EXAPad mini

DATA SHEET

VERSION 1-00

Product Description

The EXAPAD MINI is a robust,elegant and portable system that combines transportability, built-in battery, **exceptional image quality** and the power of the **newest technology.**

EXAPAD MINI is designed for the following applications: Reproduction,Orthopaedics Abdominal,Cardiology,Guided Injections… general applications.l

Interface
EXAPAD MINI's user interface adapts to the selected imaging mode (**EchoTouch system)** and is therefore extremely intuitive and easy to use.
All EXAPAD probes are lightweight and ergonomic.

System Architecture

The EXAPAD MINI has been designed to be well adapted to the veterinarian's environment and with a **12'' touch screen**, EXAPAD MINI allows the user to get familiar with the device and to get an exceptional image quality very fast..

EXAPAD MINI can be easily upgraded with new software versions. The tele-maintenance makes after sales service easy and fast.

Post processing
Raw data treatment, on the ultrasound scanner itself or on the connected Ipad (EchoPad) for optimization of multiple image parameters and measurements, on frozen, stored and reloaded images and clips in all modes.

1. General Specifications

1.1 Dimensions and Weight

- Width: 32 cm
- Depth: 5.8 cm
- Height: 25 cm
- Weight: 4 kg (battery included)

1.2 Electrical Power

- Works on extractable interchangeable battery or on mains supply
- Battery autonomy: + 4 hours
- Battery recharging time: 3 hours
- Mains Voltage: 100-120 Vac or 220-240 Vac, 50/60 Hz
Out Put: 150 W
- Internal voltage: Max. 19V

1.3 Console Design

- 1 Probe connector
- Integrated HDD (Capacity: 500G)
- 2 USB ports 3.0
- RJ 45
- HDMI
- Jack audio out
- ECG
- WIFI 802.11 b/g/n
- Bluetooth 4.0

1.4 Processing

- Digital beamformer
- Dual beam computing
- 64 true emission channels
- 128 reception channels
- Continuous dynamic focusing in receive
- 256 shades of gray
- Raw data storing for post processing
- Evolutive hardware with firmware upgrade (FPGA)
- System boot up: 25 sec

2. User Interface

2.1 Operator Keyboard

- Touch screen
- Touch-pad and touch-keyboard
- EchoTouch system for direct access to selected imaging mode functions
- up to 8 TGC curve keys adapted to depth
- Quick access to advanced adjustment menus by touch screen

2.2 Monitor

- 12 inches LCD LED backlit
- XGA Format:
  - Display size: 1024 x 768
  - Recording size: 1024 x 768
- Ultrasound image: 600 x 720 in portrait and 600 x 600 in landscape.
- Adjustable Tilt 5 positions
- Stereo sound
- Digital Brightness/Contrast Adjustment
- MI: Mechanical Index
- TI: Thermal Index
- Portrait or landscape mode

2.3 Voice control

- EchoVoice: Voice control of main image adjustments. In B mode: depth, probe frequency, focus, general gain, freeze

3. Operating modes

- B mode
- B/B mode (Dual B)
- Color Flow Mapping (CFM) Velocity
- Dual CFM (B/CFM mode)
- PW simplex 1.00

4. Settings

- Clinic name: 30 characters
- User name: 30 characters
- Time: 12 hours am/pm
- Image storing formats
  - raw data, Jpeg (.jpeg), bitmap (.bmp)
- Clip storing formats
  - raw data, Avi (.avi)
- Individual user protocols for each application
- Export of images, clips, reports, patient files to external media

5. B Mode imaging

- Depth: from 1-28 cm (probe dependent)
- Multi-frequency wideband technology on all probes
- B Frequency: 3 frequency steps for each probe
- B Gain: From 1-100, 1 step
- TGC:
  - TGC curve adapted to depth
  - 8 adjustable zones

• Focus zone position: up to 5 selectable focus points (depth dependent)
• Dynamic: up to 200 dB (probe and depth depending)
• Time average: 6 steps
• Dual imaging B/B
  - Left/right dual selection
• Emission power adjustment
• Orientation of image:
  - Up/down
  - 90° / 180° / 270°
  - Left/right

6. Color Flow Mapping (CFM) Mode imaging

• CFM Velocity
  - Color Invert: on/off
• ROI Position: adjustable
• ROI size: adjustable
• CFM Frequency: 3 frequency steps for each probe
• CFM Gain: 0-20, 1 step
• Steering: 7 steps
• CFM PRF: 1000-8000 Hz (probe dependent)
• Wall Filter: 1-4
• Persistence: 1-5
• Spatial filter: 1-4
• Min. velocity: 0-31
• Emission power adjustment
• Dual CFM: B/CFM

7. Freeze - Cineloop

• Cineloop window: Length, image number
• Cine-review: Frame by frame, Loop
• Image storing (based on average image):
  - Raw data: 575 000 images
    Bitmap: 230 000 images
  - JPEG: 6 500 000 images
• Clip storing:
  - Raw data and AVI: 800 sequences (based on 500 i/clip)
• Post-processing on frozen images and frozen clips
• Post-processing on stored images and stored clips
• Measurements and calculations on frozen images and clips
• Measurements and calculations on stored images and clips
• Easy user annotations on frozen and stored images and clips
• Review of stored images and clips
  - Patient related with report
  - Patient related without report
  - Non attached
• Renaming of stored images and clips
• Export of stored images and clips to USB stick

8. Measures in B

• Distance: Up to 4 distances
• Circumference and surface by Ellipse: Up to 4 ellipses
• Circumference and surface by Trace: Up to 2 traces
• Arrow: Up to 5 arrows
• Annotations: Up to 10 annotations
  - Free text
  - Easy annotation access

9. Post-processing

• Raw data treatment
• On cine-loop images and clips
• On stored and loaded images and clips
• B Gain: From 0-100, 1 step
• TGC:
  - TGC curve adapted to depth
  - up to 8 adjustable zones
• Dynamic: up to 200 dB
• Time average: 6 steps
• Orientation of image:
  - Up/down
  - 90° / 180° / 270°
  - Left/right

10. Applications

• Reproduction
• Orthopaedics
• Abdominal
• Small parts
• General

11. Presets

• Factory presets for each application
• User specific presets: Unlimited number to create
• Display of current preset on screen

12. Patient

• Patient files
• Patient file modification
• Easy patient search
• Export of patient files
• Export of images and clips
• List of previous reports for each patient
• With or without report

13. Report

• Automatic transfer of measures to report
• Export of reports
• List Display
• Text Display
• Comments
• Conclusion

14. Probes

L738P
C360A
C614P
LR760V
C320A
L3130B
L3180B
E610B

<u>L738P Linear probe:</u>
Applications : **tendons diagnosis on horses,superficial parts on small animals**

• Wideband
• Central frequency: 7.5 MHz
• B-Mode frequencies: 5.0, 7.5, 10.0, MHz
• Doppler frequencies: 5.0, 7.5, 10.0 MHz
• Number of elements: 128
• Pitch: 0.3 mm
• Aperture: 4
• FOV: 38 mm
• Foot print: 38x4 mm

C360A Convex probe:
***Applications* : musculo-squelletic,heart checking…on horses,abdominal,small parts on small animals**

• Wideband
• Central frequency: 3.5 MHz
• B-Mode frequencies: 2,7, 4,3, 6.0 MHz
• Doppler frequencies: 2.7, 3.3, 4.3 MHz
• Number of elements: 128
• Pitch: 0.5 mm
• ROC (Radius of Curvature): 60 mm
• Aperture: 13
• Angle: 60°

C614P Micro-convex probe :
***Applications* :abdominal,small parts on small animals(mainly cats and small dogs)**

• Wideband
• Central frequency: 6 MHz
• B-Mode frequencies: 5.0, 6, 7.5 MHz
• Doppler frequencies: 3.3, 4.3, 5.0 MHz
• Number of elements: 128
• Pitch: 0.175 mm
• ROC (Radius of Curvature): 14 mm
• Aperture: 4.2
• Angle: 90°

LR 760V Wide Band linear probe
***Applications*: OB/GYN; Foetal sexing, Ovarian diagnosis,follicles visualization**

• Wideband
• Central frequency: 7.5 MHz
• B-Mode frequencies: 5, 7.5, 10 MHz
• Doppler frequencies: 5.0, 7.5,10.0 MHz
• automatic measurement of the follicles

C320 A Micro-convex probe
***Applications* : abdominal,small parts on small animals (mainly cats and medium dogs)**

• Wideband
• Central frequency : 3,5 MHz
• B-Mode frequencies : 2.0,3.5,5.0 MHz
• Doppler frequencies : 2.5,3.0,3,5 MHz

L 3130 B Large linear probe
***Applications* : back fat & muscle – loin eye area & depth – IMF (pigs mainly)**

* Wideband
* Central frequency : 3,5 MHz
* B- Mode frequencies : 2.5,3.5;5 MHz
* Doppler frequencies : 2.0,2.5,3.0

L 3180 B large linear probe
***Applications* : back fat & muscle – loin eye area & depth – IMF (cows & buffaloes mainly)**

* Wideband
* Central frequency : 3,5 MHz
* B- Mode frequencies : 2.5,3.5;5 MHz
* Doppler frequencies : 2.0,2.5,3.0

E 610 B OPU probe/guide
***Applications* :Ovum Pick Up (cows & buffaloes & horses mainly)**

* Wideband
* Central frequency : 6,5 MHz
* B- Mode frequencies : 5.0,6.5;7,5 MHz
* Doppler frequencies : 3.3,4.3,5.0 MHz
* "all in one" guide : quick, easy assembling,fast cleaning.

15. Inputs and Outputs

• 2 USB ports:
  - 2 USB 3.0
• RJ 45
• HDMI
• Jack audio out
• ECG
• Wifi 802.11
• Bluetooth 4.2
• Dicom 3

17. Safety Conformity

• CE Marked to Council Directive 93/42/EEC on Medical Devices
• Conforms to the following standards for safety:
  - EN 60601-1 Electrical medical equipment
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  - EN 60601-1-2 Electromagnetic compatibility
  - EN 60601-1-4 Programmable medical systems
  - EN 60601-2-37 Particular requirements for the safety of ultrasonic medical diagnostic and monitoring equipment
  - IEC 61157 Declaration of aco output
  - ISO 10993 Biological evaluation of medical devices

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