

Operating Manual

DXA-MICRO PRO+

Compact XLR Adapter for DSLR Cameras and Camcorders



This operating manual explains the adapter function settings and how to use the adapter to record audio into the camera.



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Thank You for Purchasing a BeachTek Product

Congratulations on purchasing the DXA-MICRO PRO+ from the makers of the world's most popular audio adapters for DSLR cameras and camcorders. This adapter is packed with features to enable you to record professional audio directly to your camera.

- Before using this high quality device, please read this guide thoroughly to obtain the highest performance.
- Please contact us if you have any problems or questions.

Description

The BeachTek DXA-MICRO PRO+ allows you to capture pro audio from external microphones and other audio gear to any DSLR camera or camcorder that has a built-in mic jack. Its small size makes it ideal for today's compact cameras.

The BeachTek DXA-MICRO PRO+ is the world's first audio adapter with a built-in rechargeable battery offering a 10-hour run time. It can also be externally powered via the Micro USB port.

The DXA-MICRO PRO+ uses exceptionally low noise, wide bandwidth preamplifiers for superb audio. This allows you to record high quality audio directly to the camera which will always be in sync with the video. Direct audio recording eliminates the need to have a separate audio recording device and syncing the audio in post editing.

The DXA-MICRO PRO+ is very easy to set up and use. It allows you to connect virtually any two microphones at the same time including camera mounted mics such as the popular Rode VideoMics, wireless systems, and professional hand held and condenser boom microphones.

The adapter mounts securely to the tripod attachment on bottom of the camera or to the hot shoe above the camera. Also included is a removeable cheese plate for added versatility.

Warnings

Ensure that the VOLUME control is set low to avoid excessively loud audio from damaging your hearing.

Always do a test recording and play back the audio to ensure it is acceptable.

DO NOT activate phantom power for dynamic microphones, condenser microphones that do not operate on phantom power, wireless receivers, mixing boards or any unbalanced device as it may cause damage to both the adapter and connecting device.

Turn off power to adapter before plugging or unplugging any microphones or equipment to or from the adapter.

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Supplied Accessories

- Removeable cheese plate
- Two 3.5mm to 3.5mm SC35 cables
- Micro USB cable
- Brass mounting foot with knurled wheel and attachment bolt
- Allen key

Quick Setup Guide

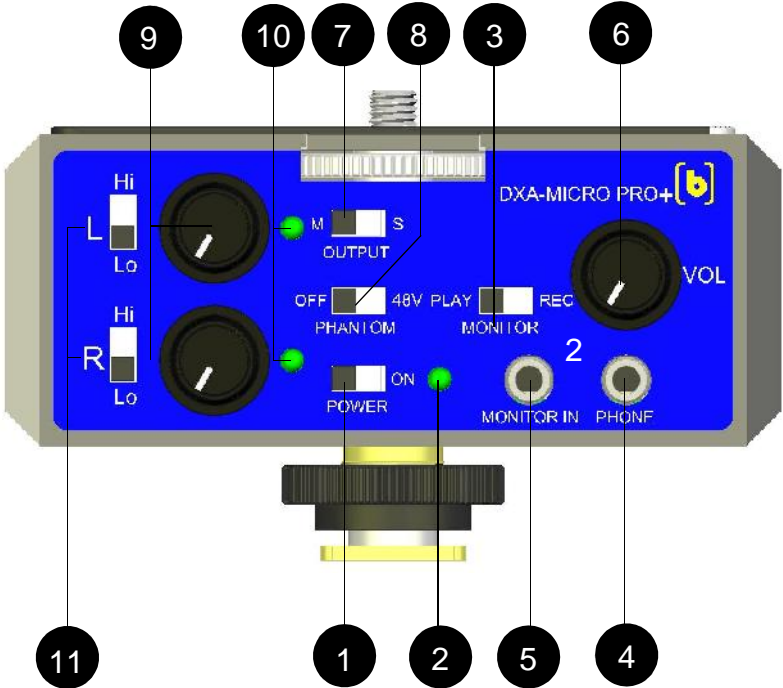
- 1) Ensure the POWER switch is set to OFF before you begin.
- 2) Fully charge the battery for 4 hours or use external power.
- 3) Mount the DXA-MICRO PRO+ adapter to the camera.
- 4) Connect the supplied SC35 cable from the OUT jack on the adapter to the MIC input jack on the camera.
- 5) Connect your microphones to the adapter inputs.
- 6) Set the GAIN switches to HI.
- 7) Set the MONITOR switch to REC.
- 8) Set the PHANTOM switch as follows:
 - a) OFF if phantom power is not required on the XLR input channel
 - b) ON if the mic on the XLR input channel requires 48 volt phantom power
- 9) Set the M/S switch to M for mono when using one channel or to S for stereo when using two channels.
- 10) Turn the adapter PWR switch on. The power LED should indicate green.
- 11) Adjust the LEFT and RIGHT level controls for each channel so the level indicators flash green when capturing audio.
- 12) Plug your headphones into the PHONE jack on the adapter and adjust the VOLUME control to a comfortable level. Ensure that you hear audio on both channels from the connected microphones.
- 13) See **Advanced Operation** on how to setup the camera gain.
- 14) Do a test recording and playback on the camera to ensure that the captured audio is satisfactory.

Adapter Connectors and Controls

Front Panel

- 1 POWER Switch**
Main power switch for adapter
- 2 POWER LED**
Green indicates power on and good battery condition
Yellow indicates low battery level
Red indicates critical low battery level
- 3 MONITOR Switch**
REC selects headphone monitoring from either the microphones during recording, or PLAY for playback audio from the camera
- 4 PHONE**
Headphone jack to monitor the audio from microphones or camera
- 5 MONITOR IN**
Input jack for connecting the loopback audio from the camera
- 6 Vol Control**
Adjusts the headphone volume level
- 7 OUTPUT Switch**
Selects mono or stereo output mode
- 8 PHANTOM Switch**
Activates 48 volt phantom power for condenser microphones that require phantom power to operate
- LEFT and RIGHT Controls**
Individual adjustment controls to adjust output levels on each channel
- 10 Level Indicator LEDs**
Green indicates normal input levels, Red indicates overload
- 11 Gain Switch**
Selects LO for +15dB or HI for +30dB gain

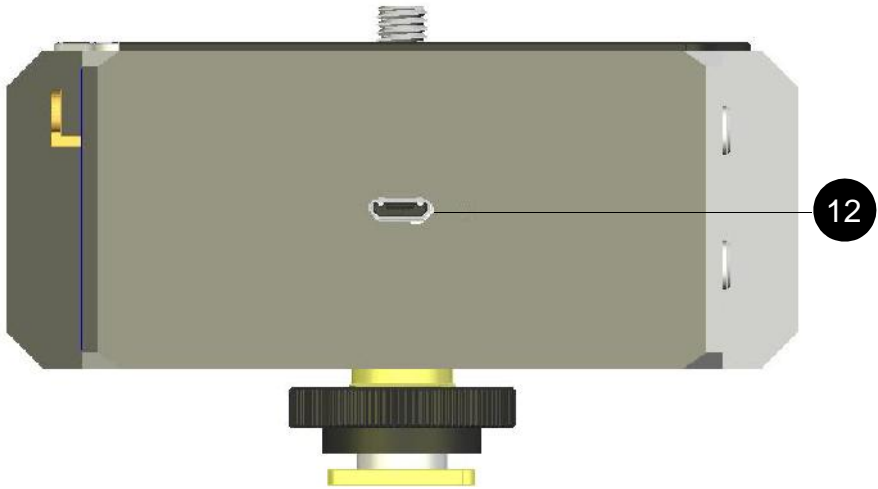
Front Control Panel



Rear Panel

- 12 **MICRO USB Port**
Charging and External power port

Rear Panel



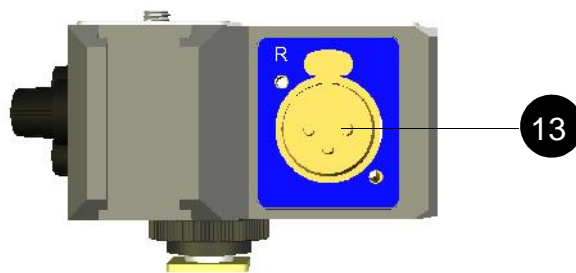
Side XLR Panel

- 13 **XLR Input**
Balanced XLR input to attach professional microphones or wireless systems. This sends the signal to the Right channel

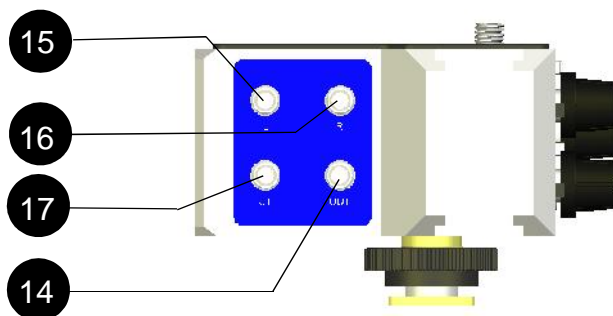
Side Mini-Jack Panel

- 14 **OUT**
Stereo output jack for connection to the camera
- 15 **L**
Left unbalanced 3.5mm mic input. Provides 3.5 volt plug-in power
- 16 **R**
Right unbalanced 3.5mm mic input. Provides 3.5 volt plug-in power
- 17 **S**
Stereo unbalanced 3.5mm mic input. Provides 3.5 volt plug-in power

Side XLR Panel



Side Mini-Jack Panel



Power and Charging Status

Charging

Use the supplied Micro USB Cable connected to a USB power source to charge the LiPo battery in the adapter.

The Adapter should be fully charged before use to ensure maximum run times.

The Power LED indicates power status as follows:

Charging: Flashing RED

Charged: Solid GREEN

External Power

The MICRO USB Cable can also be used to power the adapter from an external USB battery pack. It should not be powered by a USB AC adapter as that will introduce noise into the audio.

Power Status

The Power LED indicates the number of hours of battery life after being fully charged (no phantom).



Notes

The rechargeable battery has a limited service life and should only be replaced by the manufacturer. To prolong battery life, avoid deep discharges and recharge when the Power LED turns yellow.

Setup Guide

Mounting and Connecting the Adapter to the Camera

- 1) Ensure that the camera and adapter are both switched off.
- 2) To mount the adapter under the camera, line up the mounting bolt on top of the adapter to the tripod hole on the underside of the camera. Turn the adapter mounting knob on the front panel to the right to screw the adapter securely under the camera. Remove the brass mounting foot to attach the adapter to a tripod.
- 3) To mount the adapter over the camera, attach the brass mounting foot to the adapter with the supplied Allen key, then slide on to the hot shoe of the camera.
- 4) Connect one end of the supplied SC35 output cable to the OUT of the adapter and the other end to the MIC on the camera.

Cheese Plate

When mounting the adapter on top of the camera, you can use the optional Cheese Plate to easily mount accessories on top of the adapter. It includes a number of threaded holes and an elongated mounting slot to fasten devices with shoe attachments.

Initial Setup

- 1) Connect your microphones or other audio gear to the adapter.
- 2) Set the PHANTOM switch to OFF if phantom power is not needed. Set to 48V only for condenser microphones that require phantom power to operate.
- 3) Set the MONITOR Switch to REC to monitor the audio from the microphones during recording.
- 4) Set the GAIN switch to HI. This is the normal setting for most microphones. If you are using very sensitive condenser type microphones, or recording very loud sounds, you may have to set the GAIN switch to LO to prevent distortion.
- 5) Set the M/S switch to M for mono when using one microphone. When using two microphones, you should normally set the switch to S for stereo to keep each channel separated.
- 6) Set the LEFT and RIGHT level controls fully counter-clockwise.
- 7) If your camera has a phone jack, you should plug your headphones into this to monitor the audio out of the camera. This is known as monitoring confidence sound. If your camera does not have this feature, plug your headphones into the PHONE jack on the adapter to monitor the audio going into the camera. Ensure that the VOLUME control is set low to avoid excessively loud audio from damaging your hearing.

Basic Operation

After following the above Initial Setup, you should be ready to start recording. The following setup is for cameras that only have Auto Gain Control (AGC) with no manual settings.

- 1) Turn the adapter POWER switch ON. The POWER LED should light green indicating good battery voltage.
- 2) Adjust the LEFT and RIGHT level controls until the level indicators flash green while capturing audio. Continue increasing the levels until the indicators just start flashing red. This will provide a good signal level to the camera and still offer plenty of headroom for higher transient signals. If the level indicator stays red, reduce the signal level until it only intermittently flashes red.

See “How to Setup Audio Bracketing” under **Advanced Operations** for a handy pro tip when using a single mic.

- 3) Adjust the VOLUME control for the headphones to a comfortable listening level.
- 4) Turn on the camera and do a test recording and then play back the audio from the camera to determine if the captured audio is acceptable.

See “Playback Monitoring” to learn how to hear playback audio from the adapter if your camera does not have a headphone jack.

- 5) The Auto Gain Control (AGC) in the camera will vary the amount of gain depending upon the input signal level. During quiet moments, the AGC will increase the gain, which will also increase the amount of hiss from the camera preamplifiers.

See “Using Cameras that have Manual Audio Controls” under **Advanced Operations** to reduce this problem.

Notes on Getting the Best Audio Performance

The most common problem in recording professional audio on today's DSLR cameras is the hiss generated by the camera preamplifiers. You will never completely eliminate all hiss, which is normal, but you can reduce it so that it is no longer a problem.

The most important thing to remember when recording audio is to set the audio levels correctly as explained in this manual.

Setting the levels too low will give you a poor signal-to-noise ratio and lead to poor results. Also, setting the levels too high will cause clipping and distortion. Having the proper levels will ensure that good clean audio signals are being sent to the camera for the highest quality audio.

You should use a quality professional microphone, and proper mic placement and techniques for optimum results.

Playback Monitoring

To monitor audio from the camera during playback you will need to use the second SC35 cable that came with the adapter. Connect this cable between the phone out on the camera (if it has this feature) and the MONITOR IN on the adapter. Set the MONITOR switch to PLAY. Alternatively, you can also connect the AV Output from the camera using the appropriate AV cables and adapters.

You can now play back the clip and hear the audio through your headphones connected to PHONE output on the adapter.

Note that the playback audio may appear to have an excessive amount of hiss. This is normal since the signal is passing through the relatively noisy analog circuitry of the camera and headphone amplifier. This is not representative of the actual recorded digital file.

Advanced Operation

Using Cameras that have Manual Audio Controls

If your camera allows you to disable the AGC feature we recommend that you do so to get the best performance. Set the camera to manual mode and the camera gain as follows:

Canon DSLR cameras	1 click above off
Nikon DSLR cameras (With gain settings 0 to 20)	Set to 5
(With gain settings LO,MED,HI)	Set to LO
Panasonic DSLR cameras	Set to -12dB
Other DSLR's and camcorders	Set the gain to between the lowest setting and about 25% of maximum. You will have to do some test recordings to find the optimum setting and to calibrate the VU meter to the camera.

This setup will keep the gain in the camera low for the best performance.

Use the VU meter on the camera to set the average recording level at about -12dB. Be careful to avoid the peak audio from going over the 0dB mark which may cause clipping and distortion.

How to Setup Audio Bracketing

Audio Bracketing is simply a technique of setting a secondary channel at a lower level to use as a backup in case the primary channel gets blown out from an overly hot signal. This can be used anytime a single mono mic is being used with the adapter. It is very easy to do:

- 1) Plug the mic into any input which will be the primary channel.
- 2) Set the OUTPUT switch to M for MONO.
- 3) Adjust the primary channel level as usual.
- 4) Adjust the other secondary channel at a somewhat lower level between 10 and 20dB.

Features

Inputs

- One balanced XLR connector
- Two unbalanced 3.5mm jacks with plug-in power
- One stereo unbalanced 3.5mm jack with plug-in power
- MONITOR IN for playback monitoring

Output

- Unbalanced stereo mini-jack for connection to the camera

Headphone Monitor

- Built-in headphone amplifier with volume control
- 3.5mm phone jack

Phantom Power

- Switchable 48V phantom power for the XLR input

Level Indicators

- Good/Over level indicators

Gain Switch

- Two gain settings to match any microphone

Level Controls

- Adjusts output level on each channel

Low Noise Preamplifiers

- Exceptionally low-noise circuitry for superb audio
- Wide-bandwidth for full rich sound

Playback Monitor

- Provides an easy way to monitor audio on playback

Power

- Built-in rechargeable LiPo battery
- Battery status indicator
- Micro USB jack for charging / external power option

Case

- Sturdy extruded aluminum enclosure
- Two built-in mounting shoes
- Removable cheese plate

Specifications

Maximum Input Levels	LO gain -14dBu HI gain -29dBu
Output Level	-26dBu when level indicators change to red
Frequency Response	20Hz to 20kHz (+/- 0.5dB)
THD+N	Less than 0.03% @ 1kHz, -30dBu input
S/N Ratio	85dB @ 1Khz, -30dBu input
Gain	LO +15dB HI +30dB
Phantom Power	Regulated 48 volt power Current to 14mA (direct short)
Plug-in Power	3.5 volts on all mini-jack mic inputs
Battery Type	Built-in 3.7V 2400mAH LiPo
Battery Duration	10 hours typical (no phantom)
Charge Time	4 hours
Dimensions	3.5" x 4" x 2" (L x W x H) (89 mm x 102 mm x 51 mm)
Weight	14 oz. (0.4 kg)



This device complies with the FCC Rules, Part 15, Class B

Warranty Information

Limited Two Year Warranty

This warranty covers any defects or malfunction in your new BeachTek adapter for two years from date of purchase.

BeachTek will replace or repair any defective or malfunctioning adapter, within the warranty period, at no charge. The warranty does not cover damage resulting from accident, alteration, misuse or abuse. The device must be sent to our service center at your expense.

Should you require service please contact us first before returning the unit to us. Return instructions can be found on our website at www.beachtek.com on the Support page.

Upon receiving the returned adapter it will be inspected and replaced or repaired if found defective. The unit will be shipped back to you within five business days at our expense.

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