020 iPad Pro 2th
2021 iPad Pro 3th
2022 iPad Pro 4th

Apple iPhone

2016 iPhone 7
2016 iPhone 7 Plus
2017 iPhone 8
2017 iPhone 8 Plus
2017 iPhone X
2018 iPhone XS
2018 iPhone XS Max

2018 iPhone XR
2019 iPhone 11
2019 iPhone 11 Pro
2019 iPhone 11 Pro Max
2020 iPhone 12
2020 iPhone 12 Mini
2020 iPhone 12 Pro
2020 iPhone 12 Pro Max
2021 iPhone 13
2021 iPhone 13 Mini
2021 iPhone 13 Pro
2021 iPhone 13 Pro Max
2022 iPhone 14
2022 iPhone 14 Plus
2022 iPhone 14 Pro
2022 iPhone 14 Pro Max
2023 iPhone 15
2023 iPhone 15 Plus
2023 iPhone 15 Pro
2023 iPhone 15 Pro Max
2020 iPhone SE2
2022 iPhone SE3

Android Pad

Samsung Galaxy Tab S7
Samsung Galaxy Tab S7+
Samsung Galaxy Tab S7 FE(LTE)
Samsung Galaxy Tab S8(5G)

Android Phone

Samsung Galaxy Note20
Samsung Galaxy

NOTICE

Not all features or specifications described in this document may be available in all transducers and/or modes. Mindray reserves the right to make changes in specifications and features shown herein, or discontinue the product at any time without notice or obligation. Contact Mindray Representative for the most current information

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