

U-CONTROL ► UCA202

Operating Manual

Version 1.1 March 2006



www.behringer.com



IMPORTANT SAFETY INSTRUCTIONS

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CAUTION: To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside; refer servicing to qualified personnel.

WARNING: To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure—voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.



DETAILED SAFETY INSTRUCTIONS:

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 8) Only use attachments/accessories specified by the manufacturer.
- 9) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 10) CAUTION - These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions unless you are qualified to do so.



U-CONTROL

Ultra low-latency 2 In/2 Out USB/Audio Interface with Digital Output

- ▲ Ultra-flexible audio interface connects your instruments, mixer etc. with your computer for recording and playback
- ▲ High-resolution 48 kHz converters for high-end audio quality
- ▲ Works with your PC or Mac—no setup or drivers required. Free audio recording and editing software downloadable at www.behringer.com
- ▲ Stereo headphone output with dedicated level control lets you monitor both input and output
- ▲ Additional S/PDIF optical output for direct digital conversion
- ▲ Powered via USB bus—no external power supply needed
- ▲ High-quality components and exceptionally rugged construction ensure long life
- ▲ Conceived and designed by BEHRINGER Germany

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FOREWORD



Dear Customer,

welcome to the team of U-CONTROL users, and thank you very much for expressing your confidence in us by purchasing the UCA202. It is one of my most pleasant tasks to write this letter to you, because it is the culmination of many months of hard work delivered by our engineering team to reach a very ambitious goal: to develop a first rate unit, which is flexible enough to be used mobile as well as within studio setups.

The task to design our new UCA202 certainly meant a great deal of responsibility. You, the discerning user and musician, were the focus of our entire development efforts. It also meant a lot of work and night shifts to accomplish this goal. But it was fun, too. Developing a product usually brings a lot of people together, and what a great feeling it is when everybody who participated in such a project can be proud of what we've achieved.

It is our philosophy to share our joy with you, because you are the most important member of the BEHRINGER family. With your highly competent suggestions for new products you've greatly contributed to shaping our company and making it successful. In return, we guarantee you uncompromising quality as well as excellent technical and audio properties at an extremely favorable price. All of this will enable you to fully unfold your creativity without being hampered by budget constraints.

We are often asked how we can make it to produce such high-grade devices at such unbelievably low prices. The answer is quite simple: it's you, our customers! Many satisfied customers means large sales volumes enabling us to get better conditions of purchase for components, etc. Isn't it only fair to pass this benefit back to you? Because we know that your success is our success, too!

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I would like to thank all people whose help on U-CONTROL UCA202 has made it all possible. Everybody has made very personal contributions, starting from the designers of the unit via the many staff members in our company to you, the user of BEHRINGER products.

My friends, it's been worth the trouble!

Thank you very much,

A handwritten signature in black ink, appearing to read 'U. Behringer', with a long horizontal line extending to the right.

Uli Behringer



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1. INTRODUCTION

Welcome to the family of U-CONTROL users and thank you for expressing your confidence in BEHRINGER products by purchasing the UCA202. With the UCA202 you have purchased a high-performance audio interface that includes a USB connector. It is thus an ideal sound card for your laptop computer or an essential recording/playback component for studio environments that involve desktop computers.

The UCA202 is PC and Mac-compatible. Therefore, no separate installation procedure is required, while the operating system drivers ensure an extremely short latency. Thanks to its robust construction and compact dimensions, the UCA202 is also ideal for traveling. The separate headphones output allows you to play back your recordings at any time, even if you don't happen to have any loudspeakers available.

2 inputs and outputs as well as the digital stereo output give you total connecting flexibility to mixing consoles, loudspeakers or headphones. Power is supplied to the unit via the USB interface. The LED gives you a quick check that the UCA202 is properly connected to the computer. The UCA202 is the ideal extra for every computer musician.

1.1 Before you started

1.1.1 Shipment

Your UCA202 was carefully packed at the assembly plant to assure secure transport. Should the condition of the cardboard box suggest that damage may have taken place, please inspect the unit immediately and look for physical indications of damage.

-  **Damaged equipment should NEVER be sent directly to us. Please inform the dealer from whom you acquired the unit immediately as well as the transportation company from which you took delivery. Otherwise, all claims for replacement/repair may be rendered invalid.**
-  **Please always use the original packaging to avoid damage due to storage or shipping.**
-  **Never let unsupervised children play with the equipment or with its packaging.**
-  **Please dispose of all packaging materials in an environmentally friendly fashion.**

1.1.2 Initial operation

Please make sure the unit is provided with sufficient ventilation, and never place the UCA202 on top of an amplifier or in the vicinity of a heater to avoid the risk of overheating.

The current supply is made via the USB connecting cable, so that there is no external power supply unit required. All required safety precautions have been adhered to.

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1.1.3 Online registration

Please do remember to register your new BEHRINGER equipment right after your purchase by visiting www.behringer.com (alternatively www.behringer.de) and kindly read the terms and conditions of our warranty carefully.

Should your BEHRINGER product malfunction, our goal is to have it repaired as quickly as possible. To arrange for warranty service, please contact the retailer from whom the equipment was purchased. Should your BEHRINGER dealer not be located in your vicinity, you may directly contact one of our subsidiaries. Corresponding contact information is included in the original equipment packaging (Global Contact Information/European Contact Information). Should your country not be listed, please contact the distributor nearest you. A list of distributors can be found in the support area of our website (www.behringer.com/support).

Registering your purchase and equipment with us helps us process your repair claims quicker and more efficiently.

Thank you for your cooperation!

2. SYSTEM REQUIREMENTS



The UCA202 is PC and Mac-compatible. Therefore, no installation procedure or drivers are required for the correct functioning of the UCA202.

To work with the UCA202, your computer must fulfill the following minimum requirements:

PC	MAC®
Intel® or AMD® CPU, 400 MHz or higher	G3, 300 MHz or higher
minimum 128 MB RAM	minimum 128 MB RAM
USB 1.1 interface	USB 1.1 interface
Windows® XP, 2000	Mac OS® 9.0.4 or higher, 10.X or higher

2.1 Hardware connection

Use the USB connecting cable supplied with the UCA202 to connect the unit to your computer. The USB connection also supplies the UCA202 with current. You can connect a variety of devices and equipment to the inputs and outputs.



3. OPERATING ELEMENTS AND CONNECTIONS

3.1 Front panel

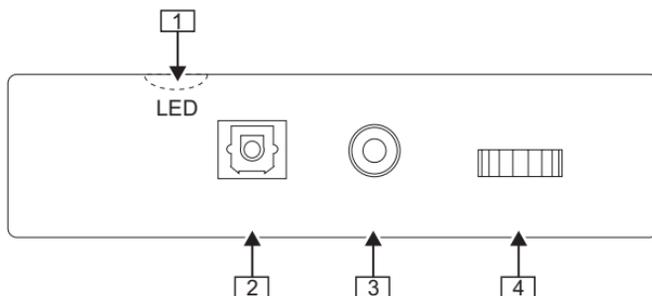


Fig. 3.1: Front panel UCA202

- 1 The LED indicates the status of the USB power supply.
- 2 **DIGITAL OUTPUT:** The Toslink jack carries an S/PDIF signal which can be connected via a fiber optic cable, for example, to the digital input of an effects device.
- 3 Use the  jack to connect a standard pair of headphones equipped with a 1/8" TRS connector.

- 4 The *VOLUME* control adjusts the volume level of the headphones output. Turn the control fully to the left before you connect the headphones. This helps you avoid the damage that is caused by high volume settings.

3.2 Rear panel

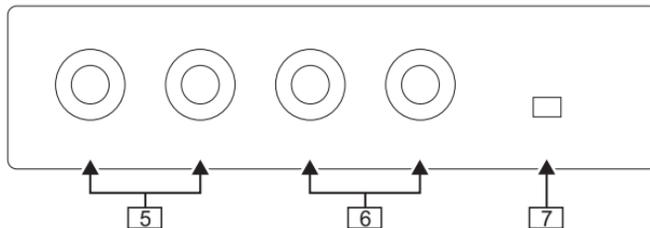


Fig. 3.2: back of the UCA202

- 5 Use the *LINE-OUT* jacks for audio cables with RCA connectors.
- 6 Use the *LINE-IN* jacks for audio cables with RCA connectors.
- 7 The *OFF/ON-MONITOR* switch activates the monitor function. In this case the input signal is routed directly to the headphones output.



4. WORKING WITH THE UCA202

4.1 Application example

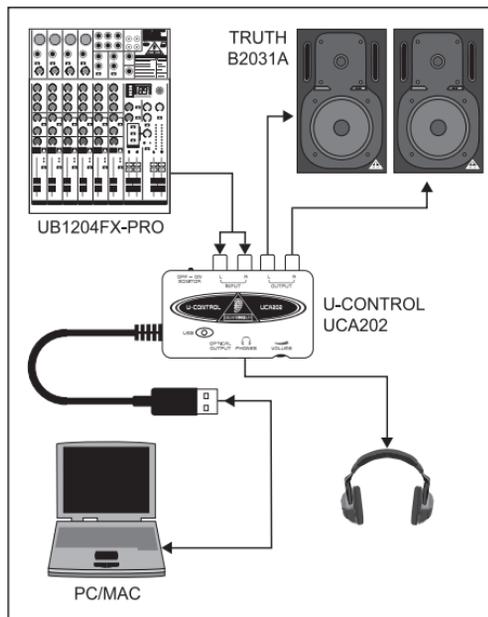


Fig. 4.1: Common version with the UCA202

To provide a professional recording interface between mixing console and computer, you can use the UCA202 in combination with a suitable mixing console that includes subgroup outputs. This type of setup allows you to record several signals in the computer at the same time, to simultaneously play back several takes or playbacks which have been recorded, and to listen to the whole recording via loudspeakers (or headphones). Figure 4.1 shows a possible setup with one UCA202.

Connect the outputs of the subgroup (in this case ALT 3-4 OUT) with the inputs of the UCA202 [6]. You can choose to connect the outputs [5] of the interface either to the TAPE INPUT sockets or to your monitor speakers. You can connect control headphones to the  socket [3] of the UCA202 or to the headphones output of your mixing console. Use the USB cable supplied with the unit to connect your PC or MAC[®] via the USB interface.

By routing each channel that you want to record through the ALT3-4 subgroup, you can now use the input channels of the mixing console to record different signals (e.g. microphone, guitar, sound module, etc.) in the computer. If you connect the OUT jacks of the UCA202 to channel inputs 7/8 (not via TAPE INPUT), make sure that the signal is **not** switched to the subgroup but instead to the main output of your mixer (MUTE key on the UB1204FX-PRO in channel 7/8 not pressed). Otherwise feedback can occur. Make sure that you use the SOURCE section on the mixing console to select the correct monitoring paths (ALT 3-4 and MAIN MIX or ALT 3-4 and TAPE).

If you lead the UCA202 back via a channel input (not TAPE INPUT), you can also use the aux path in the channel to set up a monitor mix for live musicians. To do this, use the Aux Send (e.g. Aux 1) in this channel input. If the musicians want to hear themselves as well as the playback or previous recording takes, use the Aux Sends in the recording channels to mix in the recording signals with the monitor mix.



5. AUDIO CONNECTIONS

Although there are various ways to integrate the UCA202 into your studio or live set-up, the audio connections to be made will basically be the same in all cases:

5.1 Wiring

Please use standard RCA cables to connect the UCA202 to other audio equipment. You can also use an adapter cable.

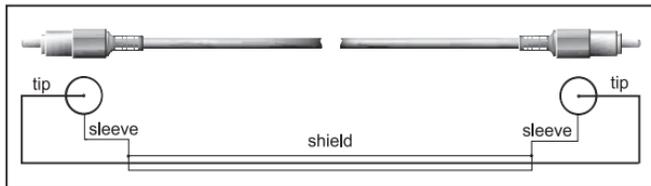


Fig. 5.1: RCA cable

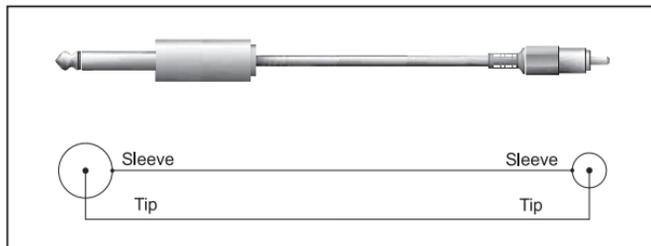


Fig. 5.2: Adapter cable with 1/4" jack

5.2 Headphones connection

The UCA202 is provided with a headphones jack. Here, you can connect any standard pair of stereo headphones with a 1/8" TRS connector.

6. SPECIFICATIONS

LINE IN

Connectors	RCA, unbalanced
Input impedance	approx. 27 k Ω
Max. input level	2 dBV

LINE OUT

Connectors	RCA, unbalanced
Output impedance	approx. 400 Ω
Max. output level	2 dBV

DIGITAL OUTPUT

Socket	Toslink, optical cable
Output format	S/PDIF

PHONES OUT

Socket	1/8" TRS stereo jack
Output impedance	approx. 50 Ω
Max. output pegel	-2 dBu, 2 x 3,7 mW @ 100 Ω

USB 1.1

Connectors	type A
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**DIGITAL PROCESSING**

Converter	16-bit converter
Sample rate	32.0 kHz, 44.1 kHz, 48.0 kHz

SYSTEM DATA

Frequency response	10 Hz to 20 kHz, ± 1 dB @ 44.1 kHz sample rate 10 Hz to 22 kHz, ± 1 dB @ 48.0 kHz sample rate
THD	0.05 % typ. @ -10 dBV, 1kHz
Crosstalk	-77 dB @ 0 dBV, 1 kHz
Signal-to-noise ratio	A/D 89 dB typ. @ 1 kHz, A-weighted D/A 96 dB typ. @ 1 kHz, A-weighted

POWER SUPPLY

USB connection	5 V \pm , 100 mA max.
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DIMENSIONS/WEIGHT

Dimensions (H x W x D)	approx. 22 mm (0.87") x 88 mm (3.46") x 60 mm (2.36")
Weight	approx. 0.12 kg

BEHRINGER always takes great care to ensure the highest standard of quality. Any modifications which may be necessary will be made without prior notification. Technical data and appearance of the equipment can therefore differ from the details or illustrations shown.



7. WARRANTY

§ 1 OTHER WARRANTY RIGHTS AND NATIONAL LAW

1. This warranty does not exclude or limit the buyer's statutory rights provided by national law, in particular, any such rights against the seller that arise from a legally effective purchase contract.
2. The warranty regulations mentioned herein are applicable unless they constitute an infringement of national warranty law.

§ 2 ONLINE REGISTRATION

Please do remember to register your new BEHRINGER equipment right after your purchase by visiting www.behringer.com (alternatively www.behringer.de) and kindly read the terms and conditions of our warranty carefully.

Registering your purchase and equipment with us helps us process your repair claims quicker and more efficiently.

Thank you for your cooperation!

§ 3 WARRANTY

1. BEHRINGER (BEHRINGER International GmbH including all BEHRINGER subsidiaries listed on the enclosed page, except BEHRINGER Japan) warrants the mechanical and electronic components of this product to be free of defects in material and workmanship for a period of one (1) year* from the original date of purchase, in accordance with the warranty regulations described below. If the product shows any defects within the specified warranty period that are not excluded from this warranty as described under § 5, BEHRINGER shall, at its discretion, either replace or repair the product using suitable new or reconditioned parts. In the case that other parts are used which constitute an improvement, BEHRINGER may, at its discretion, charge the customer for the additional cost of these parts.
2. If the warranty claim proves to be justified, the product will be returned to the user freight prepaid.
3. Warranty claims other than those indicated above are expressly excluded.

§ 4 RETURN AUTHORIZATION NUMBER

1. To obtain warranty service, the buyer (or his authorized dealer) must call BEHRINGER (see enclosed list) during normal business hours **BEFORE** returning the product. All inquiries must be accompanied by a description of the problem. BEHRINGER will then issue a return authorization number.

2. Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by BEHRINGER.
3. Shipments without freight prepaid will not be accepted.



§ 5 WARRANTY REGULATIONS

1. Warranty services will be furnished only if the product is accompanied by a copy of the original retail dealer's invoice. Any product deemed eligible for repair or replacement under the terms of this warranty will be repaired or replaced.
2. If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship. The warranty does not cover any such modification/adaptation, irrespective of whether it was carried out properly or not. Under the terms of this warranty, BEHRINGER shall not be held responsible for any cost resulting from such a modification/adaptation.
3. Free inspections and maintenance/repair work are expressly excluded from this warranty, in particular, if caused by improper handling of the product by the user. This also applies to defects caused by normal wear and tear, in particular, of faders, crossfaders, potentiometers, keys/buttons, tubes, guitar strings, illuminants and similar parts.
4. Damages/defects caused by the following conditions are not covered by this warranty:
 - ▲ improper handling, neglect or failure to operate the unit in compliance with the instructions given in BEHRINGER user or service manuals.
 - ▲ connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used.
 - ▲ damages/defects caused by force majeure or any other condition that is beyond the control of BEHRINGER.
5. Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the warranty.
6. If an inspection of the product by BEHRINGER shows that the defect in question is not covered by the warranty, the inspection costs are payable by the customer.

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7. Products which do not meet the terms of this warranty will be repaired exclusively at the buyer's expense. BEHRINGER will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, BEHRINGER will return the unit C.O.D. with a separate invoice for freight and packing. Such costs will also be invoiced separately when the buyer has sent in a written repair order.

§ 6 WARRANTY TRANSFERABILITY

This warranty is extended exclusively to the original buyer (customer of retail dealer) and is not transferable to anyone who may subsequently purchase this product. No other person (retail dealer, etc.) shall be entitled to give any warranty promise on behalf of BEHRINGER.

§ 7 CLAIM FOR DAMAGES

Failure of BEHRINGER to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of BEHRINGER exceed the invoiced value of the product.

* Customers in the European Union please contact BEHRINGER Germany Support for further details.

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