WebIO KeyOn Software

For Wireless Sensor Events and Notification



Manual KeyOn Beta version 0.18 05/06/2010

WebIO-KeyOn PC Computer software provides for advance configuration of WebIO and monitor of WebIO sensor events for email and SMS/text message notification. KeyOn will also provide additional more advanced sensor based control automation (future version).

KeyOn PC software runs on a Windows PC for monitoring a local or remote Internet accessible WebIO (WebIO version 4.0, wireless sensor version).

KeyOn features:

Allows each wireless sensor received by WebIO to be configured for notification on sensor states of "Alert/On/Lock" or "Normal/Off/Unlock", as defined by the user. Notification can be sent as an email or SMS text message.

Automation allows each wireless sensor received by WebIO to be configured to send X10 control messages based on sensor state (future version of KeyOn).

Logging of each WebIO sensor reading to a comma delimited file.

Instantly monitors a WebIO located on the same local area network as the PC computer running the KeyOn software. KeyOn can also monitor a WebIO at a remote network such as a WebIO installed at a vacation home.

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Download and Installation

KeyOn is currently in "Beta" software release for Windows operating system using the .NET framework. This application is a very early release and does not yet have an install package.

This app uses the Microsoft .NET framework which included with Windows Vista. On Windows XP you may need an install program for this app, which has not been created yet.

To get the latest version of KeyOn, download KeyOn from: <u>http://www.webio.us/doc/documentation.html</u>

After download, the attachment/file: "WebIO-KeyOn_vxxx.zip" where xxx represents the KeyOn version number, and unzip the file. In a folder called WebIO-KeyOn in which you will find another folder called "WebIO-KeyOn" of which you will find the executable file called "KeyOn.exe" run this app.

Note: WebIO-KeyOn PC software is also located on the include WebIO CD-ROM. To install, find and copy directory "WebIO-KeyOn_vxxx" to your PC, run executable file: KeyOn.exe in the WebIO-KeyOn folder.

When first running this app you may get a warning message (pictured below) from Windows announcing that this app is accessing networking functions. Accept this (Unblock). This app uses TCP sockets to periodically connect to WebIO and to connect to your defined email account.

🔐 Wind	ows Security Alert	
۲	Windows Firewal	I has blocked some features of this program
Window unblock the risks	s Firewall has blocked this this program, it will be unb of unblocking a program?	program from accepting incoming network connections. If you locked on all private networks that you connect to. What are
	Name:	vshost.exe
	Publisher:	Microsoft Corporation
	Path:	C:\tav73_projects\webio\code\webio_temp-monitor\webio-tn
	Network location:	Private network
		What are network locations?
		Keep blocking 💮 Unblock

KeyOn is intended to work from across the Internet so that you don't have to run this app on a PC at the same location as your WebIO. Such that a WebIO installed at a lake home can be monitored by this app running on a PC at your home or office.

Using KeyOn For Installation of WebIO on your Local Area Network

When initially installed on a network, WebIO will accept an IP address as assigned by a DHCP server, such as a DHCP service built into home network routers (Linksys, Netgear, D-Link, etc). If you do not have DHCP service on your network, see the WebIO user manual 2.0 for configuring WebIO with an IP address using the WebIO Setup software. Note: WebIO version 4 does not have an LCD display as does version 2.

Network setup steps:

 Install and run the WebIO-KeyOn software on a PC computer on the same local network as WebIO. This software will be used to discover your WebIO IP address as assigned by your DHCP server. See the WebIO-KeyOn manual for more information on installation and use. Note: There are other ways of finding the IP address of your WebIO, such as looking in your routers connected device list.

vents	Sensor Log	Sensor	Automation	Sensor Registratio	n Notification	Labels	Email Settings	Data	Connection	App Settings
			WebIO	Events and	Notification	1				
Date	e Time		Event Type	Device	Description					
4/21 4/21 4/21 4/21 4/21 4/21 4/21 4/21	8/2010 2 29:3 8/2010 2 27:4 8/2010 2 27:0 8/2010 2 27:0 8/2010 2 26:5 8/2010 2 26:5 8/2010 2 24:0 8/2010 2 21:5 8/2010 2 21:5 8/2010 2 19:5 8/2010 2 19:5	9 PM 6 PM 2 PM 0 PM 8 PM 5 PM 2 PM 9 PM 4 PM 1 PM 3 PM	Sensor WebIO Sensor Sensor WebIO Sensor WebIO Sensor Sensor WebIO	Garage Mot UDP 9B 9B UDP AD Entry 1 UDP AD AD UDP	Ch:2, NORMAL ID:0F:AA:C4, IP Ch:0, NONE ID:0F:AA:C5, IP Ch:0, NONE Ch:0, NONE Ch:1, NORMAL ID:0F:AA:C5, IP Ch:0, NONE ID:0F:AB:52, IP ID:0F:AB:52, IP	192.168 192.168 192.168	1.71, Version:4. 1.70, Version:4. 1.70, Version:4.	1.16 1.16 1.16		
4/20 4/20 4/20 4/20	8/2010 2:18:3 8/2010 2:16:5 8/2010 2:03:0 8/2010 2:01:3	8 PM 8 PM 6 PM 6 PM	Sensor WebiO WebiO WebiO	Nothing UDP UDP UDP	VebIO IP A	ddress:	192.168.1	1.71		

Figure 1: WebIO-KeyOn showing your WebIO's IP address

Note: WebIO-KeyOn, open TCP/IP Port 4041 on your PC for receiving network messages from WebIO. On first run of this software, Windows operation system may require your acknowledgement to allow this port to be open.

 Power up WebIO. When WebIO boots is sends out a network message which WebIO-TM receives to "find" WebIO on the network (See figure 1 above). Also every time WebIO version 4 receives a wireless sensors message, WebIO will relay the message on the network for WebIO-TM to receive, this also allows WebIO-TM to "re-discover" WebIO on the network if needed.



Figure 2: WebIO connection panel

 Connect to your WebIO using an internet browser. Example. If your WebIO is at IP address 192.168.1.10 then enter URL address: <u>http://192.168.1.71</u> into your computer's web browser, such as Internet Explorer (IE), Opera, Firefox, etc.

🏉 WeblO - Key Eleven - V	Vindows Internet Expl	orer provided by	y Yahoo!	
🕒 💿 💌 🙋 http://1	192.1 🔻 🗟 🍫	× 🛛 Yahoo	ſ	ρ.
🔶 Favorites 🛛 🚕 🔊 e	eBav 🔊 Customize Li	inks 🌈 Sugges	ited Sites 👻 🔊 Web S	lice Gallery 🔻 💙
WeblQ - Key Flavor			- Page - Safety	Tools = 33
WeblO - Key Eleven			s - Page - Sarety	10013 1
				Login
YYEB	IO			Logout Version 4.1.15
I Control Devices I X10 C	odes i Sensors i Ser	nsors Admin I A	utomation I Exp I Adr	nin i Edit Labels i
Contorbences		The second s		Key Eleven
WeblO Wirele	ss Sensors			
Security Mode:	🛙 Unlocked 🛛 🔲 Loc	xed .		
Wireless Sensor	rs/Remotes	_		
# Label	ID	State	Date Time	
1 Entry 1	96	Normal	4/10/10 10:52 a	
2 Garage Mot	AD	Alert	4/10/10 10:33 a	
3 Remote 1	6D	Unlock	1/14/10 2:06 p	
4 Front Door	30	Normal	9/12/09 5:21 p	
5 Motion 2	00		0/0/00 0:00	
6 X10 Remote	01	off	4/6/10 9:22 p	
7 Door Bell	00		0/0/00 0:00	
8 Sump Pump) 00		0/0/00 0:00	
Sensors Activity	History Channel: 1			
State	Date Time			
Normal	4/8/10 12:26 a			
Normal	4/9/10 2:59 p			
Alert	4/9/10 3:31 p			
Alert	4/9/10 3:33 p			
Normal	4/9/10 3:33 p			
Normal	4/10/10 10:52 a			
Activity Channel #	£ I •			
Request Data	Refresh Tables	2		
	😌 Internet Protec	cted Mode: On	- G •	🔍 100% 🔻 🖉

Figure 3: Connection to WebIO (temperature page) using Internet Explorer web browser

4. Set WebIO with a Static IP address. This is useful so WebIO's LAN IP address isn't re-assigned an IP address by your routers DHCP service if WebIO is rebooted. For more information on WebIO IP address and Internet access to WebIO see "WebIO for Internet Access" at: <u>http://www.webio.us/doc/router-setup.html</u>

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KeyOn Connection to WebIO

IMPORTANT: Before using KeyOn, its important to understand how WebIO makes network connect to KeyOn and how KeyOn connects to WebIO.

WebIO communication to KeyOn

WebIO — KeyOn (Default)

By Default, WebIO is setup to broadcast sensor events on the Ethernet network, of which KeyOn installed on a computer on the same network will receive WebIO message on TCP port 4041.

WebIO — KeyOn (Specific Computer)

WebIO can be configured using the KeyOn Connection page to send its network messages to a specific computer on the local network instead of broadcasting on the network.

WebIO --> Internet --> KeyOn

WebIO can be configured using the KeyOn Connection page to send its message across the Internet to an Internet connected (and routable) computer running the KeyOn software. In this case, WebIO requires the MAC address of the router WebIO is connected to for access to the Internet and the Internet routable IP address and port for connection to KeyOn running on a remote Internet routable computer.

KeyOn communication to WebIO

KeyOn communication to WebIO is only used for configuration of WebIO and retrieving WebIO settings

KeyOn → WebIO

For KeyOn to communicate to WebIO, KeyOn needs to know the IP address of WebIO. If both WebIO and KeyOn are on the same network, KeyOn will find WebIO on the network (find WebIO IP address) when either WebIO is rebooted (WebIO sends a "here I am" message) or when WebIO sends a sensors event message on the network (WebIO in default mode). You can also enter the IP address of your WebIO on the KeyOn Connection Page.

KeyOn → Internet → WebIO

KeyOn can be configured to communicate with a remote Internet Routable WebIO. KeyOn requires the Internet IP address of either WebIO or the Route WebIO is behind and KeyOn requires the port number of the router forward to WebIO.

WebIO communication to KE-iHome Internet portal service

WebIO can be configured to send its event message to the KE-iHome Portal Service or message received by the KeyOn software can further be relayed to KE-iHome.

KeyOn Connection Page

The Connection page defines the TCP connection from KeyOn to the installed WebIO.

🥙 Key Eleven - KeyOn 0.16		
WebIO Event and Notification Proces	ssing	V Notification Enabled
Events Sensor Log Sensor Automation Sensor Re	gistration Notification Labels Em	ail Settings Data Connection App Settings
WebIO IP Address: 192.168.1.70	Find WebIO	Test WebIO IP + Get Version VebIO Version: WebIO 4.1.15
Event Messages Serial Connection		
Set WebIO network settings for sending	event messages	Set to default broadcast settings
WebIO sensor event messages	IP Address to send events to:	
running on a PC on the same	255.255.255.255	iHome Portal
computer network or messages can be sent accross the Internet to a	UDP Port to send to: 4041	
remote PC running this application	MAC address to send to:	Note: WeblO program switch must be in "Prq" position. Remember to
Service.	FF:FF:FF:FF:FF:FF	set to "Lock" when complete
		Set WebIO Event Address
Network Connection Open WebIO IP Address: 192	2.168.1.70	© 2010 Key Eleven, LLC

If KeyOn has not discovered the IP address of your WebIO and you know the IP address of your WebIO, then enter the IP address of WebIO into the "WebIO IP Address" field and the WebIO TCP port number into the "Port" field. Then select the [Test WebIO IP + Get Version] button, this will cause KeyOn to attempt to connect to WebIO and retrieve its version number and also validate the IP address for use by other procedures of KeyOn.

In the screenshot above the WebIO is installed on a local network (the same network as the PC running this application). WebIO having the LAN IP address of 192.168.1.70 and using the default web server port of 80.

In the case of a remote Internet connected (and routable) WebIO, the IP address would likely be the WAN address of the router of which WebIO is attached behind and have a port number used by the router to forward incoming traffic to WebIO. An example may be a WAN IP Address: 24.116.82.1 and Port: 8087.

The Event Messages tab is used to configure WebIO for sending its event message over the TCP/IP network. By Default WebIO broadcasts all event message on the local network, this ensures that KeyOn (running on the same network) will receive WebIO message.

KeyOn listens for network message on UDP port 4041 (by default) also WebIO sends network message to port 4041. KeyOn port can be changed by editing app.conf file. WebIO port to send to can be changed by setting the "port to send to" field. To configure WebIO to send event message to a specific computer/network address, enter the address in the "IP address to send events to" field.

If WebIO needs to send network events through a router (i.e. send message across the Internet), WebIO needs to know the MAC address of the router. Enter the router MAC address into the "MAC address to send to" field. Note: often the MAC address of routers is printed on the bottom of the router, and/or seen on a internal router configuration webpage.

After entering WebIO connection settings using the [Set WebIO Event Address] button to publish these setting to WebIO.

These network configuration settings can get to complex, yet if you are familiar with typical Internet TCP/IPv4 addressing and router configuration, these steps will be familiar.

Note: Incorrect configuration of WebIO event message network setting can cause WebIO to no longer communicate with KeyOn. Or change from communication with a KeyOn on a local network to only communicate with KeyOn on a remote network. WebIO can only send network message to one destination.

KeyOn Events

The Events page/tab lists events from WebIO and KeyOn application events.

	Key Eleven - KeyOn 0.16	~	217	1/JVW	1	
١	WebIO Event and N	lotification	Processing	J		Votification Enabled
E	Events Sensor Log Senso	or Automation	Sensor Registrat	ion Notification Labels Email Settings Data	Connec	tion App Settings
		WebIO	Events and	Notification		
	Date Time	Event Type	Device	Description		
	4/30/2010 3:56:03 PM	Sensor	Entry 1	Ch:1. NORMAL		
	4/30/2010 3:56:00 PM	Sensor	Entry 1	Ch:1, ALERT		
	4/30/2010 3:55:32 PM	Sensor	Motion 2	Ch:5, NORMAL	-	
	4/30/2010 3:47:43 PM	Sensor	Motion 2	Ch:5, NORMAL	=	
	4/30/2010 3:47:35 PM	Sensor	Motion 2	Ch:5, ALERT		
	4/30/2010 3:46:38 PM	Sensor	Motion 2	Ch:5, NORMAL		
	4/30/2010 3:45:55 PM	Sensor	Motion 2	Ch:5, NORMAL		
	4/30/2010 3:45:44 PM	Sensor	Motion 2	Ch:5, ALERT		
	4/30/2010 3:44:17 PM	Sensor	Motion 2	Ch:5, ALERT		
	4/30/2010 3:43:42 PM	Sensor	Motion 2	Ch:5, NORMAL		
	4/30/2010 3:43:34 PM	Sensor	Motion 2	Ch:5, ALERT		
	4/30/2010 3:42:58 PM	Sensor	Motion 2	Ch:5, NORMAL		
	4/30/2010 3:42:49 PM	Sensor	Motion 2	Ch:5, ALERT		
	4/30/2010 3:42:21 PM	Sensor	41	Ch:0, ALERT-LOCK		
	4/30/2010 3:42:05 PM	Sensor	Motion 2	Ch:5, ALERT	-	
	4/20/2010 2.41.20 DM	C	Maran O	CLE NODMAL	·	
N	etwork Connection Open	WebIO IP Ad	dress: 192.168.	1.70		© 2010 Key Eleven, LLC

Events include WebIO wireless sensor events, Expansion port inputs events and WebIO Network events. Also included are event from the KeyOn application.

KeyOn Sensor Log

The Sensor Log tab displayes WebIO wireless sensor event.

3	Key Eleven - KeyOn 0.	.16	~	1174		INN	$\Lambda \rightarrow$	100		x
,	WebIO Event and	d Not	ification	Processing				🔽 Notif	ication Enab	had
			moduon	rriocossing				NOUI		licu
	Sugarta Sensor Log Sa	opeer A	tomation	Sensor Persistention	Notifion	tion Labela Email Settinga	Data Con	naction An	Cottinge	
	Evenus Contoor Log Se	CIISOI A	utomation	Sensor Registration	INDUITCA	uon Labeis Email Setungs		nection App	5 Settings	
	Date Time	C.	Sensor	Event	Notify	Note	Readin	Sort DT	WebIO ID	*
	4/30/2010 3:56:03 PM	1	Entry 1	NORMAL	False		1/1 12:0a	2010-04	00:00:80	
	4/30/2010 3:56:00 PM	1	Entry 1	ALERT	False	Notification requires Lock	1/1 12:0a	2010-04	00:00:80	
	4/30/2010 3:55:32 PM	5	Motion 2	NORMAL	False		1/1 12:0a	2010-04	00:00:80	Ξ
	4/30/2010 3:47:43 PM	5	Motion 2	NORMAL	False		1/1 12:0a	2010-04	00:00:80	
	4/30/2010 3:47:35 PM	5	Motion 2	ALERT	False		1/1 12:0a	2010-04	00:00:80	
	4/30/2010 3:46:38 PM	5	Motion 2	NORMAL	False		1/1 12:0a	2010-04	00:00:80	
	4/30/2010 3:45:55 PM	5	Motion 2	NORMAL	False		1/1 12:0a	2010-04	00:00:80	
	4/30/2010 3:45:44 PM	5	Motion 2	ALERT	False		1/1 12:0a	2010-04	00:00:80	
	4/30/2010 3:44:17 PM	5	Motion 2	ALERT	False		1/1 12:0a	2010-04	00:00:80	
	4/30/2010 3:43:42 PM	5	Motion 2	NORMAL	False		1/1 12:0a	2010-04	00:00:80	
	4/30/2010 3:43:34 PM	5	Motion 2	ALERT	False		1/1 12:0a	2010-04	00:00:80	
	4/30/2010 3:42:58 PM	5	Motion 2	NORMAL	False		1/1 12:0a	2010-04	00:00:80	
	4/30/2010 3:42:49 PM	5	Motion 2	ALERT	False		1/1 12:0a	2010-04	00:00:80	
	4/30/2010 3:42:21 PM	0	41	ALERT-L	False		1/1 12:0a	2010-04	00:00:80	
	4 /20 /2010 2.42.0E DM		M-8 0	ALCOT.	F -l		1/1 10.0-	2010.04	00.00.00	-
	•								•	
	Open Sensor Log	D	elete Senso	or Log		Tip	p: Click on So	rt DT column	to sort by Da	ate
N	etwork Connection Open	n W	/ebIO IP Ad	ldress: 192.168.1.70)			© 2010	Key Eleven,	LLC

The sensor events displayed are also logged to file: SensorEvent.Log in the KeyOn application directory.

The sensor events table includes:

- Date Time The date and time that KeyOn received the sensor event from WebIO. Date Time is from the computer date time clock.
- Channel "C" column. Displays the WebIO channel number the sensor is assigned to. If the sensor is not registered to a channel the channel number will be 0.
- Sensor Name The user defined name for the Sensor. If the sensor is unregistered (not assigned to a channel) with WebIO the name will be the sensors ID.
- Event The name of the sensor event such as "Alert, Normal, On, Off, Unlock or Lock". Sensor events are assigned a number that is translated to a name. In the case a name is not defined the event name will be the event number.
- Notify Displays "True" if this event triggered a notification, displays "False" if a notification is not triggered.
- Note Displays notes on the event. In the case of an "Alarm" or "On" event that also requires WebIO to be in Lock mode to send a notification, the note will state "Notification requires Lock mode".

- Reading The WebIO date time stamp of the sensor event as assigned by WebIO using its internal real-time clock.
- Sort DT A date time format good for sorting the Sensor Log. Mouse click on the Sort DT column to sort by this date time format in ascending or descending order.
- WebIO ID The last three bytes of the WebIO MAC address.

The sensor readings are stored to a log file: {KeyOn_App_Path}\SensorEvent.log

When the KeyOn app is started it does not show sensor event from previous execution of KeyOn app. Selecting the [Open Sensor Log] button opens the Sensor Event log file for display, additional sensor readings are appended to the sensor log display table and appended to the log file.

The [Delete Sensor Log] button will delete/clear the sensor log file.

Sample readings of sensor log file:

5/6/2010 8:47:51 PM,1,Entry 1,ALERT,False,Notification requires Lock-Mode,00:00:80,1/1 12:0a,2010-05-06T20:47:51 5/6/2010 8:47:58 PM,1,Entry 1,NORMAL,False,,00:00:80,1/1 12:0a,2010-05-06T20:47:58 5/6/2010 8:48:02 PM,5,Motion 2,ALERT,False,,00:00:80,1/1 12:0a,2010-05-06T20:48:02 5/6/2010 8:48:10 PM,5,Motion 2,NORMAL,False,,00:00:80,1/1 12:0a,2010-05-06T20:48:10

KeyOn Sensor Automation

The Automation Setup screen is used to define X10 control automations based on wireless sensor events. These automation settings are internal to WebIO so that the KeyOn computer software is not required for WebIO to perform these automation tasks.

Key Ele	even - KeyOn 0.16	~		-		\sim	1			
Webl	O Event and Not	ification P	rocess	ing					Notification Enabled	
Events	Sensor Log Sensor A	utomation Se	ensor Regis	stration Noti	fication Labe	ls Email Se	ettings D	ata Connectio	on App Settings	
Sen	Sensor Automation and Wireless Sensor Registration									
			Ale	ert/Lock			Normal/U	InLock		
Ch	Name	A-House	A-Unit	A-Cmd	Trigger	N-House	N-Unit	N-Cmd		
1	Entry 1	А	2	On	True	М	1	Off		
2	Entry 2	М	2	On	True	А	1	Off		
3	Remote 1	А	1	On	False	А	1	Off		
4	Garage Mot	М	2	On	True	А	1	Off		
5	Motion 2	М	1	On	True		0	None		
6	X10 Remote	R	2	В	False	R	2	А	Update	
7	Sump Pump	А	1	On	False	Α	1	Off	sensors from	
8	Door Bell	A	5	On	False	А	5	Off	WebIO	
9	Alarm	Р	9	On		А	1	Off		
									Save Sensors	
etwork	Connection Open W	/ebIO IP Addre	ess: 192.1	68.1.70				(© 2010 Key Eleven, LL	

Up to eight registered sensors can also be assigned internal WebIO automation such that when a sensor is triggered into an "alert", "on", or "Lock" state, a defined X10 or X10 wireless or Expansion Port Relay command will be sent. A sensor will also have a "normal/off/Unlock" state which can also be defined to send a command. WebIO also has a "home/unlock" and "away/lock" mode, where in lock mode sensors marked to "Alarm" will also execute an "Alarm" X10 command when the sensor is triggered into "alert/on" state.

These Automation settings are configured using the WebIO Automation webpage. To retrieve these settings from your WebIO, use the [Update Sensors from WebIO] button. This will then populate the KeyOn sensor automation table for your reference and also populate the KeyOn with your WebIO sensor Labels/Names.

Each row of the automation table displays the automation settings for a sensor channel 1-8 and the Alarm state. For Example, the table above shows that Channel #1, sensor named "Entry 1" when triggered into "Alert" state will send an X10 A2-On command, as defined under the "Alert/On" columns of "A-House, A-Unit and A-Cmd. The Trigger column having a value of "True" indicated that

if WebIO is in Lock-Mode when this sensor goes into "Alert" that the Alarm automation will also execute. (the Alarm automation being: X10 P9-On). When "Entry 1" sensor is in "Normal" state the X10 M1-Off command will execute. Note that due to sensors that periodically repeat their current state, that commands may execute periodically, not just on state change. X10 security sensors usually repeat their state about every hour. This repeat also serves as a type of "heart beat" message, indicating that the sensor is still "alive". For example, An entry sensor on a door that is left open for over an hour will send an "alert" message when the door is first open, and again an hour later since the door is still open.

Use the [Save Sensors] button to save this automation information for the KeyOn application. This way KeyOn will remember and use the names of your sensors on other KeyOn pages/functions.

KeyOn Sensor Registration

The Sensor Registration page provides an additional tool for registering sensors to WebIO channels. WebIO contains its own webpage interface for registering sensors, but the KeyOn registration tool allows registration of a sensor of which you already know its ID. The ID of a sensor can be "discovered" using KeyOn by noting the ID of an unregistered sensor on the KeyOn Sensor Log page, where an unregistered sensor's ID is displayed inplace of a sensor name.

🕘 Key Eleven - KeyOn 0.16			1	5	4	100		x
WebIO Event and Notification	Processing					\checkmark	Notification Enable	ed
Events Sensor Log Sensor Automation	Sensor Registration	Notification La	bels Email	Settings	Data	Connection	App Settings	
Ch Wireless Sensors 1: Entry 1 2: Entry 2 3: Remote 1 4: Garage Mot 5: Motion 2 6: X10 Remote 7: Sump Pump 8: Door Bell Save Save changes to the list of Ser	ID 96 AD 6D 0E 8F 01 81 A3	Register Sen Register (Before regist possition. B A sensor ID is channel. To a refresh the We or find the sen have a chann the desired ch (dropdown list Registering a	sor with We Channel: er of sensor e sure to sw required to r quire a sens sbIO Sensor sors ID on th el=0) Then e above) and sensor can a	bIO 1 - Entry 1 , switch W itch back t register a s ors ID, act Admin we he KeyOn I enter the se select the press the also be per	l ensor to ivate the bpage to Event Pa ensor ID channe Register formed b	Re ogram switch t "when finishe a WebIO sen e sensor and e o capture the sensor into the ID so al/Sensor to re button.Note: by WebIO.	egister to "Prg" ed. sor either sensors ID or will olumn of egister	
Network Connection Open WebIO IP Ad	ldress: 192.168.1.70					0	2010 Key Eleven, I	LC

Steps to register a Sensor using KeyOn:

- 1. With WebIO and KeyOn software running, activate your new sensor.
- 2. WebIO will receive the sensors wireless message and send an event to KeyOn. This sensor event will show up in the Sensor Log page.
- 3. Find your new sensor in the Sensor Log page, it will have a Channel of 0, and instead of a "Name" it will display its ID as a single byte hexadecimal value in the range of Hex: 00-FF.
- 4. Back on the Sensor Registration page, type in the ID of your new sensor under the "ID" column at the row for the channel you want to assign this sensor. Note: To assign the sensor a name you use the KeyOn Labels page or the WebIO Edit Labels webpage.
- 5. Place the WebIO "Lock-Program" switch into the "Prg" position to allow WebIO configuration.
- 6. In the "Register Sensor with WebIO" box, select your sensor channel-name from the "Register Channel" drop list box, then select the [Register] button.
- 7. Return the WebIO "Lock-Program" switch to the Lock position.

8. Your sensor should now be registered with WebIO. Operate your sensor again to verify that KeyOn receives the sensor event from WebIO, this time having the assigned channel number instead of channel 0. Now automation assigned to this channel will execute on your new sensors events.

Unregister/Delete sensor data

To unregister a sensor with WebIO:

- 1. Use the KeyOn Sensor Registration page, enter an ID of "0" for the Channel of which you would like to unregister. This will also clear all WebIO history for this channel.
- 2. Move the WebIO Lock-Prg switch to the "Prg" position.
- 3. Select the channel in the "Register Sensor with WebIO" drop list box and select the [Register] button.
- 4. Return the WebIO Lock-Prg switch to the "Lock" position.
- 5. This WebIO Channel should now not be registered with a sensor and be cleared of all sensor history data. The unregistered sensor will no longer trigger WebIO automation for this channel. Note that is some cased a sensor could be registered to more than 1 channel.

KeyOn Notification

The KeyOn Notification page is used to assing notification rules per registered WebIO sensor/channel.

🕘 Key Ele	even - KeyOr	n 0.16	~		17	1	6	
Webl	O Event a	and Notificatior	Processing					Votification Enabled
Events	Sensor Log	Sensor Automation	Sensor Registration	Notification	Labels	Email Settings	Data	Connection App Settings
Se 2 -	elect Sensor: • Entry 2	•						
En	nail Address:	me@yahoo.com						
	Notify on Ale	rt/Lock Status						
	V 0	nly Notify when in Loc	k Mode only					Test Notification
	0	nly Notify on State Ch	ange (from Normal to	Alert)				
	A	t most once per hour (in the condition that A	Vert Status rep	eats)			
	Notify on No	mal/Unlock Status						
								Save
Network (Connection O	pen WeblO IP Ad	Idress: 192.168.1.70					© 2010 Key Eleven, LLC

The Notification Page allows users to set the rules for which a sensor event should trigger an Email or SMS text message notification to be sent a defined email or SMS address.

KeyOn provides a "Master" "Notification Enable" check box in the upper right corner of the KeyOn app to enable notification or to temporarily disable all notifications.

Each sensor reading can be filtered before a notification would be sent using the following Sensor Notification Flags after selecting a sensor from the sensor list:

- Enable notification on Alert/On/Lock status: This checkbox enables notification for the selected senor, triggering notification to be sent when the sensor emits an "Alert", "On" or "Lock" status.
 - "Only Notifiy when in Lock-Mode only" sub-checkbox, only allows the notification to be sent when an "Alert", "On" or "Lock" event occurs when WebIO is in Lock-Mode. This is most likely the most useful condition for sending a notification, such that you would place WebIO into Lock-Mode when your away (not on premise/away from home)
 - Notify once per state change: When this check box is "checked" notification on the selected sensor will only be send when the sensor changes state, so that the

notification in not sent everytime the sensor repeats its state. For example, when a door is left open and an entry sensor re-states a state of "Alert" proximately every hour.- This helps reduce redundant notifications.

The "Send notification email/SMS to" field contains the email address or text message address to send-to when a sensor alert requires notification. See page "Email Setup" which is required for KeyOn to send emails.

The Send Test Email button will send a test email to the defined "Send Notification" email address.

Also see section "Text Messages".

Save settings: remember to use the [Save] button after changing settings on this page.

KeyOn Email Setup Page

👹 Key Eleven - KeyOn 0.16		N N		
WebIO Event and Notification Pro	cessing			Votification Enabled
Events Sensor Log Sensor Automation Sensor	r Registration Notification	Labels Email Setting	s Data	Connection App Settings
This is the email account used by KeyOn to send email and text message notifications.				
me@gmail.com				
Account Email Password:				
Email Server:				
smtp.gmail.com				
Email Server Port Number: 587	Save			
Network Connection Open WebIO IP Address:	192.168.1.70			© 2010 Key Eleven, LLC

The Email Setup page is used to configure the email server account used by this app to send emails and text messages.

WebIO Temperature Monitor requires a connection to an email account for sending email or text message notifications.

gmail or other email providers can be used as the Account Email Server for sending WebIO Notifications.

You may want to create a new account for this app.

For example, with gmail you will need this info:

- 1. Your Gmail information (Username, Password)
 - Username is your E-mail address (<u>yourAccount@gmail.com</u>)
- 2. The Gmail SMTP server address (smtp.gmail.com)
- 3. The port Gmail uses (465 or 587)

You will also need to configure your gmail account to accept the POP email protocol. See screenshot file: "gmail_setup_labels.png"

Text Messages

Text Messages are send by sending an email to your network providers proxy server for your phone number.

Example for Sprint network use the following as your "Send To" email address:

{your phone number}@messaging.sprintpcs.com

Example Email Notification

Below is an example body content of a email notification sent by KeyOn.

```
WebIO Event received at:4/27/2010 11:04:40 PM Sensor: Garage Mot with state: ALERT-LOCK
```

Sensor Log File

All sensor message data is stored in file: *SensorEvent.log* This file is located in the same directory as KeyOn.

To view this file either use the [View Sensor Log] button found on the KeyOn Events page/tab or use a text editor (such as notepad) or open the file with spreadsheet software.

The sensor log file is comma delimited for easy import in to a spreadsheet.

Sensor log file values are:

Date Time, Sensor ID, Channel, Degrees Celsius, Degrees Fahrenheit, Humidity

Example log file:

4/30/2010 10:58:03 PM,5,Motion 2,NORMAL,False,,00:00:80,1/1 12:0a,2010-04-30T22:58:03 4/30/2010 11:07:00 PM,1,Entry 1,NORMAL,False,,00:00:80,1/1 12:0a,2010-04-30T23:07:00 4/30/2010 11:45:43 PM,2,Entry 2,NORMAL,False,,00:00:80,1/1 12:0a,2010-04-30T23:45:43 4/30/2010 11:50:03 PM,7,Sump Pump,NORMAL,False,,00:00:80,1/1 12:0a,2010-04-30T23:50:03 5/1/2010 12:02:45 AM,0,9B,NONE,False,,00:00:80,1/1 12:0a,2010-05-01T00:02:45 5/1/2010 12:09:10 AM,2,Entry 2,ALERT,False,Notification requires Lock-Mode,00:00:80,1/1 12:0a,2010-05-01T00:09:10

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