

METRONOME  TECHNOLOGIE
PREMIUM D/A CONVERTER



C5 Signature User Manual

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1 – Important Safety Instructions

1-1 Warnings

- In order to avoid any risk of fire or electrical shock, maintain the unit in a dry place. Do not expose to humidity.
- Before connecting and operating the product, please attentively and fully read the present manual.
- The power supply generates dangerous voltages for the human body:
 - Do not introduce any metallic object by the casket airing neither on the connectors.
 - Never dismantle the upper hood if the unit is not unplugged. For any intervention, please contact your retailer
- Install the product securely on a stable surface.
- During operation do not touch the vacuum tubes (if any): they may be hot.
- Product characteristics, specifications and conception can be subject to modifications without prior notice.

1-2 Safety Instructions

- ALWAYS disconnect your entire system from the AC mains before connecting or disconnecting any cables, or when cleaning any component.
- A three-conductor AC mains power cable which includes an earth ground connection must be used. To prevent shock hazard, all three connections must ALWAYS be used.
- Original AC main power cable is recommended to use this product.
- NEVER use flammable or combustible chemicals for cleaning.
- NEVER operate this product with removed cover.
- NEVER wet the inside of this product with any kind of liquid.
- NEVER pour or spill liquids directly onto this unit.
- NEVER block air flow through ventilation slots or heat-sinks.
- NEVER bypass any fuse.
- NEVER replace any fuse with a value or type other than those specified.
- NEVER attempt to repair this product: contact your retailer.
- NEVER expose this product to extremely high or low temperatures.
- ALWAYS unplug sensitive electronic equipment during lightning storms.

2 – Company Profile

METRONOME TECHNOLOGIE Ltd. is a French company founded in 1987, designer and manufacturer of High-end audio systems.

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METRONOME TECHNOLOGIE has developed different ranges of products:

- CD players,
- Digital to Analog Converters,
- CD transports,
- Amplifiers/Preamplifiers/Power Amplifiers.

The company aims to achieve two main objectives:

- Get the best sound that digital and analog components can provide, by applying the most advanced technology available;
- Give a pure design to its products to combine aesthetic and technology.

Therefore, the C5 Signature Converter is the result of many months of technical research and countless hours of listening. This converter was developed to satisfy the largest number of users.

3 – Introduction



Congratulations for acquiring the METRONOME TECHNOLOGIE C5 Converter !

METRONOME TECHNOLOGIE designs and hand manufactures audio high-end sources.

The development of a METRONOME TECHNOLOGIE product is driven by a philosophy which aims to reproduce the sound with all nuances and original emotion without altering the recorded signal.

In order to ask METRONOME TECHNOLOGIE any purchase or technical detail information, please contact the company by connecting yourself to the website:

www.metronome-technologie.com

4 – Design Specificities

- Power supply with individual toroidal power transformers and complete independent lines power, providing an inter-stage EMI/RFI radiation protection.
- Simple High Quality DIR on the DAC unit eliminating TTL components for signal reconstruction.
- Two DACs providing a deeper and clearer sound.
- Up sampler & DACs units on an independent PCB plugged onto the main board.
- USB input compatible with PC & MAC allowing reading files up to 192 KHz / 24bits.
- Output stage with four operational amplifiers specially chosen for their sound quality, very transparent, open & airy, detailed and fast & lively.
- Digital screen for simple use, showing the signal frequency of the selected input.

5 – Unpacking

The C5 Converter has been packed in one specially-designed box which contains the Power Supply unit and the DAC converter.

1. Carefully unpack the machine: be careful when lifting the unit; you may need a second person's help.
2. Please carefully preserve packages and protections, they will be useful for the unit shipment in case of maintenance. Please note that the warranty will be considered as cancelled if the units are dispatched incorrectly packed.
3. Please make sure to read the "Important Safety Instructions" chapter before continuing.

The boxes contain:

- C5 unit;
- Main electrical wire;
- User manual including CD Rom with USB Drivers (PC & MAC OS).

6 – Converter

6-1 Installation

- Install the C5 Signature Converter on the hi-fi unit or on a stable and strong support.
- Make sure not to obstruct the top cover. For optimum operation and correct ventilation keep a free area of 5 cm (2 inches) above the converter. Please note that after a few minutes of operation, the top cover warms up: this is normal.
- Connect the power supply main cable to the converter.
- Connect the inputs on respective drive(s).

6-2 Front View



- 1 Input selection switch: push down/up each time you wish to change the selected input. If the converter is switched off, as soon as you start it again, the last selected input will automatically be activated.
- 2 Input: shows the selected input.
- 3 PLL status: "NONE" means no signal; if a signal is detected, its frequency will also be shown
- 4 Reversed phase switch: push up to activate the reversed phase. If you active this option, "REVERSED" will be displayed on the screen.

6-3 Rear View



- ⑤ Main switch: to switch on/off the C5 converter.
- ⑥ Main IEC plug & Fuse holder: 250V / 1A Slow blow fuse.
- ⑦ OPTICAL: Toslink digital input (44,1 KHz – 192 KHz).
- ⑧ AES/EBU: XLR digital input (44,1 KHz – 192 KHz).
- ⑨ S/PDIF: RCA digital input (44,1 KHz – 192 KHz).
- ⑩ USB: must be connected with a computer (44.1 KHz – 192 KHz).
- ⑪ SYMETRICAL RIGHT: Analog right balanced output.
- ⑫ ASYMETRICAL RIGHT: Analog right unbalanced output.
- ⑬ ASYMETRICAL LEFT: Analog left unbalanced output.
- ⑭ SYMETRICAL LEFT: Analog left balanced output.

6-4 Utilization

The C5 Signature Converter can be switched on during a long period. However, for a prolonged absence, it is advised to switch it off, with the switch on the machine rear panel.

The converter power supply is protected by internal electronic circuits and by a general fuse situated in the block near the main wire, beside the switch. To change the fuse, it is imperative to firstly unplug the main cable, then open the fuse compartment with a screwdriver (please see picture in 5-3 section) and replace the fuse by an identical model: 1 A slow blow. The product is delivered with a second fuse.

WARNING: Never modify the value of the fuse.

Nota: after a long period without functioning, the fuse may burn out when the power supply is switched on. Indeed, when the power supply is completely discharged while it is switched on, there is a very important current consumption for a brief instant.

6-4-1 Input pre-set

The converter memorises the last selected input each time you switch it off.

6-4-2 Input selection

The converter has 4 inputs which can be selected by the switch "1" on the front panel.

At power on, the converter automatically pre-sets S/PDIF. However, if the user chooses another input before switching the C3A off, this input will be modified.

To change the input and select another one, please press switch "1". Each action on the switch changes the input as follows :

TOSLINK → AES/EBU → S/PDIF → USB → TOSLINK → ... etc.

6-4-3 Phase selection

The switch "4" on the converter front panel allows analog phase inversion of the signal.

When "REVERSED" is displayed, the signal has 180° inversion. In the other case, the signal keeps the original recording phase.

6-4-4 Analog outputs

The C5 Signature Converter have balanced outputs: if your pre-amplifier have balanced inputs, you can connect the plugs "11" and "14" to the correct plugs of the pre-amplifier. Otherwise, connect plugs "12" and "13" on a LINE INPUT of your pre-amplifier. The balanced outputs correspond to a professional standard used in the case of high radio-electrical perturbations.

6-4-5 Technology

- **Digital inputs:** All inputs of the converter have the same decoding circuit without any TTL interface. There are 4 inputs which can decode AES/EBU, AT&T and S/PDIF. All inputs decode any signal between sampling frequencies from 32 KHz to 192 KHz.
- **The Sample Rate Converter:** The Sample Rate Converter or SRC receives original signal and converts it on 24 Bit - 96 KHz frame with the internal clock. The internal processing is in 32 bit.
- **The DACs:** The digital to analog chips use a conversion technology "delta-Sigma" 24 bit/192 KHz, and convert digital information to analog voltage. The C5 signature uses two chips for both channels connected in parallel.
- **Analog stage:** The C5 uses an analog stage developed with 4 operational amplifiers polarized in class A.

7 – USB Driver installation

WARNING
Before installing drivers for MAC OS or WINDOWS
Check your system version !

To obtain your Apple OS, please read below:

- First click on “apple icon”, then on “about this Mac”.



- Once you clicked on “about this Mac”, a new window is opened. You should be able to read your current system version.



- Once you know your MAC OS version, please install the correct driver version as explained below:
 - For MAC OS version 10.4.XX: (TIGER)
 - For MAC OS version 10.5.XX: (LEOPARD)
 - For MAC OS version 10.6.XX and 10.7.XX: (Snow Leopard & Lion)
 - For MAC OS version 10.8.XX (Mountain Lion)
 - For MAC OS version 10.9.XX (Mavericks)
 - For MAC OS version 10.10.XX (Yosemite)

Use the drivers included into the corresponding directory *X:\MAC\OS 10.X.XX

*X:\ the letter could be different on your system, corresponding to your local CDROM reader.

- If you installed wrong drivers, please uninstall them by following instructions below:
 - Open a console, and then type the following commands – the console is located into Finder/Applications/Utilities:
 - `sudo mv /System/Library/Extensions/Hiface.kext /tmp`
 - `sudo touch /System/Library/Extensions`
 - `sudo pkgutil --forget com.m2tech.driver`

Then, restart the Mac.

To obtain your Windows version, please read below:

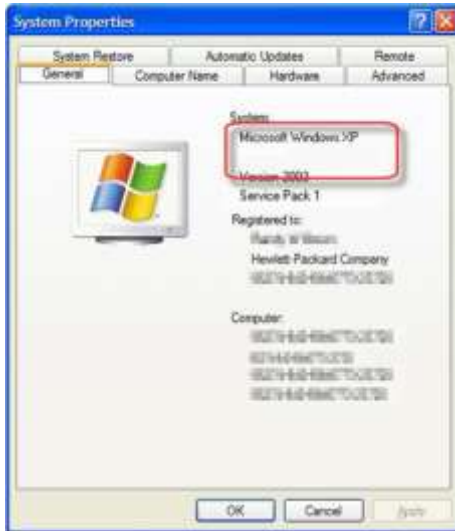
Click on “**start**”, then “**control panel**” and finally on “**system**” icon.

- With Windows 7/8, you should be able to see a similar window as below :



To install your Metronome Async USB 24 bit/192 kHz interface, please use drivers called “**metronome_249c_9002_windows_7/8**” provided into the CDROM attached on the last page of you user manual.

- On Windows XP, you should be able to see a similar window as shown in the picture opposite.



To install your Metronome Async USB 24/192 interface please use drivers called "metronome_249c_9002_windows_XP" provided into the CDROM attached on the last page of you user manual

- Example with Windows 7 OS

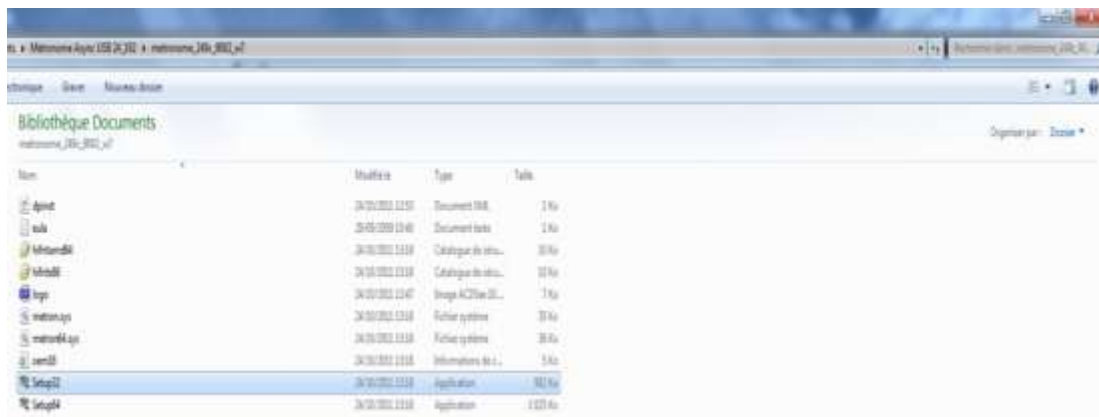
- Step 1: Connection with USB module ...



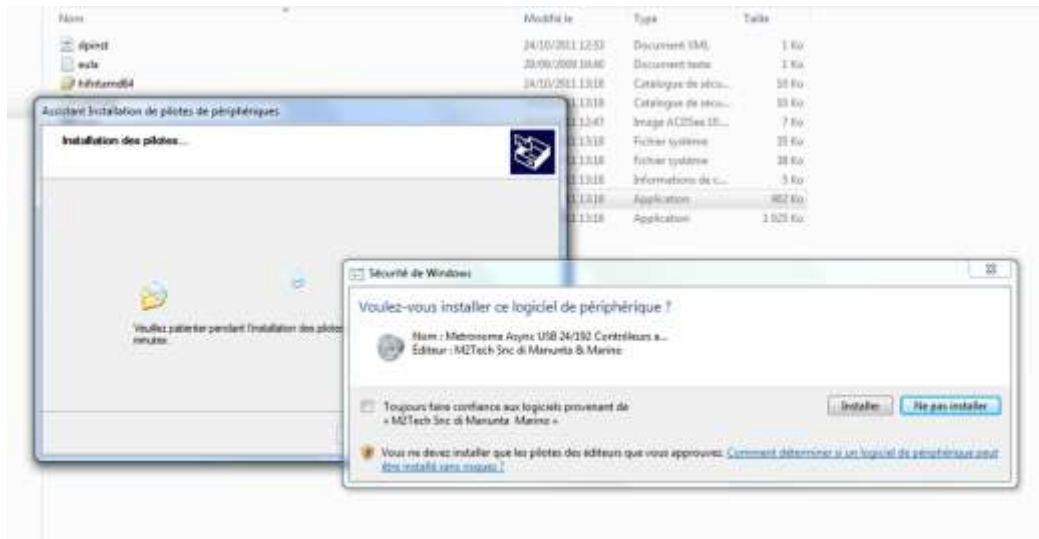
- Step 2: Search the driver on the CD Rom provided ...



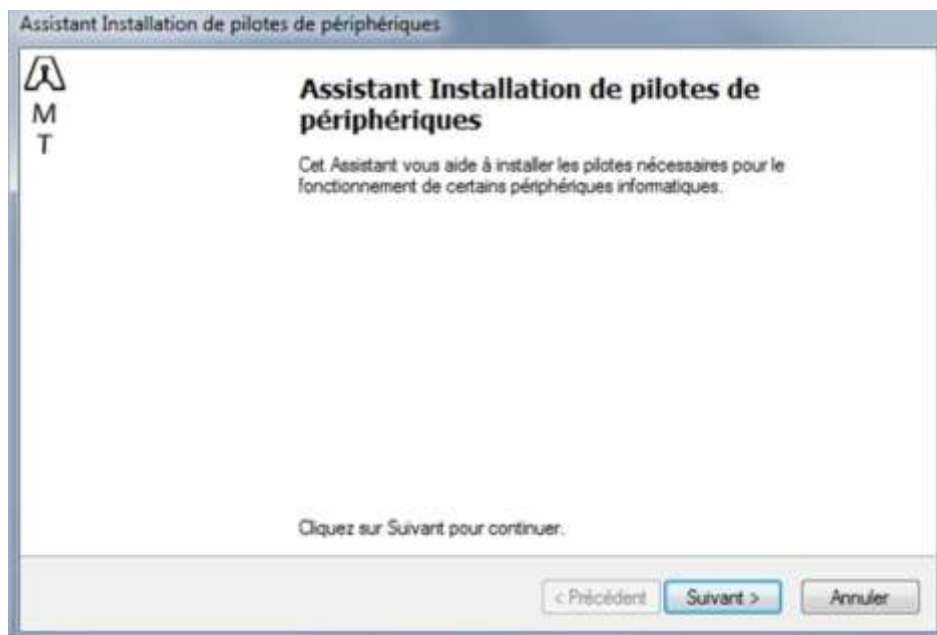
- Step 3: Click on the application file corresponding with your OS ... (Windows 32/64 bits or Mac OS)



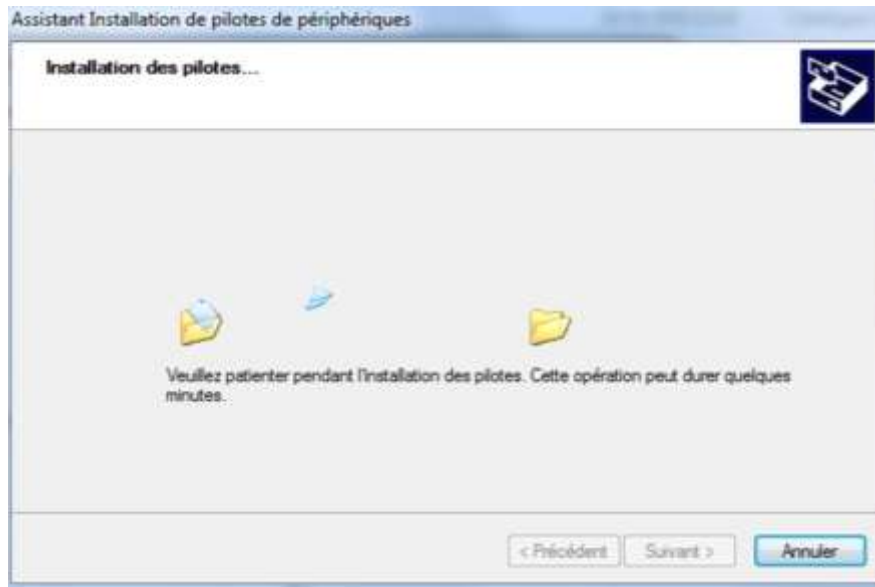
- Step 4: Check the box and click on "install".



- Step 5: Click on “next”.



- Step 6: Installing



- Step 7: Congratulations, the installation is completed....



8 – Technical Characteristics

- **INPUTS:**
 - TOSLINK - 44,1 to 192 KHz - Connector Optical Toslink
 - AES/EBU - 110 Ohms - 44,1 to 192 KHz - Connector XLR
 - S/PDIF - 75 Ohms - 44,1 to 192 KHz - Connector RCA
 - USB - 44.1 to 192 KHz - Connector USB Type B
- **OUTPUTS:**
 - Unbalanced - 2.5 V RMS @ 0dB - 47K Ohms - Connector RCA
 - Balanced -2.5 V RMS @ 0 dB - 600 Ohms -Connector XLR
- **SAMPLE RATE CONVERTER:**
 - Dynamic Range Capacity: 175dB
 - Distortion + Noise: -140dB
 - Internal Processing: 32 bit
 - Input Frequency Range: 32 to 211 KHz
- **DAC CHIP:**
 - Frequency Bandwidth: 10 Hz 20 KHz +/- 0.1 dB
 - Signal/Noise Ratio: more than 105 dB
 - Dynamic Range: 117dB
 - Inter Channel Isolation: 120dB
 - Inter Channel Gain Mismatch: 0.15dB
 - Phase Rotation: +/- 1°
 - Digital Filter Ripple: +/- 0.0002dB
 - Digital Filter Stopband Attenuation: 110dB
 - Distorsion DAC: (Fs = 44.1 KHz)
 - 100dB @ 0dB
 - 53dB @ -60dB
 - Resolution: 24 bit
 - Conversion Technology: Delta-Sigma 24 bit/192 KHz
- **ANALOG STAGE LINE:**
 - Frequency Bandwidth: 10 Hz 50 KHz +/- 0.1 dB
 - THD: < 0.00005% (R load 600R to 47K)
 - Slew Rate: +/- 20V/μs
 - Class A Internal Polarization*
 - * For best sound results, we recommend a warm-up of 1 hour minimum before listening.
- **POWER SUPPLY:**
 - Voltage: 100 VAC +/- 10% - 50/60 Hz - Japan
 - Voltage: 120 / 240 VAC +/- 10% - 50/60 Hz - Other countries
 - Consumption: 5 -20 VA
- **OTHER CHARACTERISTICS:**
 - Converter dimensions: W x H x D : 450 x 75 x 425 (mm).
 - Power supply weight: 13Kg

9 – Warranty

METRONOME TECHNOLOGIE Ltd. warrants the components of your METRONOME TECHNOLOGIE product for two years from the date of purchase.

In the event of a product failure, METRONOME TECHNOLOGIE will repair, readjust and, should the occasion arise, replace the units providing that all the clauses contained in the warranty are met.

In order to initiate service of any kind, it is necessary to firstly obtain distributor or dealer authorization and then, ship the prepaid unit.

Any of the following conditions shall void the warranty:

1. Operations not in accordance with this manual.
2. Abuse, accident or unauthorized modifications as determined by METRONOME TECHNOLOGIE Ltd. exclusively.
3. Serial numbers removal, defacing or falsifying.
4. Shipping without the complete factory cartons.

METRONOME TECHNOLOGIE Ltd. shall not be liable for any accidental damages regarding operation, failure, trouble-shooting or repair of your C5 Signature Converter.

