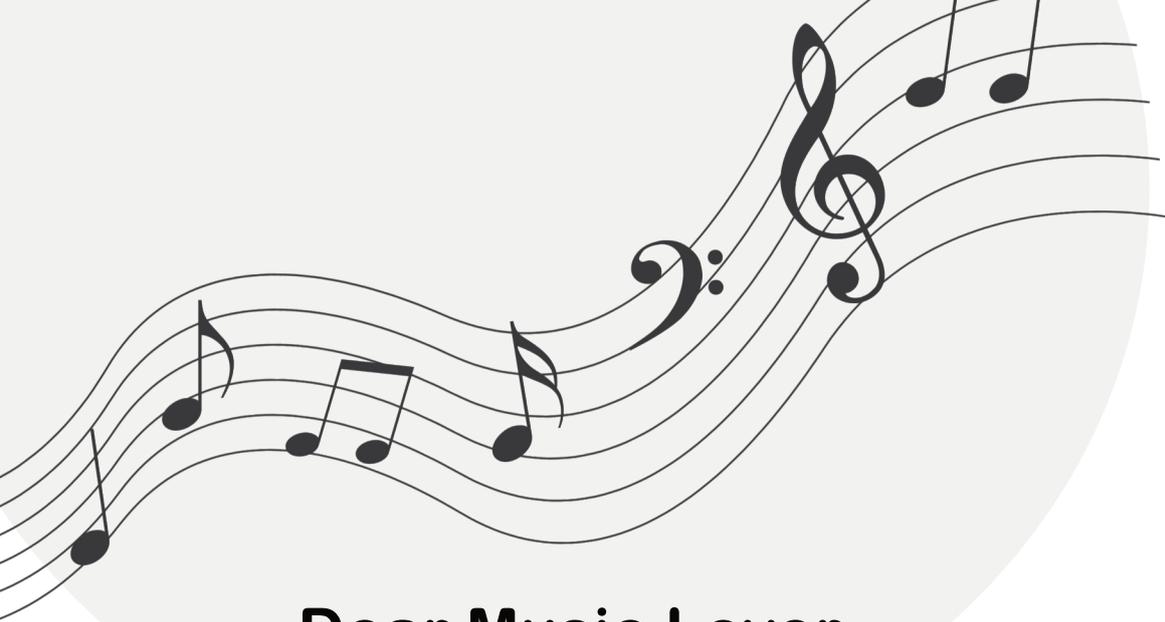




CON5

**AVC PREAMPLIFIER
OWNER'S MANUAL**



Dear Music Lover,

Congratulations on your purchase of our brand new icOn 5 Balanced 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 via Apple IR Remote from the convenience of the arm-chair, front-panel optical encoder and the large 7 segment LED display. The optional icOn Input Expander 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 Balanced 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 Balanced has 3 pair **XLR** & 2 pair **XLR output sockets**. Please double check the proper connection of the input and output cables according to the actual I/O configuration.

- Switch off the icOn preamp and 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.**
- If you have the I/O Extender unit too, please read the addendum at the end.
- Default values for all functions are programmed
- Default input: IN1
- Default outputs: OUT1
- Volume: -40 dB
- Balance: 0 dB, input buffer is ON
- The IN2 can work as an **AV bypass input**. When AV bypass is activated, from this input the signal goes to the output(s) without any attenuation (0 dB). Please double check the cabling and the connected AV source 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.

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 autoformers** which need 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, 135 steps altogether in a 83 dB range. 0.5 dB steps from +3 dB to -47.5 dB with the buffer, 1 dB steps from -48 dB to -80 dB or without the buffer.

This Balanced model has built with 2 pair autoformers for the fully balanced operation from the inputs to the outputs.

The new features of the icOn 5:

- precision, smooth volume adjustment in 135 steps with an input buffer, instead of 68 (4PRO), higher attenuation range from +3dB to -80 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)
- 5 pair XLR sockets with AV bypass function
- bigger, 3 digit 7 segment display
- Two different maximum volume levels (+3 or -10 dB) to prevent some highly sensitive power amps or loudspeakers from accidental overload

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 18 x 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, 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 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 encoder 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 LED display provides important information on the status of icOn 5, so it's easy to see what is happening and view any changes.

USING THE APPLE REMOTE



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



remote control
extra functions

balance	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 adjustment is not active. If Balance adjustment is active to go back to normal listening mode push the Menu button again.

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 output sockets. The output 3 indicates when both outputs (1+2) are active. You can go back to music listening with the chosen output(s) with pressing again PLAY/PAUSE (4) button.

Changing the Balance: Select the Balance function with pushing the Menu button (6) . 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 and 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.

Input buffer activation / deactivation: Press the Volume down button after pressing the Play / Pause button. The new buffer state (PAS / buF) will be displayed. Press again the Play / Pause button again.

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 speed and 'H' - high speed change of the optical encoder. In high speed 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 IN 2**, 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) or -10 dB (122), 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 (6V/0.8A) or an optional icOn power supply!!! If you would like to use a third party power supply please consult with us first. Max. Input voltage: 7.5V!

The **I/O CONTR** 4 pins jack socket is for the I/O Extender. **Do not connect** any other device into this connector!

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 upgrade your icOn with an IO Expander unit with the **VOLUME up** button can reconfigure the firmware of the icOn from 3 inputs to 7 inputs. Repeating the pairing with this button toggles between the two input modes.
5. If you want to customise the volume display mode:
 - for step number display: push **CH Up** button
 - for dB display: push **CH down** button
6. To choose between the +3 dB or -10 dB maximum volume levels please push the **VOLUME down** button. Repeating the pairing with this button toggles between the two maximum volumes.
7. You can activate the AV bypass function for the IN2 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 IN2 !!!**

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

Addendum about the I/O Extender Unit

- 1. Switch off the icOn before connecting or disconnecting the I/O Extender control cable!**
2. Connect the supplied 4 pole 3.5 mm jack cable between the I/O.Ext. and CONTROL sockets of the two units.
3. Connect the OUT sockets of the Extender to the IN3 sockets of the icOn with a pair of XLR cables.
4. After switch on your icOn preamp input selector will have 7 inputs:

Input 1	XLR	IN1
Input 2	XLR	IN2
Input 3	XLR	A
Input 4	XLR	b
Input 5	XLR or RCA	c
Input 6	RCA	d
Input 7	RCA	E

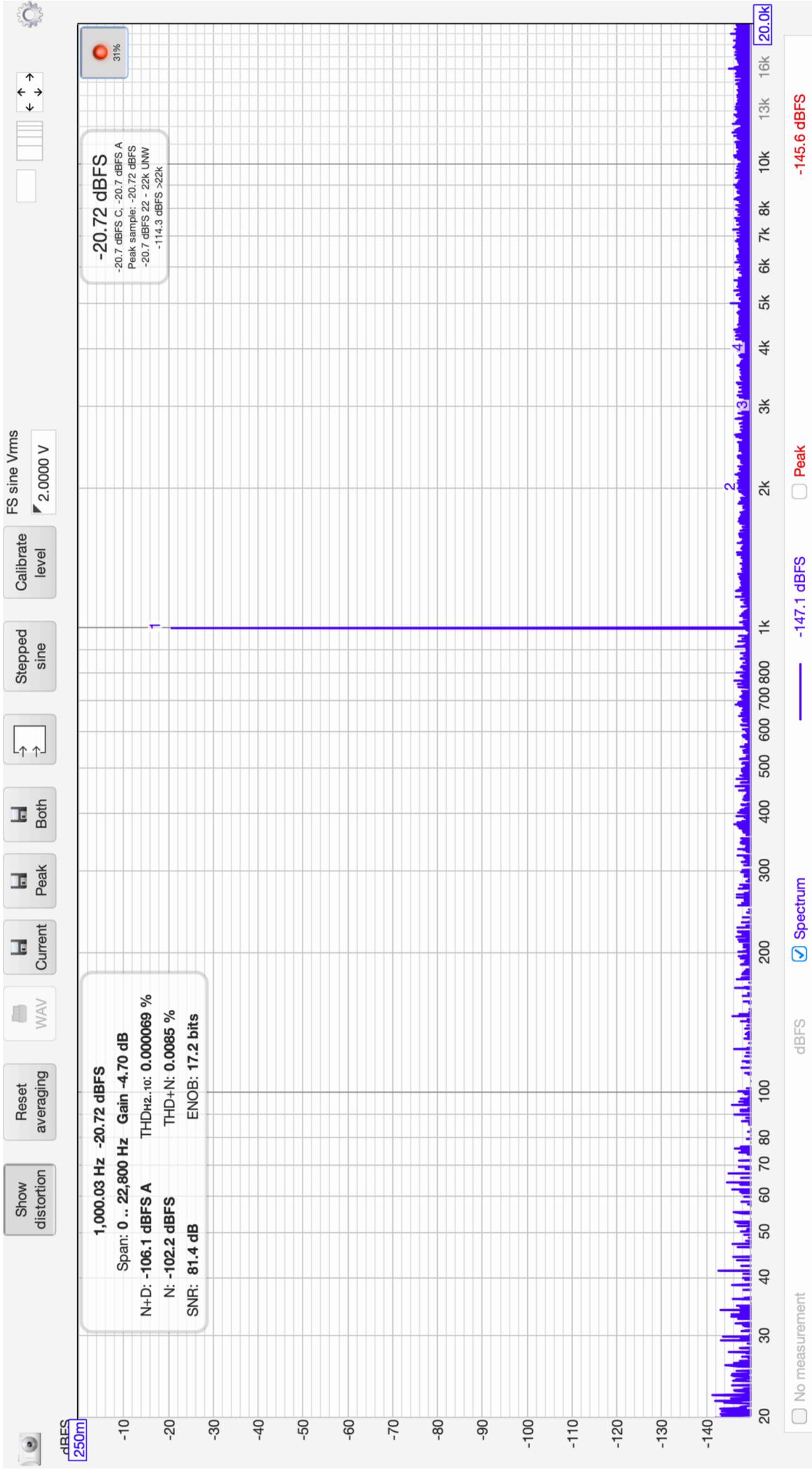
The input selection works the same way with the remote or the touch sensor as without the I/O Extender.

If you don't connect the I/O Extender the IN3 input socket will be active in the whole input range from A to E.

SPECIFICATION

Number of volume positions	135 + mute
Attenuation range	From +3 to -80dB
Attenuation step sizes	0.5 dB with the buffer (1 dB below -48 dB or without the buffer)
Attenuator	2 pair bespoke silver winded autoformers
Maximum input signal	16V RMS (between pin 2 & 3 of the XLR sockets), 8V from single ended source
Frequency response	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.: 50 kOhm (depends on the connected power amp input impedance), but above 1 MOhm at average volume levels
Inputs	3 pair XLR
Outputs	2 pair XLR sockets
Dimensions	Width: 135 mm (5.3 in), Height: 130mm (5.1 in), Depth 270 mm (10.6in).
Weight	3 kg
Power supply	6V DC, min 0.5A
Power consumption	6V, max. 300 mA
IR remote controller	Apple remote

DISTORTION MEASUREMENT



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