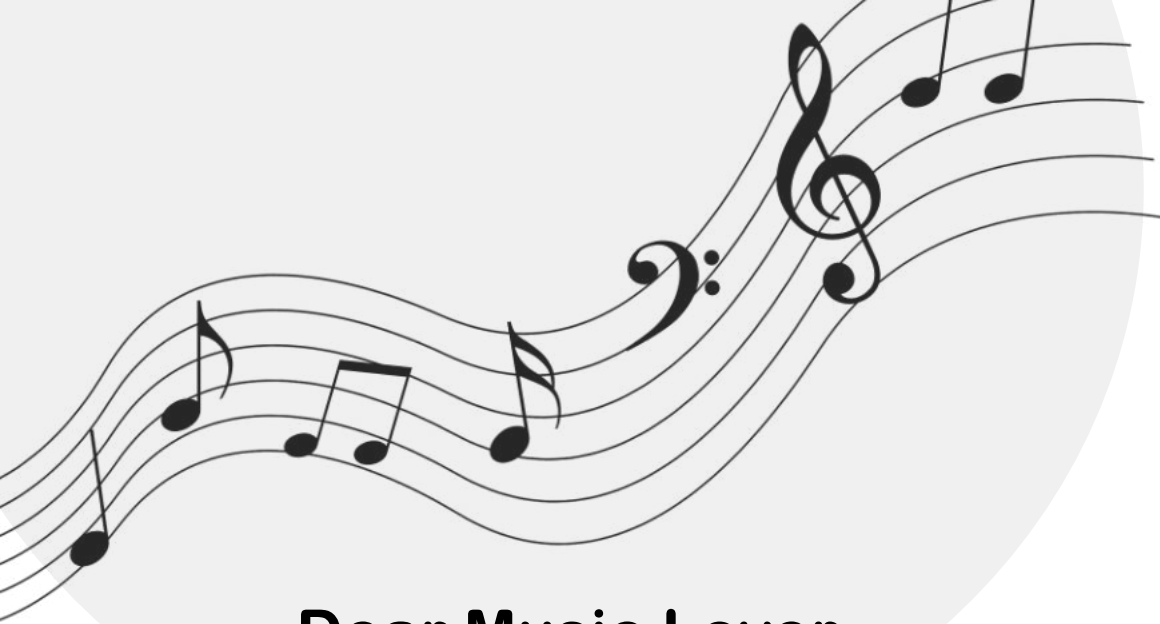




**AVC PREAMPLIFIER
OWNER'S MANUAL**



Dear Music Lover,

Congratulations on your purchase of our brand new icOn 5 autoformer based hybrid (passive or active) audio control unit / preamplifier! We are pleased that you choose a Life-Changer Audio UK product, as by doing so you have acquired a preamplifier with an outstanding sonic performance which will provide enjoyment for many years to come.

icOn 5 has been designed by us to provide the highest sound quality possible and provide an enjoyable user experience free from the hassles normally associated with manually controllable preamplifiers. It includes intuitive software for controlling inputs, outputs, volume, balance and “tilt” via Apple IR Remote from the convenience of the arm-chair, front-panel optical encoder and the large 7 segment LED display. The unique *user reconfigurable RCA socket* provides flexibility for the future system changes.

This manual provides a technical reference for hardware, setup, interconnectivity, warranty, and safety.

Again, thank you for choosing the icOn 5 preamplifier.

Pal Nagy
designer

QUICK START

UNPACKING

- Carefully unpack your icOn 5
- Keep the packing for future transportation
- Please treat the acrylic window surface on the faceplate with care
- Position the icOn 5 on a stable base.

CABLING

This icOn 5 Extra has 8 pair RCA sockets. The function of the RCA 6 is flexible & user reconfigurable. Please double check the proper connection of the input and output cables according to the actual I/O configuration.

- Switch off all appliances of your system
- Connect the icOn 5 with your amplifier
- Connect the icOn 5 with your source components
- **While changing cables your power amplifier should be switched off.**
- Default values for all functions are programmed
- Default I/O configuration: io1 (6 input, 2 output)
- Default input: RCA2, default output: RCA8
- Volume: -40 dB
- Balance: 0 dB, Tilt is off, input buffer is ON
- The **RCA5** can work as an **AV bypass input**. When AV bypass is activated (displayed as AP 1), from this input the signal goes to the output(s) without any attenuation (0 dB). Please double check the cabling in this case!
- No additional programming is required for the start-up.

SWITCH-ON

- Switch-on the icOn 5 on the back plate's power switch
- Select a moderate volume level or leave at the initial -40dB
- Switch-on your source components and last your power amplifier
- Double check the cabling before switch-on. **Do not plug the input cables to the output sockets and vice versa!**

DESCRIPTION

icOn 5 is much more than some additional “mods” of the popular icOn 4PRO passive preamplifier family. It is not (only, or at all) a passive preamp anymore. It has the pure passive listening mode too, but we call it a “hybrid AVC line control unit”. It has an input buffer (which is defeat-able), because it’s built with a new autoformer which needs really low driving impedance. It has much lower inductance, larger air gap and higher linearity and in exchange it offers livelier, “faster”, even more natural sound. The step numbers are different too, 136 steps altogether in a 83 dB range. 0.5 dB steps from +3 dB to -48 dB and 1 dB steps from -48dB to -80 dB.

There is a remote controlled Quad-reminiscent “tilt” too. This is a great opportunity for audiophiles who want a real fine tuning. The 5 is a great improvement in every field, my best “science” based solution for the very best sound possible.

The new features of the icOn 5:

- precision, smooth volume adjustment in 136 steps instead of 68 (4PRO), higher attenuation range from +3db to -80 dB
- 0.5 dB steps from +3dB to -48 dB, 1 dB steps below -48 dB
- one high voltage input (RCA1) for max. 20V RMS with extra 12 dB attenuation (max. volume: -9 dB)
- new, lower inductance autoformers with livelier, even more natural sound
- input buffer for better source compatibility because the autoformers need low driving impedance (defeat-able for passive preamp mode)
- Tilt control in 8 x 0.5 dB steps, defeat-able
- 8 pair RCA socket with future proof user reconfigurable I/O & AV bypass function
- bigger, 3 digit white 7 segment display

The icOn 5 is sonically transparent without addition or subtraction of anything. The changes in level are seamless, with the channel balance adjusted in 0.5 dB steps / channel should this be necessary. .

Unlike the resistive passive preamps, icOn 5 overcomes any impedance mismatching between source and power amplifier, which is a key factor in preserving the sound quality.

Level switching is carried out using state of the art analogue switches which eliminates the possibility of contact errors from conventional open rotary switches used on many other passive preamps.

The channel balance is exemplary at max. 0.1 dB - virtually undetectable by the human ear. The balance function provides 2x9 0.5 dB steps.

icOn 5 can be connected to equipment without any sensitivity issues to cable lengths and capacitance, thus improving its interconnect flexibility.

It has a sleep mode and mute functions, which preserves any settings made prior to this being activated, and negating the needs to reset the levels every time.





All functions such as volume, balance, tilt, mute, source and output selection are controlled remotely with an Apple Remote which enables the listener to make adjustments from the seating position, and not where the equipment is located. Except the balance & tilt every function is reachable through the knob and touch sensor of the faceplate with the combination of short and long touches or turning.

The manual volume control on the faceplate is realised with an industrial grade optical encoder giving instructions to the built in microprocessor. The way of working of the optical encoders provide a smooth, very precise control with adjustable sensitivity, but may differ from what you are used to. **The volume control must be adjusted carefully, as it has the ability to get loud quickly. Do not spin the volume control knob.**

The 7 segment white colour LED display provides important information on the status of icOn 5, so it's easy to see what is happening and view any changes.

The unique feature of the icOn 5 model is the user reconfigurable RCA socket pair (RCA6). You can choose from the following I/O configurations at the IR remote pairing process:

Config.1 (displayed as io1): RCA1-6 inputs, RCA7-8 outputs

Config.2 (displayed as io2): RCA1-5 inputs, RCA6,7,8 outputs

Config.3 (displayed as io3): RCA1-5 inputs, RCA6 line output, RCA7-8 outputs

USING THE APPLE REMOTE



- 1** Volume Up / Output select
- 2** Volume Down / buffer ON/OFF
- 3** Input selection / Balance & Tilt adjustment
- 4** Mute / Unmute or Wake Up from sleep
- 5** Status, goes to Sleep when pushed in Muted state
- 6** Enter and Exit to Balance / Tilt adjustment, Night mode when pushed in Mute (pushing again in Muted state switches back to normal display mode)



remote control
extra functions

| | |
|-------------------|---------------|
| tilt | MENU / ◀▶ |
| balance | 2 x MENU / ◀▶ |
| output sel. | ▶ / ▲ ... ▲ |
| buffer/passive | ▶ / ▼ |
| night/norm. disp. | ▶ / MENU |
| status | ○ & MENU |
| sleep | ▶ / ○ |
| wake up | ▶ |

Volume: turn the Volume up with the button on top (1) and turn down with the button on bottom (2).

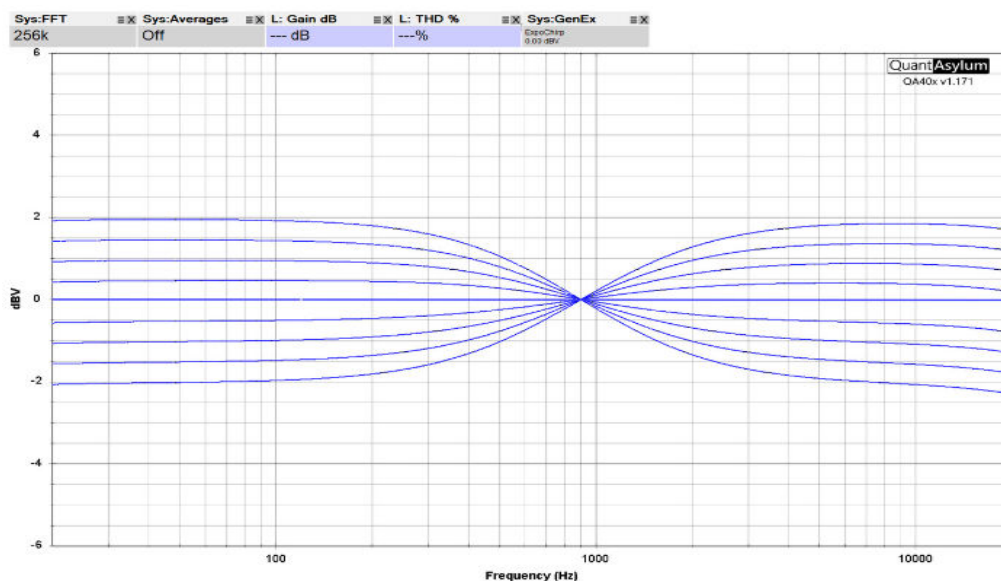
Changing the Inputs: Inputs can be changed with the left and right buttons (3) if Balance or Tilt adjustment is not active. If Balance or Tilt adjustments are active to go back to normal listening mode push the Menu button again once or twice.

Changing the Outputs: Press the PLAY/PAUSE (4) button on the remote to mute the music. In the muted state pressing the volume up button the active output is changing and the number of the actual active output is displayed on the right of the display. On the left you can see the active input number. The output numbers show the engraved numbers above the RCA sockets. The output 9 indicates when all outputs are active. You can go back to music listening with the chosen output(s) with pressing again PLAY/PAUSE (4) button.

Adjusting the Tilt: Start with pushing the Menu button (6) once. On the display a “t”, the number of 0.5 dB tilt steps and a dash will appear, showing the state of the tilt. When the number is 0 and the dash appears in the middle the tilt function is defeated and it's circuit is out from the signal path. The dash in the top position will indicate slight treble increase and bass decrease. Adjust the Tilt (in range +/- 4 steps) with the left and right (3) buttons. When you push the left button the level of the bass is increasing and the treble decreasing, for the right button the opposite. To go back to the normal listening mode you should press the Menu button twice. One push leads to the Balance adjustment mode.

“The tilt control operates exactly as its name implies and produces a very gradual change in balance across the musical spectrum without changing the overall subjective level. When set for 1 with lower dash there will be a gradual fall of only 1 dB from bass to treble with the maximum rate of change in the centre (900Hz) of no more than ¼ dB per octave. This absence of any sudden change means that there won't be ‘colouration’ added to the sound. The sound will remain entirely natural but with a slight added ‘warmth’. Such a setting will be used if the recording and/or listening room are slightly too analytical or over-bright. Conversely if both recording environment and listening room have reverberation falling with frequency rather than sounding lush, the 2 - 3 or even 4 would be used to restore detail ...”

The icOn 5 thus resurrects what many believe one of the most useful / purist 'tone control' ever made. For those who don't need / want it, it remains entirely out of the signal path.



Changing the Balance: Select the Balance function with pushing the Menu button (6) twice. On the display a “b”, the number of 0.5 dB balance steps and a dash will appear, showing the state of the balance. When both sides have equal volume the number is 0 and the dash will appear in the middle. The dash in the top position will indicate higher volume on the right side. Adjust the Balance (in range +/- 9 steps) with the left and right (3) buttons. When you push the left button the level of the left channel is increasing and the right channel's volume decreasing (and vice versa). To go back to the normal listening mode you should press the Menu button again, where you can change the Inputs with the right and left (3) buttons. The balance adjustment is disabled near the extreme ends to preserve the integrity of the channels.

Central Button: The button 5 (in the centre of the black circle) has two different functions. Pushing the central button the number of activated input (at the left) and output (on the right), the tilt value, the state of buffered (buF) or passive (PAS) mode are displayed for 2 seconds to check the status of icOn anytime without any change. If icOn 5 is muted then this button will take icOn into **sleep mode**. In sleep mode the display is dark with a dim point in the middle. Every preamp function is disabled, the outputs are inactive. Double touch the sensor on the faceplate or push the PLAY/PAUSE button on the remote to wake up icOn from sleep.

MUTE: Press the PLAY/(4) button on the remote to mute or unmute the music. Pressing the 1,2 or 3 buttons in Mute initiates an Unmute too. The Mute/Unmute changes are not abrupt but quick, pleasant up or down sweeps. In Mute state -99 is shown on the display.

LED Display Night Mode: First activate Mute and after that you can activate/deactivate the Night Mode pushing the Menu button (6). Go back to the normal Listening Mode with the PLAY/PAUSE button. In Night Mode the volume numbers are not displayed, only a dimmed dash but it goes back to full display for a short time when you initiate any change.

USING THE KNOB AND THE HIDDEN TOUCH SENSOR

Turn the knob right: Volume Up

Turn the knob left: Volume Down

Touch sensor: invisible, it's behind the upper left corner of the display window. In order to reach certain functions you will need to combine short (•) and long (–) touches.

Here you can find the combinations:

- next input (after last input comes input 1 again)

- mute / un-mute

- – night mode activation/deactivation. After activation a dim dash will be displayed in night mode. Deactivate the night mode with one short and one long touch again on the sensor

- sleep mode / wake up from sleep state

Personalisation possibilities:

- You choose between two display brightness. They alternate with every 3 clicks the brighter and dimmer state

- • – switch between 'L' - low sensitivity and 'H' - high sensitivity of the optical encoder. In high sensitivity mode adjust volume carefully and do not spin the volume control knob.

Important note:

If you have activated the optional AV pass-through function for the RCA5 input, on the output the input signal will appear without attenuation (full volume, 0 dB) and you will see 0 (dB) on the display. In AV pass-through state every function (volume adjustment, mute, balance) is disabled, only input change is possible to finish the AV pass-through mode and listening normally from the other inputs.

Please be careful with the AV pass function, because using it in a wrong way you can destroy your loudspeakers. If you don't understand fully how does it work - do not enable this function.

FACEPLATE

Handle the faceplate with care, it's easy to scratch it with sharp objects. Clean it only with soft cloth and window cleaner if it's necessary.

7 SEGMENT LED DISPLAY

The display shows the volume in dB (or optionally in numbers from 0 to 135). Max. volume is +3.0 dB (135), minimum level is - 80 dB (1), when muted -99 dB (0). The night mode without showing the volume numbers (only a dim dash) is reachable through the sensor on the faceplate and from the remote.

REAR PLATE

Power switch: You can leave icOn 5 switched ON, using the sleep mode for deactivation from the Apple remote or the sensor.

Power connector: use only the supplied wall wart power supply or the optional icOn power supply!!! If you would like to use a third party power supply please consult with us first.

The **UPDATE** 4 pins jack socket together with a special hardware device allows operating software and configuration updates to be loaded into the unit. These connectors and update processes are not available for end users. **Do not connect** any cable or device into this connector! About a required update or configuration changes contact your dealer or the manufacturer. The grounds (cold) of RCA inputs and outputs pins are connected parallel all the time and are connected to the chassis. There is no galvanic isolation between the inputs and outputs due to the nature of autoformers.

PAIRING AN APPLE REMOTE

icOn 5 works with its supplied (and paired) Apple remote to prevent any disturbance by other Apple remotes used together with an Apple TV, etc. If you want to use another Apple remote with icOn 5 you have to “pair” them. icOn 5 will learn the unique ID code of the new Apple remote and will work only with it afterwards. Steps of pairing:

1. Switch on icOn 5 with the power switch on the back and keep touching the sensor immediately till ‘ir’ will appear on the display.
2. Push the CENTRAL button in the next 5 seconds on the remote. After few more seconds a ‘YA’ shows that the remote is paired successfully with icOn 5. The next numbers are the serial number of your icOn 5.
3. If ‘no’ shows, the pairing was unsuccessful. Please try it again.

Using other buttons than the CENTRAL button you can change the basic configurations of your icOn 5. This is how:

4. If you want to customise the volume display mode:
 - for step number display: push **CH Up** button
 - for dB display: push **CH down** button
5. If you want to change the I/O configuration:
 - to increase the I/O configuration number push the **Volume Up** button (to change the io1 to io2 or from io2 to io3)
 - to decrease the I/O configuration number push the **Volume Down** button (to change the io3 to io2 or from io2 to io1)

6. You can activate the AV bypass function for the RCA5 input with the **Mute** button and deactivate it with the **Menu** button. *Be very careful with the AV bypass function, it can easily destroy your loudspeaker if you mistakenly use the source with it's full output level at RCA5!!!*

SAFETY INSTRUCTIONS

- Please read and follow all instructions
- Do not use this apparatus near water.
- Exclusively use only the original power adaptor. Unplug this apparatus when moving it & during lightning storms or when unused for long periods of time. Only use attachments/accessories specified by the manufacturer.
- Clean only with dry cloth. We suggest using a non abrasive micro fibre towel. Please do not use any solvents or liquids.
- We service icOn 5 with return to base. Service is needed when the power adaptor is damaged, liquid has been spilled, the equipment has been exposed to rain or moisture, does not operate normally, or has been dropped. **Please DO NOT send back your preamp without it's power supply and remote controller!**

GUARANTEE

icOn 5 comes with a 2 years return to base warranty.

PACKAGING

Please save all packaging. Your icOn 5 preamplifier is a precision electronic instrument and should be returned in its case and properly cartoned any time shipment is made. Should you need to ship your icOn 5 it should be packed carefully.

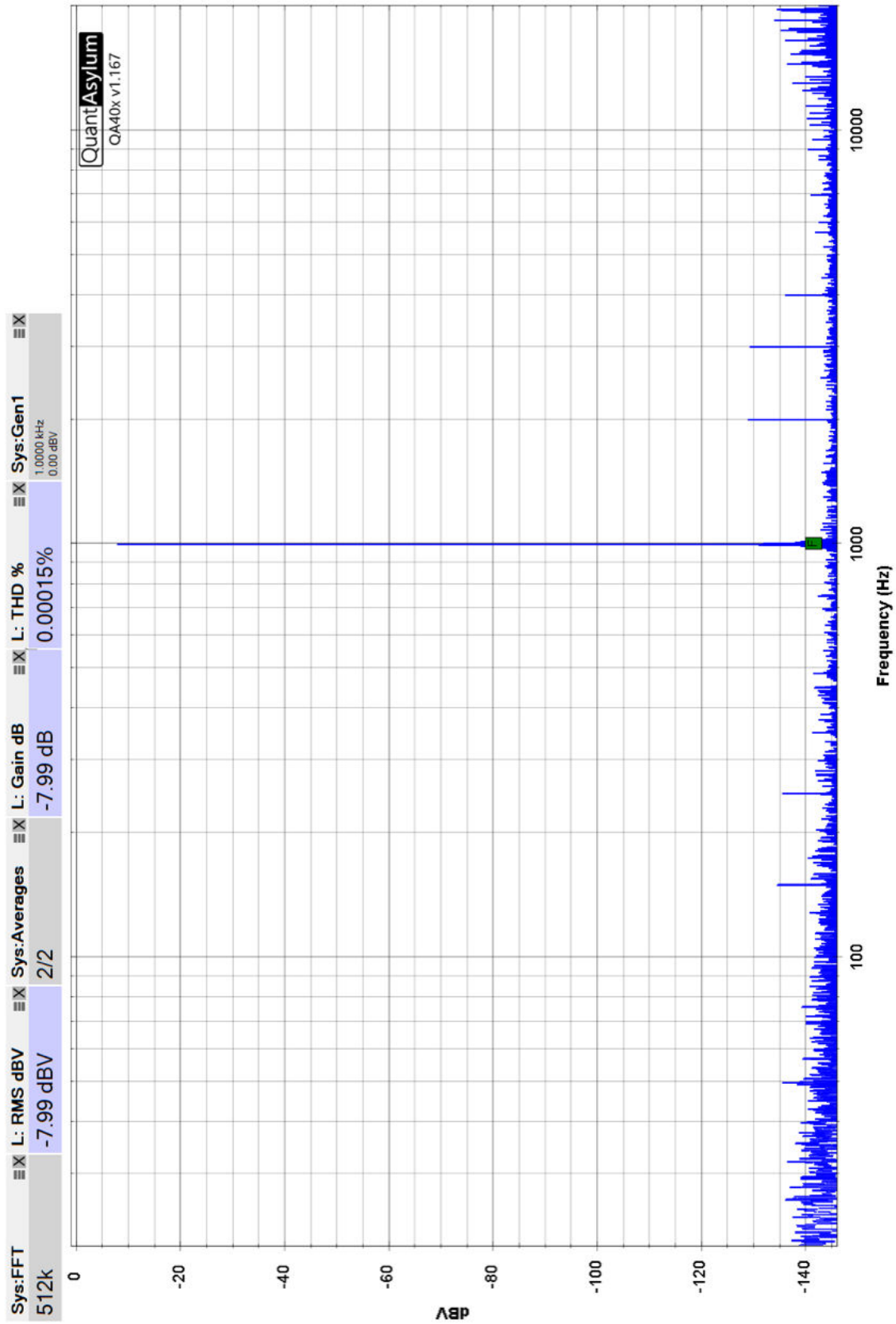
SCOPE OF DELIVERY

1. icOn 5 preamplifier
2. Apple Remote controller
3. Power adaptor 6V, 0.8A
4. User's Manual

SPECIFICATION

| | |
|--------------------------------------|--|
| Number of volume positions | 136 |
| Attenuation range | From +3 to -80dB |
| Attenuation step sizes | From +3db to -48 dB: 0.5 dB ; below -48 dB: 1 dB |
| Attenuator | 1 pair bespoke autoformers made by Dave Slagle, Intact Audio, USA |
| Maximum input signal | 6V RMS |
| Max. input signal on the RCA1 | 20V RMS |
| Tilt control | 900 Hz centre freq., +/-4 x 0.5 dB lift/cut at 20 Hz and 20 kHz |
| Frequency response (tilt OFF) | Within +/- 0.1 dB in the 20 Hz - 20 kHz frequency range |
| Distortion | less than 0.001% at average volume levels, see the FFT spectrum |
| Channel balance | better than +/- 0.1 dB. |
| Input impedance | Min.: 30 kOhm, but above 1 MOhm at average volume levels |
| Inputs | 5 or 6 pair RCA sockets, user selectable |
| Outputs | 2 or 3 pair RCA sockets and 1 line out, user selectable |
| Dimensions | Width: 135 mm (5.3 in), Height: 130mm (5.1 in), Depth 270 mm (10.6in). |
| Weight | 2.4 kg, 5.3 lb |
| Power supply | 6V DC, min 0.5A |
| Power consumption | 6V, max. 200 mA |
| IR remote controller | Apple remote |

DISTORTION MEASUREMENT



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