DRANETZ

THE STANDARD FOR ENERGY & POWER MEASUREMENT

PQ+Sentry

DRANETZ HDPQ® with GoPro Hero4

User Instructions

Dranetz
1000 New Durham Road, Edison, New Jersey 08818
Telephone 1-800-372-6832 or 732-287-3680
sales@dranetz.com • *www.dranetz.com*

Published by Dranetz
1000 New Durham Road
Edison, NJ 08818-4019 USA
Telephone: 1-800-372-6832 or 732-287-3680
Fax: 732-248-1834
Web site: www.dranetz.com
Copyright ©2015 Dranetz
All rights reserved.

No part of this book may be reproduced, stored in a retrieval system, or transcribed in any form or by any means—electronic, mechanical, photocopying, recording, or otherwise—without prior written permission from the publisher, Dranetz, Edison, NJ 08818-4019.
Printed in the United States of America.

P/N 899252 Rev A 06.30.15

Introduction

PQ+ Sentry Add On

The Dranetz HDPQ® family is capable of integrating with a GoPro Hero4 camera. With this option, the HDPQ can trigger on rms (including sags / swells) or impulse type events and control the GoPro camera in two modes, either loop mode or record time period. While the Dranetz HDPQ is monitoring power parameters, the GoPro can be synchronized to record the visual / audio environmental surroundings of your installation. The Dranetz HDPQ triggers the camera to save video at the time of a disturbance.

Note: This Add On feature is only available for use with the WiFi capable Dranetz HDPQ Xplorer, Xplorer 400, and Guide instruments.

The available options are described as follows.

Part Number	Description
GOPROHDPQ	HDPQ camera driver only (factory installed)
GOPROHDPQ-UG	HDPQ camera driver only (user installed) Note: This driver is ordered through the Dranetz Customer Service Department but delivered by Dranetz Technical Support Department.

Getting Started

Activation Key

The PQ+ Sentry feature is an option that requires an activation key. If your HDPQ Series instrument was ordered with this option, then the activation key was factory installed. To verify that Camera Control driver has been installed, go to the setup instrument menu and press the “Add On” button and the “Camera Control” button will appear if its installed.

If you are upgrading an existing HDPQ instrument then you need to contact customer support to purchase the option, have your instrument serial number available.

For pricing and availability, contact Dranetz Customer Service Department at (732) 287-3680 or 1-800-372-6832.

Update HDPQ firmware

HDPQ Instrument Requirements
The following HDPQ minimum requirements are necessary to utilize the Add On, camera, GoPro option.

- HDPQ instrument Xplorer, Xplorer 400, or Guide
- HDPQ Instrument Firmware version 1.2.5 (or greater) must be installed before installing the Add On, camera, GoPro option firmware.

For the latest Dranetz HDPQ instrument firmware version available for download, log onto the website www.dranetz.com for details.

Install “Add Ons” to HDPQ

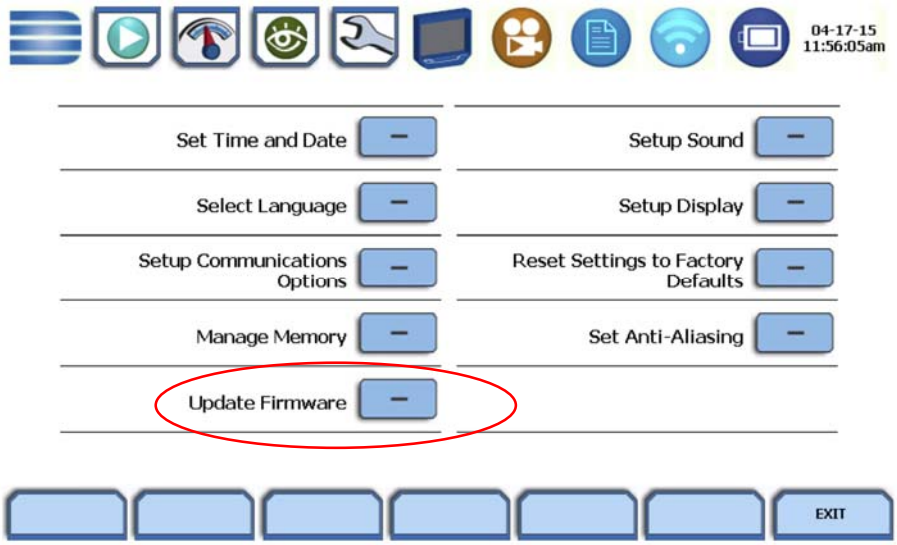
Upon receiving the applicable “ngcamera_HDPXXXXXXX.hpk” firmware file from Dranetz Technical Support Department, proceed with installing the firmware as follows:

Copy the applicable “ngcamera_HDPXXXXXXX.hpk” to the root folder of a USB flash drive. Insert the USB drive only into the instrument bearing the serial number produced by the generated file.

Example: The filename “ngcamera_HDPXAJA001.hpk” will only load into instrument HDPQ serial number HDPXAJA001 and no other HDPQ instrument.

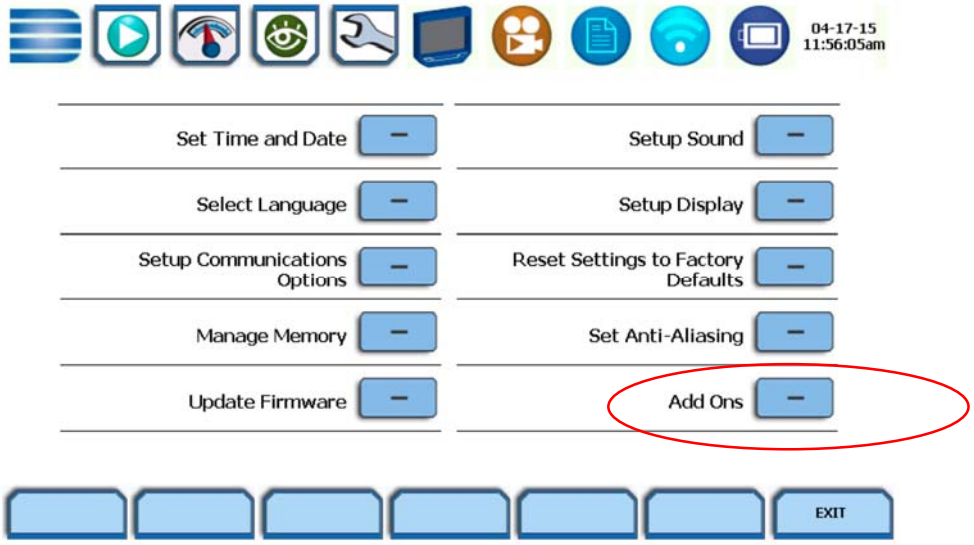
Note: Do not have any other HDPQ firmware files, such as “firmware.crc” or “firmware.hpk” on the drive in the root folder. If so delete them from the USB drive or create a new folder and move them into that folder.

Insert the USB flash drive into the instrument that you are upgrading and from the setup menu go to update firmware.

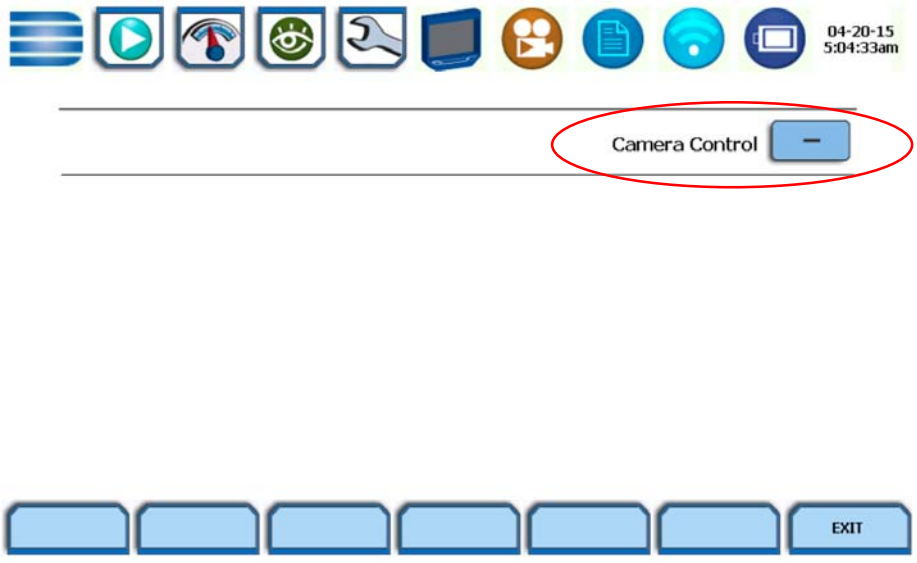


Select “update firmware”. The update firmware message will appear and then press “Yes”.

Once the firmware has been updated go back to the “setup instrument menu” and the “Add Ons” should appear in the menu.



Click on the “Add Ons” button and the following screen will appear.
The addition of the “Camera Control” button indicates that the GoPro camera control firmware has been successfully installed on the instrument.



GoPro Hero4 Camera Settings

Follow these steps to setup the wireless and capture settings of the GoPro camera.

There are two main buttons to toggle through and /or select specific settings of the GoPro camera.

Shutter / Select button
located on the top side of the camera

Power / Mode button
located on the front side of the camera.

GoPro Hero4 Pair to a device

Hero4 cameras must first be paired with a device running the GoPro APP before connecting to an HDPQ instrument. This is a one-time operation. Once the camera is paired with a phone or tablet device, an HDPQ is able to communicate with the camera without the presence of that device.
Refer to the GoPro camera user manual for information on how to download the APP and pair the camera with a device. Once the camera has been paired, power the camera OFF.

During the pairing process of the GoPro camera you will need to enter a “username” and “password”. Retain this information for safe keeping since you will need it when configuring the HDPQ.

Notes:

1. During the pairing process you will be required to enter a “username” and “password”, you will need this same information when connecting to the HDPQ.

2. Though not required, it is recommended that you do not use a default network name or password of your camera for security reasons or if more than one camera is being used with other instruments.
   Use the GoPro APP and refer to the GoPro user manual for additional details.

GoPro Hero4 Silver
Display Settings

After pairing the Hero4 Silver, it is recommended to disable the color display to conserve battery power when operating from battery. If the GoPro encounters a power outage for a long length of time, having the display set to off on the GoPro camera will allow the camera to operate longer while on battery power if required.

From a powered OFF state, single press the front Power /Mode button and wait for the camera to start up.

Press the Mode button repeatedly until the setup gears icon appears on the camera display.

Press the top select button.
"Wireless" will be the first item highlighted in the camera display.

Press the front mode button.
"TOUCH DISP" is highlighted in the camera display.

Press the top select button.

Press the front mode button, repeatedly until "DISP POWER" is highlighted in the camera display.

Press the top select button until “OFF” is highlighted in the camera display.

Press the front mode button, repeatedly until “BACK” is highlighted in the camera display.

Press the top select button

Press the front mode button, repeatedly until “Exit” is highlighted in the camera display.

Press the top select button, the camera will return to its Home screen.

Press and hold the front Mode button until the camera beeps several times and then powers OFF.

GoPro Hero4 Setup WiFi

Hold the camera so that the lens is facing you and the top of the camera is facing up. Upon power ON of the camera the display will provide user feedback with icons or text while programming the camera.

From a powered OFF state, single press the Power /Mode button and wait for the camera to start up.

Press the Mode button repeatedly until the setup gears icon appears on the camera display.

Press the select button.
"Wireless" will be the first item highlighted in the camera display.
Press the select button again and the selection list appears.

Press the Mode button repeatedly until the "GoPro App" selection is highlighted.

Press the select button.
"Existing" will be the first item highlighted in the camera display.

Press the select button, to select the previously created connection. The camera displays a wireless verification screen. After a few seconds a blue LED on the front of the camera will flash and the camera returns to its startup screen.

Press and hold the Mode button until the camera beeps several times and then powers OFF.

GoPro Record Modes

Loop Mode

In this recording mode, the camera will loop until an event is triggered by the HDPQ. The camera will record constantly into the same 5-minute-long section of the memory card until it is instructed by the HDPQ to start a new 5 minute section.
Once an event is triggered by the HDPQ, the GoPro will stop and save the current video file and then start a new file being looped. The HDPQ uses this mode to allow for constant video capture, saving only the pieces of video that correlate with power quality events.

Note: A video section consists of 5 one minute video files.

To set the camera into loop mode, hold the camera so that the lens is facing you and the top of the camera is facing up.

From a powered OFF state, single press the front Power /Mode button and wait for the camera to start up.

Press the front Mode button repeatedly until the setup gears icon appears on the camera display.

Press the top select button.

Press the front Mode button repeatedly until the “DFLT MODE” selection is highlighted.

Press the top select button repeatedly until the “DFLT MODE” is set to “DFLT:LOOPING”.

Press the front Mode button repeatedly until the “EXIT” selection is highlighted.

Press the top select button.

Press and hold the front power button until the camera powers off the loop mode setting is saved to memory.

Video Mode

Recording in Video mode is used when recording for a set time period on the HDPQ. It will record at the specific time period set on the HDPQ and does not require to be triggered by an event. When using video mode the camera has to be manually powered ON to communicate with the HDPQ and will record video until the camera memory card fills or recording is manually stopped by the user.

To set the camera into Video mode hold the camera so that the lens is facing you and the top of the camera is facing up.

From a powered OFF state, single press the front Power /Mode button and wait for the camera to start up.

Press the front Mode button repeatedly until the setup gears icon appears on the camera display.

Press the top select button.

Press the front Mode button repeatedly until the “DFLT MODE” selection is highlighted.

Press the top select button repeatedly until the “DFLT MODE” is set to “DFLT:VIDEO”.

Press the front Mode button repeatedly until the “EXIT” selection is highlighted.

P

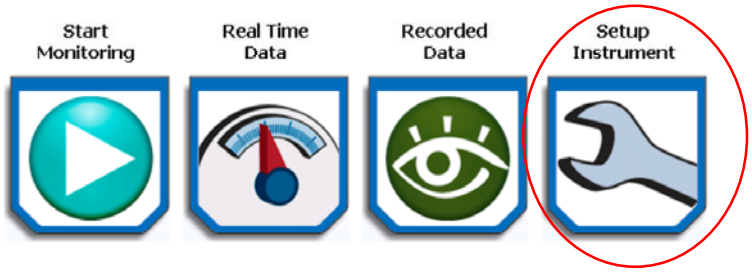
Press the top select button and the camera will return to its Home screen and be ready to record.

HDPQ Instrument Settings

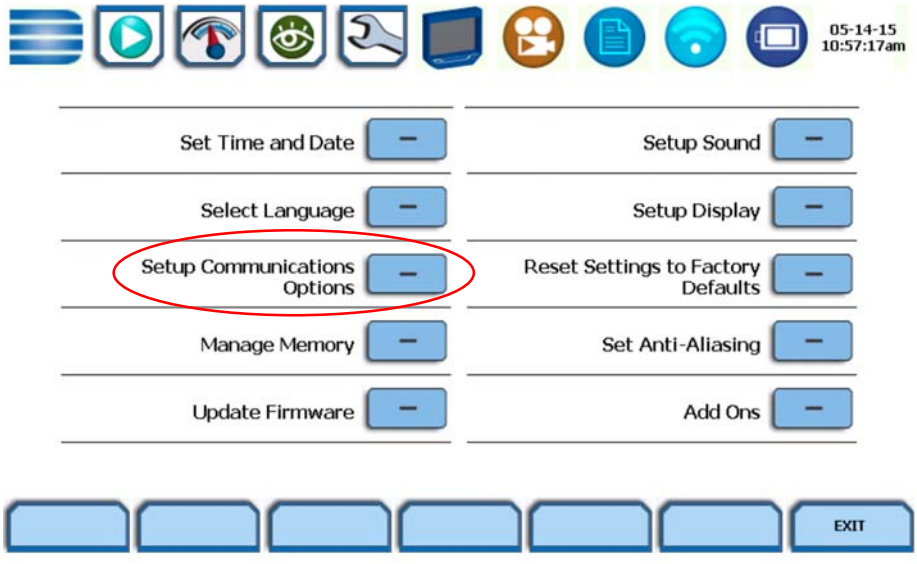
Follow these steps to setup the Dranetz HDPQ instrument for use with the GoPro Hero4.

HDPQ Communication Settings

Power up the HDPQ and wait until the home screen appears.

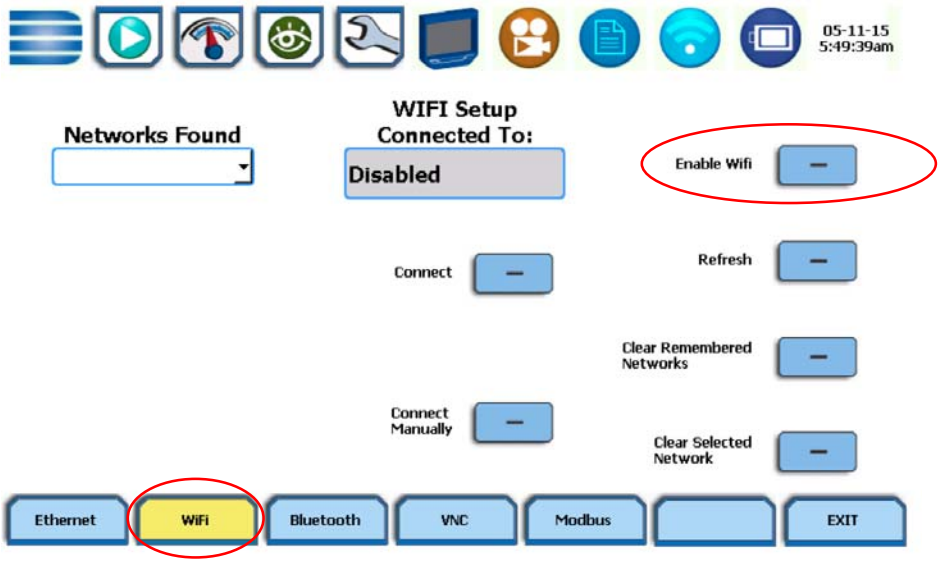


Press the “Setup Instrument” icon to advance to the next screen.



Press the “Setup Communications Options” button to advance to the next screen.

Press the “Wifi” button while in the setup communications options screen.

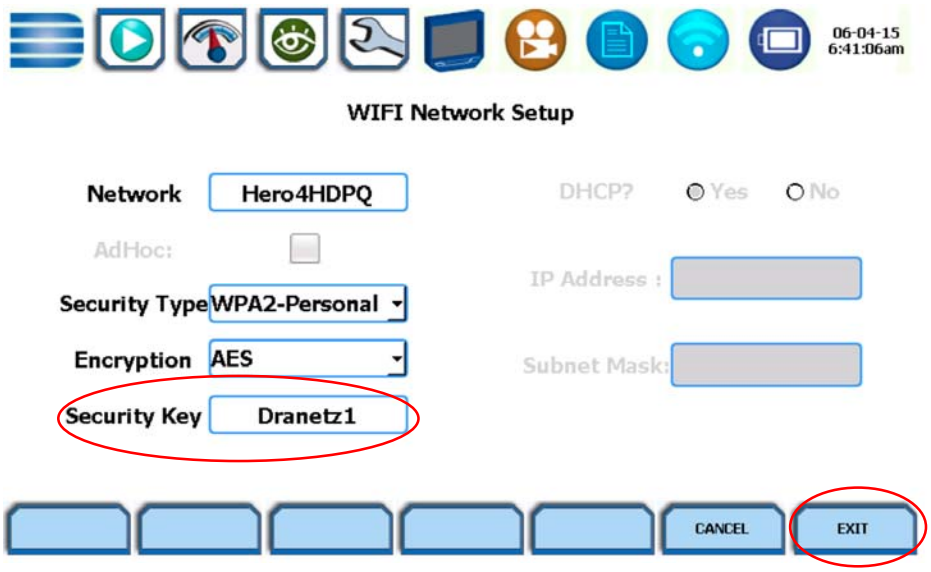


If WiFi is disabled, select the “Enable WiFi” button to search for the “Networks Found”

Note: Wifi must be enabled on the GoPro camera in the settings menu and set for GoPro App. The blue led on the camera will flash on and off indicating that the wireless communications for the camera is active.

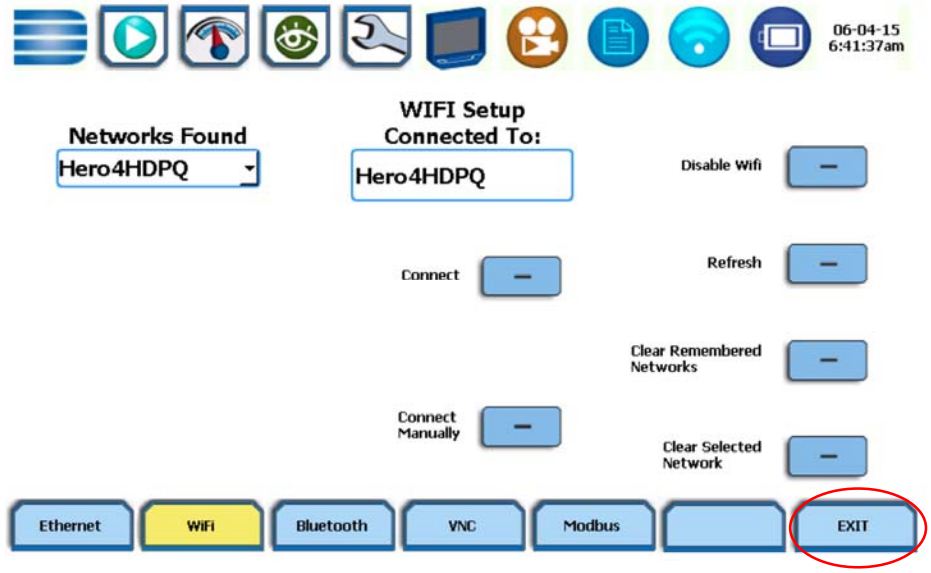
Pull down the Network Found list, select the network name that you chose for the GoPro camera and then press “Connect”. See below.

Touch the “Security Key” entry box, an alphanumeric keypad appears and enter the password that you chose for the GoPro camera.



Next press the “Exit” button and the following screen appears and shows that the GoPro camera has connected to the HDPQ instrument.

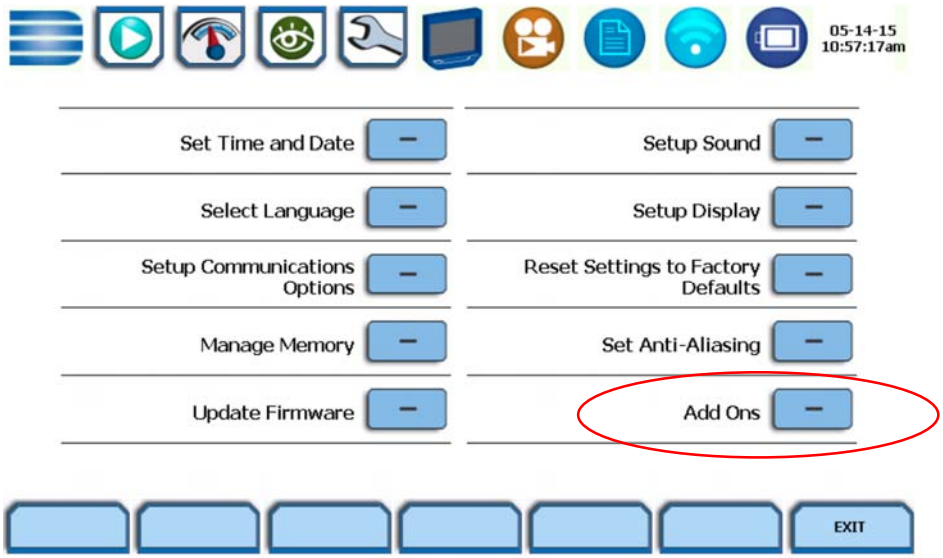
Note:
It can take up to 3 minutes for the connection name to appear, you may “Exit” before it appears.



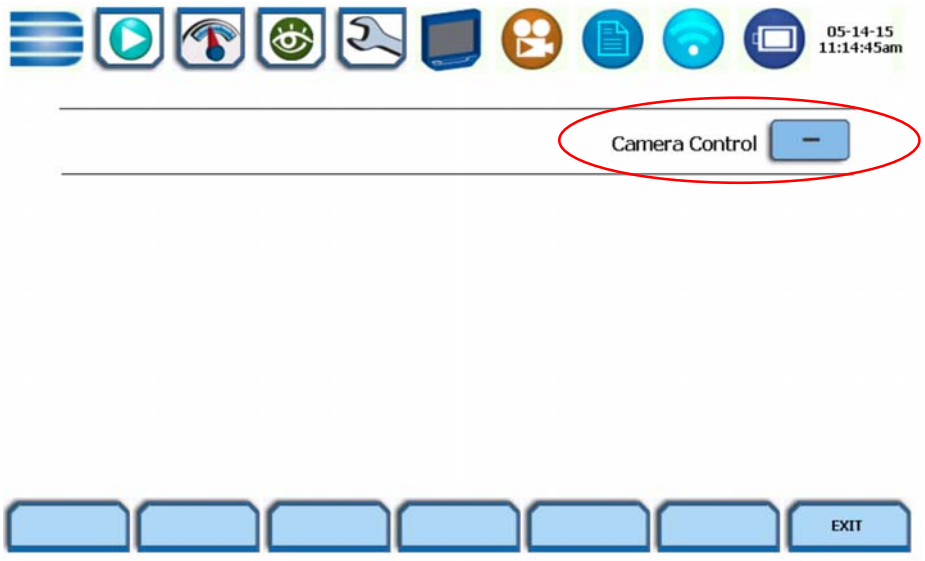
Press “Exit” and the GoPro camera communications settings are complete.

HDPQ Camera Control Settings

From the home screen press “Setup Instrument”.



Press the “Add Ons” button.



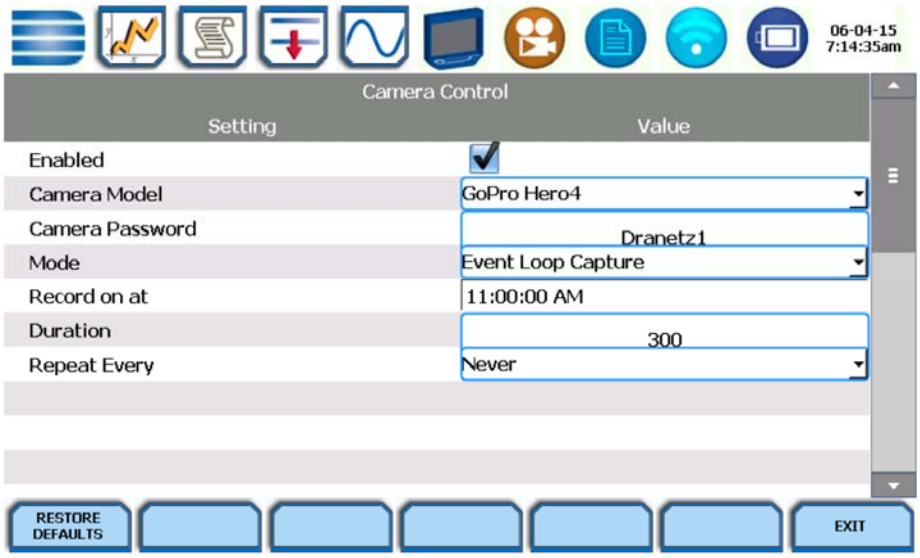
Press the “Camera Control” button.

There are two types of recording modes which are “Event Loop Capture “ or “Record at time / Every period”.

Note: Be sure that the GoPro camera is set in same mode as the HDPQ.

Event Loop Mode

In this mode the camera will record constantly into the same 5-minute-long section of the memory card until the HDPQ communicates to the camera to start a new session, saving the previous session. The HDPQ utilizes this mode to allow constant video capture and saving only the sections of video that correlate with power quality type events.



Note:
Be sure to check the “Enabled” box before exiting.
Press exit three times to return to the Home Screen and turn Monitoring ON.

Record at Time / Every Period

In this mode the GoPro camera will record at specific time settings, the available choices are Never, hour, day, and week. It is recommended to set the HDPQ for a 5 minute record duration in this mode and will continue to record video until the camera memory card fills.

Never The camera will only record once when the specified time and date is reached.

Hour The camera will record every hour for the set time and date.

Day The camera will record once a day for the set time and date.

Week The camera will record once a week for the set time and date.

Note:
Be sure to check the “Enabled” box before exiting.
Press exit three times to return to the Home Screen and turn Monitoring ON.

HDPQ turn "Monitoring ON"

Once all settings are finalized on the GoPro camera and the HDPQ "communications" and "Add On" settings are finalized, the last step is to turn "Monitoring ON" the HDPQ. It is recommended to connect the GoPro camera to the USB port on the HDPQ using the USB adapter provided. This will power the camera from the HDPQ.
Setup the HDPQ to monitor as you normally would do. Refer to the HDPQ user guide for details.

Important

Loop Mode	If you are using the looping feature for the GoPro camera you should configure the HDPQ instrument for Power Quality monitoring since power quality events are what trigger the instrument to save video. **Once the GoPro camera is set in loop mode the camera, you have to power on the camera before turning monitoring ON the HDPQ.**
Record	If you are using the standard Record video feature for the GoPro camera, you have to power on the camera before turning monitoring ON the HDPQ.
Camera Power	The GoPro camera can be powered by the HDPQ instrument with the included USB charge adapter (Startech USB2CHADP). Connect the USB cable included with the GoPro camera to the USB charge adapter and then connect to the HDPQ. When using it in charge mode the led must illuminate Red, if it is illuminating blue when connected to the HDPQ press the button on the adapter once and it will illuminate to Red indicating charge mode. Next connect the USB cable supplied with the GoPro to the camera and then the other end to the USB charge adapter. Note: If the GoPro camera is to be used at distances greater than the USB cable length supplied you will require to use a USB charger rated at least 1A that is not supplied by Dranetz.

Power outages If a power outage occurs for a longer period than the HDPQ battery run time, the HDPQ will resume monitoring when power is restored. However, the GoPro camera may not retain all of its settings and will have to be restarted to be sychronized again with the HDPQ.

Statements and Notices

Statement of Warranty

All Dranetz manufactured portable instruments and accessories are warranted to the original purchaser against defective material and workmanship for a period of three years from the date of invoice. User replaceable instrument batteries are warranted for a period of one year from the date of invoice. Certain Dranetz branded accessories, such as current transformers and other accessories not manufactured by Dranetz, are warranted to the original purchaser against defective material and workmanship for a period of one year from the date of invoice. Warranties for products and accessories sold by, but not branded as Dranetz, are covered by their respective manufacturer's warranties and are not warranted by Dranetz. Dranetz will repair or replace, at its option, all defective equipment that is returned, freight prepaid, during the warranty period. There will be no charge for repair, provided there is no evidence that the equipment has been mishandled or abused. This warranty shall not apply to any defects resulting from improper or inadequate maintenance, buyer-supplied hardware/software interfacing, unauthorized modification or misuse of the equipment, operation outside of environmental specifications, or improper site preparation or maintenance.

Statement of reliability

The information in this manual has been reviewed and is believed to be entirely reliable, however, no responsibility is assumed for any inaccuracies. All material is for informational purposes only and is subject to change without prior notice.

Notice regarding proprietary rights

This publication contains information proprietary to Dranetz. By accepting and using this manual, you agree that the information contained herein will be used solely for the purpose of operating equipment of Dranetz.

Copyright

This publication is protected under the Copyright laws of the United States, Title 17 et seq. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form, by any means, electronic, mechanical, magnetic, optical, chemical, manual, or otherwise, without the prior written consent of Dranetz, 1000 New Durham Road, Edison, New Jersey 08818.

Copyright © 2015 Dranetz
All Rights Reserved. Printed in the United States of America.

Trademarks

Dranetz HDPQ® is a registered trademark of Dranetz.
Other trademarks and trade names are those of their respective owners.