

# Mac Home Automation MacMania 11 Feb 2011





# Home Automation *Using a Mac*

# Recent Magazine Articles

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Mac Life - March 2010



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# Recent Magazine Articles

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Mac Life - March 2010

Automate lights & heating >



**DREAM HOME**

**USE YOUR MAC & iPHONE TO:**

- > Stream music, TV, and movies
- > Set up webcam surveillance
- > Automate your lights & heating
- > A dryer that tweets? Yes, really.

**+ MUCH, MUCH MORE! p18**

**ALSO:**  
**REINVENT HOME DECOR—ON YOUR MAC!**  
Plan perfect paint colors.

# What we will cover in this seminar..

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- What? - What is Home Automation?
- Where? - Systems it can control
- Why ? - Practical Uses
- When? - Past, Present & Future(?)
- Who? - Who's making the systems?
- How? - Protocols & Methods
- Exploring scripting examples using the XTension software
- Add-Ons - Weather, etc.
- Web Interface
- Questions

# What is Home Automation?

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## Original Wiki Definition:

**Home automation** (also called **domotics**) may designate an emerging practice of increased automation of household appliances and features in residential dwellings, particularly through electronic means that allow for things impracticable, overly expensive or simply not possible in recent past decades.

# What is Home Automation?

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## A Better Definition:

The essence of home automation is using specialized equipment that can control your lamps, appliances, heater, and air conditioning, and perhaps sense where in the house people are located.

- Gordon Meyer - *Smart Home Hacks*

# X10 Manual Control



**X10 Manual Controller**



**X10 Module**



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# Home Automation



**Computer**



**X10 Interface**



**X10 Module**





# Where it can be used? - **What Systems can it connect to?**

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- Lighting & Appliances
- Heating & Air Conditioning
- Security Systems
- TV & Entertainment
- Sprinkler & Drip Irrigation
- Other - If it can be controlled, it can be automated.

# Why add it to your home?

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All of the biggest technological inventions created by man - the airplane, the automobile, the computer - says little about his intelligence, but speaks volumes about his laziness. ~Mark Kennedy

- Convenience - Control anything from anywhere.
- Safety - Automatic lighting, systems monitoring, alerts
- Security - Make house seem occupied when it's not.
- Cost Savings - Energy management, automatic setbacks
- Fun - Challenging solutions

# When - A Brief History

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For generations, scientists and marketers have been promising flying cars, robots, and the automated home. Of these, only the automated home is within reach today. - Gordon Meyer - Smart Home Hacks

# X10 (a brief history)

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- 1970s - Pico Engineering developed the first single chip calculators. (Eight different calculator projects)
- 1974 - Joint development with BSR to build remote control device for record changers - Accutrac (9th project, X-9)
- 1975 - Extended the idea to remote control of lights & appliances - (10th project, BSR X-10)
- 1978 - Started selling BSR X-10 @ RadioShack
- Late 1980s - CP290 computer interface unit
- 1996 - Sand Hill Engineering released Xtension for Mac

# Who - Mac Software Vendors

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- Sand Hill Engineering - XTension
- Always Thinking - Thinking Home
- Perceptive Automation - Indigo
- Shion - Shion Touch
- Wayne Dalton - Houseport
- Non DIY - Control 4, Savant

# **XTension - Sand Hill Engineering**

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- XIO wired & wireless
- UPB support
- Direct I/O - Weeder, Barionet, WGL Assoc, others
- RFXCon - Oregon sensors, Cent-a-meter, etc
- S/W Add-Ons- WeatherMan, Database, Video Pitcher
- IR Controls - ZephIR

# Indigo - Perceptive Automation

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- X10
- Insteon (including X10 Mode)
- Insteon controllers - thermostats, Sprinklers, I/O
- Indigo iPhone App

# Thinking Home - Always Thinking

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- X10 wired & wireless
- Insteon - basic modules only



# Shion Touch - Shion

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- Online subscription service
- X10
- Insteon - just added
- “New kid on the block”

# Houseport - Wayne Dalton

---

- Z-Wave
- Z-Wave specialty modules - thermostats, drapery, etc.

# How - Protocols & Methods

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- All systems (except Z-Wave) support X10
- All systems (except Z-Wave) communicate over power lines
- UPB is a similar protocol to X10
- Insteon includes an X10 mode
- Important to understand X10 as principles apply to others

# X10 Controllers

Original BSR X10



Current X10



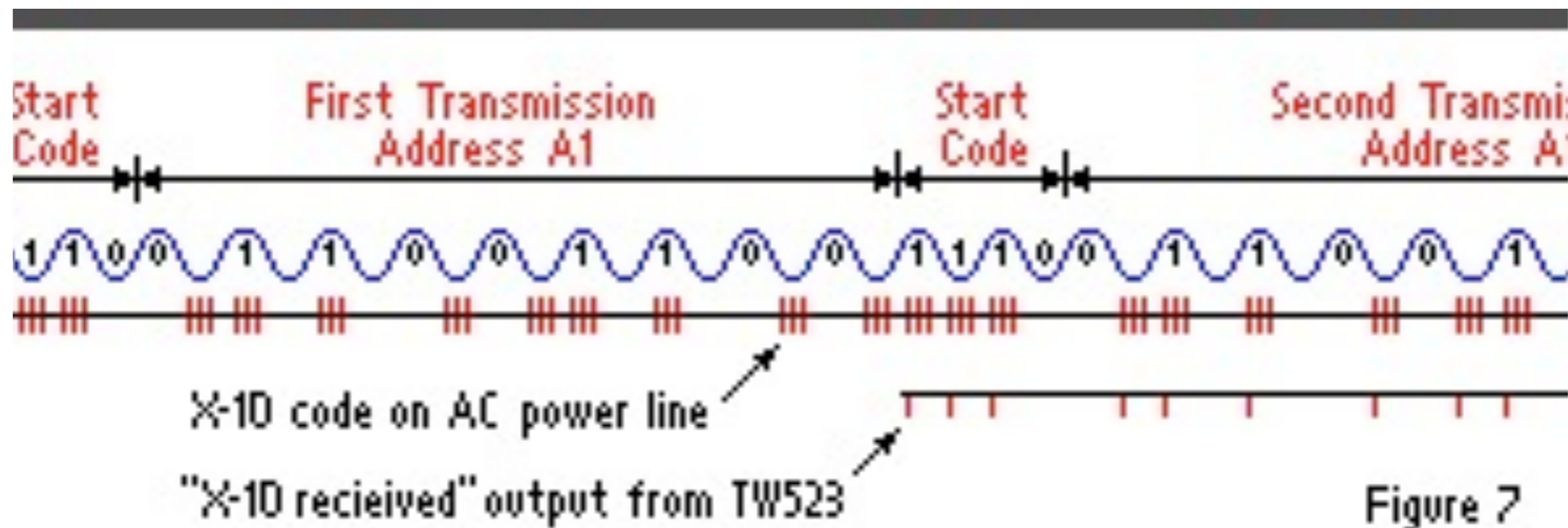
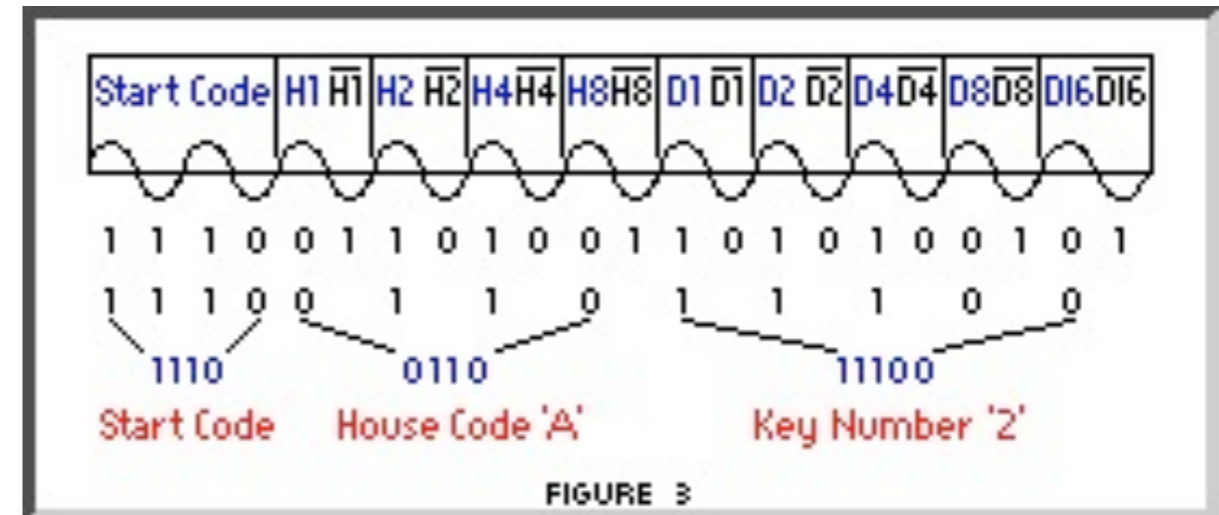
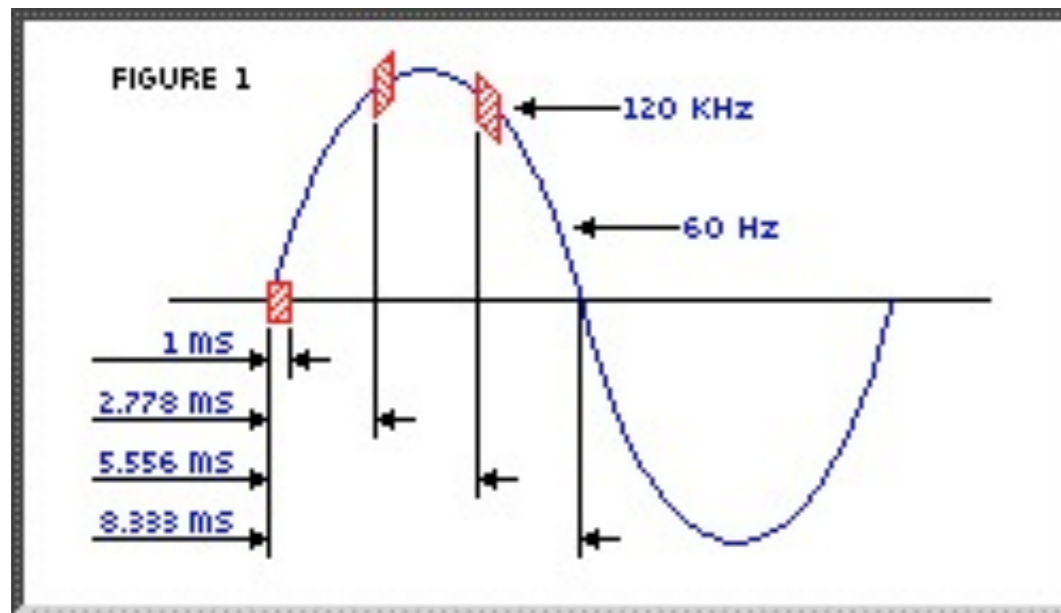
# X10 Modules



# X10 Protocol

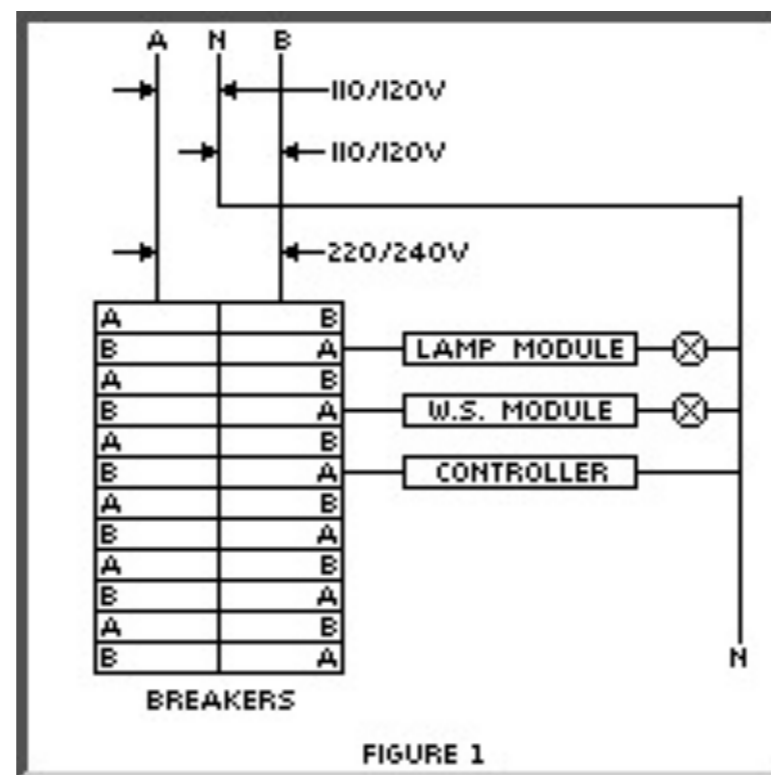
X10 communicates between transmitters and receivers by sending and receiving signals over the power line wiring.

These signals involve short RF bursts which represent digital information.



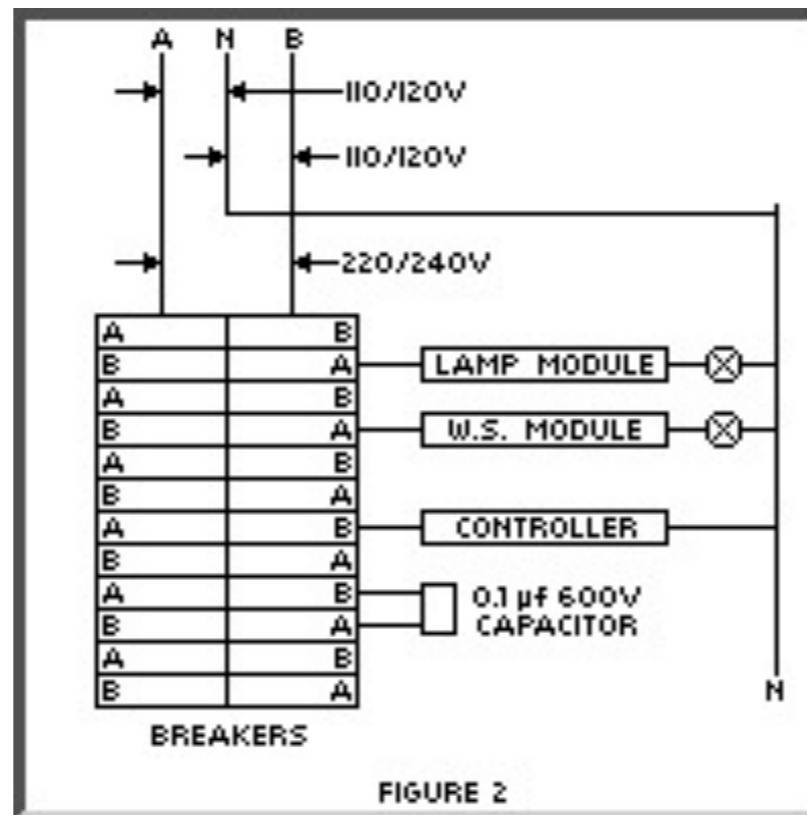
# X10 House Wiring

Most houses are wired such that 220v (240V) is brought into the breaker panel and then split into 2 phases of 110v (120V) each. The signals from the Controller are transmitted onto one phase and have to travel all the way out to the pole transformer to couple across to the other phase. The amplitude of signal on the "other" phase can, therefore, be greatly reduced.



# X10 House Wiring

Signals can be "coupled" to the other phase by installing a 0.1 microfarad (0.1  $\mu\text{F}$ ), 600VDC capacitor across the two phases in the panel, i.e. by connecting the capacitor across any 220V breaker



A Passive Coupler is a better device for transferring X10 signals from one phase to another. They are also typically tuned to pass only 121kHz signals so they will reduce (but not eliminate) the noise that is coupled.

If you have a large house (the rule of thumb is over 3000 sq. ft.) or you have a lot of electronic equipment in your house (stereos, TVs, computers, etc) then you might be better off with a Coupler-Repeater



# X10 Concerns

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- X10 is a one-way protocol
- [without bridge or amplifier] Works in parts of house
- Intermittent or not reliable in some places
- Lights turn on by themselves (without command)
- Slow to respond ~ 3/4 seconds

# Making X10 Reliable

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- Install either Phase Coupler or Bridging Amplifier
- Use X10 filters for computers, electronic devices, & UPS
- Make sure wiring is well connected (especially neutral wires)
- Be wary of noise generated by some CFLs & fluorescents

# X10 Filters



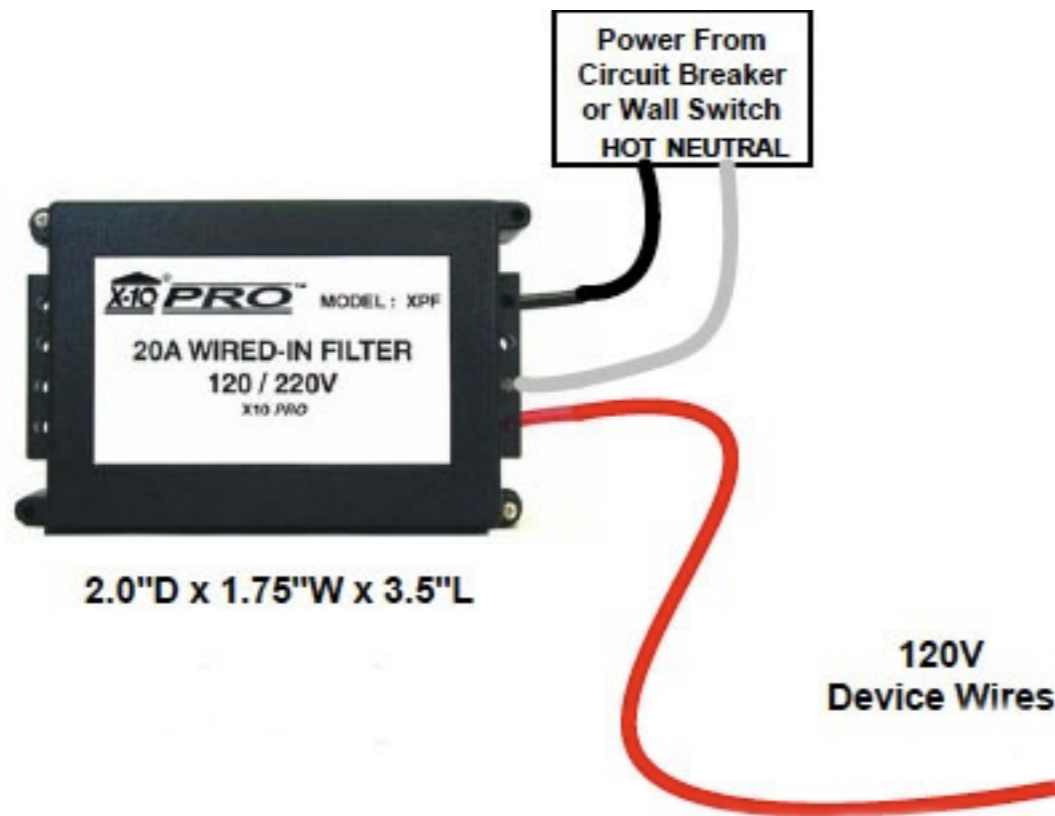
5 Amp Plug in



10 Amp Plug in

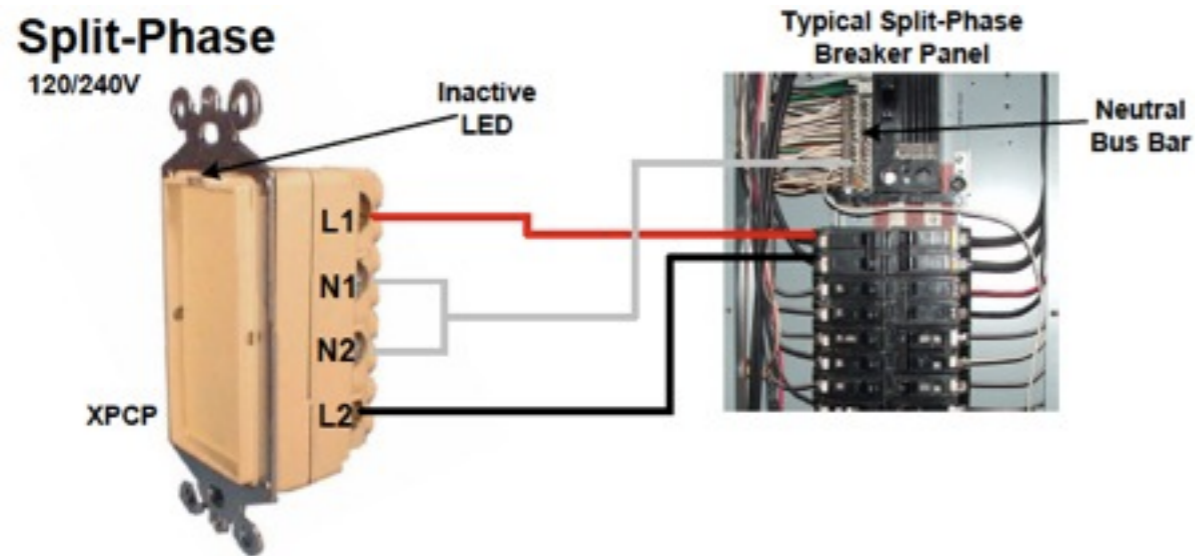


15 Amp Plug in



20 Amp Wired  
(for permanent installs)

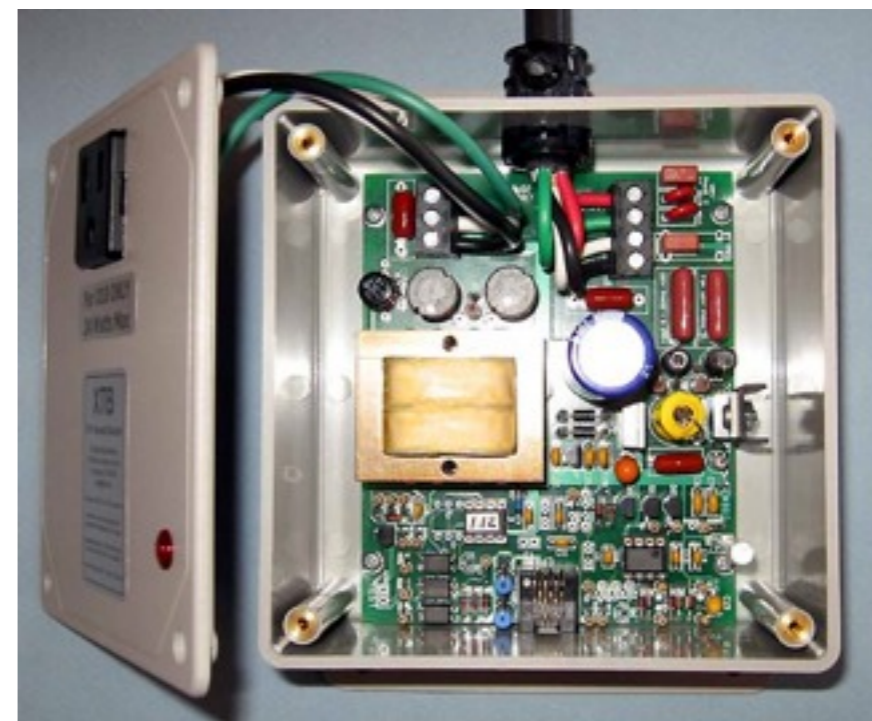
# X10 Couplers & Bridge Amplifiers



Phase Coupler



X10 Amplifier



Booster - Repeater


# X10 Hacks



Updated  
Oct 24

X10 Home Automation  
Knowledge Base

[Home](#) | [etrex GPS](#) | [Mountain Biking Israel](#)  
[Theory](#) | [Mods](#) | [Apps](#) | [Links](#) | [Search](#)

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## Theory and protocols

- [What is X10 \(smarthome infomercial\)](#)
- [Best Description of the powerline protocol by Phil Kingery](#)
- [Description of the powerline protocol by X10](#)
- [Wireless Protocol - Ed Cheung](#)
- [Wireless protocol - Dave Houston](#)
- [Extended Protocol](#)
- [Firecracker Protocol](#)
- [2-way Theory](#)
- [X10 patent US4200862](#)
- [X10 patent US4638299 \(360kb\)](#)
- [1.4MB pdf description of Leviton modules](#)
- [Technical articles by Phil Kingery](#)
- [Which controller should I choose: X10 controllers comparative review](#)
- [Alternatives to X10](#)

This site stores comprehensive information on home automation based on X-10. It includes info on the following topics:

- [Theory](#)
- [Modification to X10 modules](#)
- [Applications](#)
- [Links](#)
- [Tips](#)
- [Site Search](#)

Table of contents at the left, with latest additions marked by **NEW** and latest updates marked by **Updated**. Frequently asked questions are

marked by



# X10 Hacks

## Module modifications

- [UnorthodoxX-10: 220/240/277v, 50Hz and triple-phase systems](#)

also featured in [Hometoys](#)

- [110v-220v modification principles](#)

- [Alignment for optimal reliability and range: principles](#)




### [Appliance Module Modification](#)

[Modifying 110v to 220v](#)

[Modifying for momentary operation](#)

[Modifying for SILENT momentary operation](#)

 [Modifying for local control](#)



[Defeating current sensing](#)

[Deafeating local control on newer modules](#)

[Fixing modules that randomly turn on](#)

[Increasing range and reliability](#)

[6375 Appliance module](#)

[Schem: 220v modification](#)

[Schem: S.M. Bloom](#)



### [Wire-in Appliance module \(6375\)](#)

[Schematic: Mitch Orysh](#)

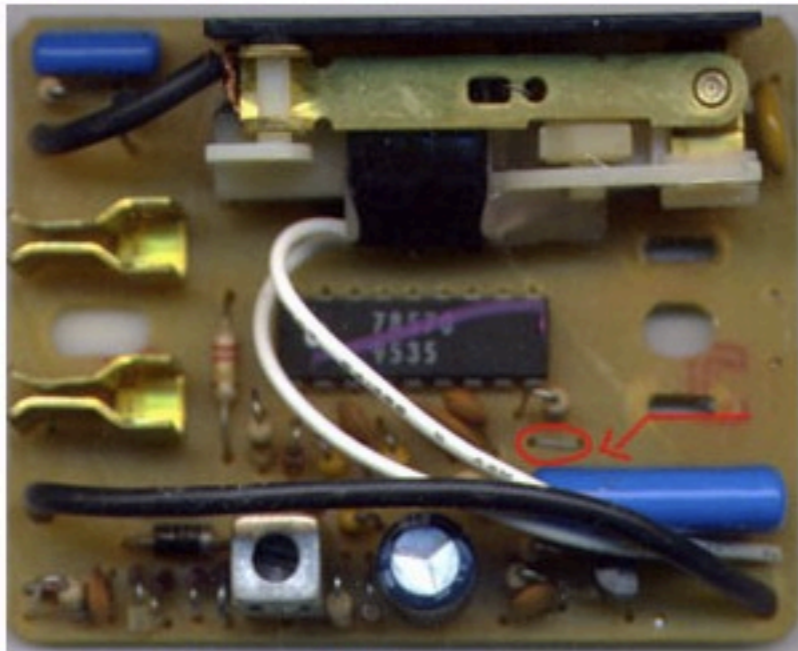


### [Lamp Module Modification](#)

[Modifying 110v to 220v](#)

# XIO Hacks

## *Disabling local control on the newer appliance module*



- 1.
2. Disassemble the module
3. Locate the small jumper close to the large blue capacitor (see picture)
4. Snip the jumper
5. Reassemble



# Mac Home Automation with XTension

XTENSION

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## Macintosh Home Automation With XTension

XTension has been automating the homes of Macintosh users since 1996! XTension provides more connections to more devices and protocols than any other comparable piece of software.

**Table of Contents**

- [Macintosh Home Automation With XTension](#)
- [More Than Remote Control](#)
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List: Outside Lights

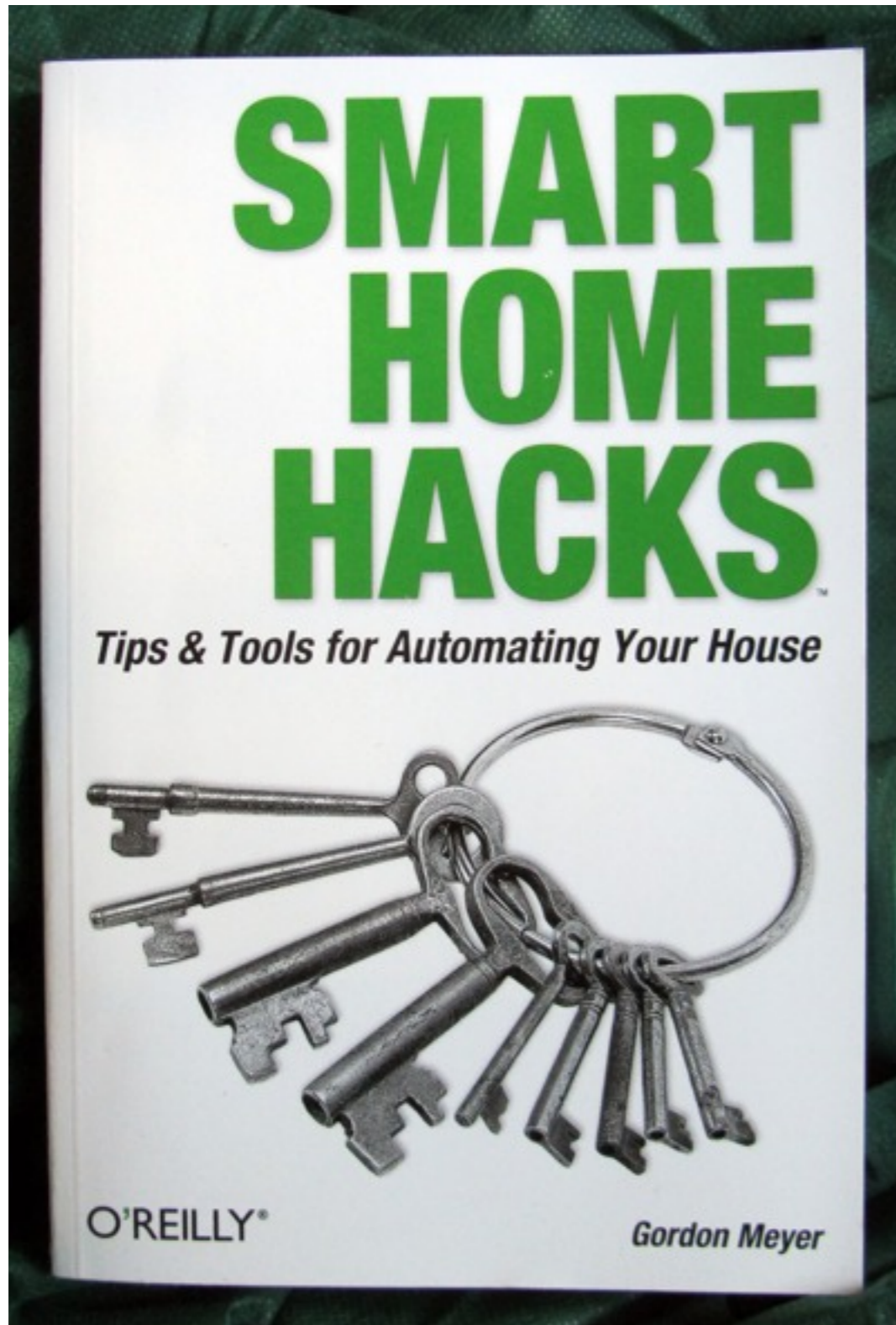
New Unit New Group Edit Unit Delete List Settings

Search

Name	Value	Address	Flags	Last Activity
Backyard Floods	↓	J2	⊙ ↑ ↓ ∩	Today: 5:54:36 AM
Deck	0	L14	⊙ ↑ ↓ ∩	Today: 5:54:36 AM
Deck BBQ	↓	L3	⊙ ↑ ↓ ∩	Today: 5:54:36 AM
Deck Door	↑	J4	⊙ ↑ ↓ ∩	Today: 10:13:17 AM
Driveway Sconces	↑	G1	⊙ ↑ ↓ ∩	Today: 10:13:19 AM
Front Porch	0	L7	⊙ ↑ ↓ ∩	Today: 5:54:36 AM
Frontyard Floods	↓	J3	⊙ ↑ ↓ ∩	Today: 5:54:36 AM
Garage Overhead	↑	L11	⊙ ↑ ↓ ∩	Today: 10:13:22 AM
Workshop Sconce	↓	C5	⊙ ↑ ↓ ∩	Today: 5:54:36 AM
backyard transformer	↓	B8	⊙ ↑ ↓ ∩	4/26/09 1:09 PM
Backyard Uplights	↑	E5	⊙ ↑ ↓ ∩	Today: 10:13:26 AM
deck strings	↓	E6	⊙ ↑ ↓ ∩	Yesterday: 8:40:59 PM
deck holiday	0	B11	⊙ ↑ ↓ ∩	4/10/09 8:50 PM
Halloween Porch	0	N15	⊙ ↑ ↓ ∩	4/26/09 1:09 PM



# Planning Your System



## Chapter 1

Includes Introduction to  
XTension & Indigo Software

## Chapter 2 - 6

Examples of Scripts for Inside  
& Outside Controls

## Chapter 7

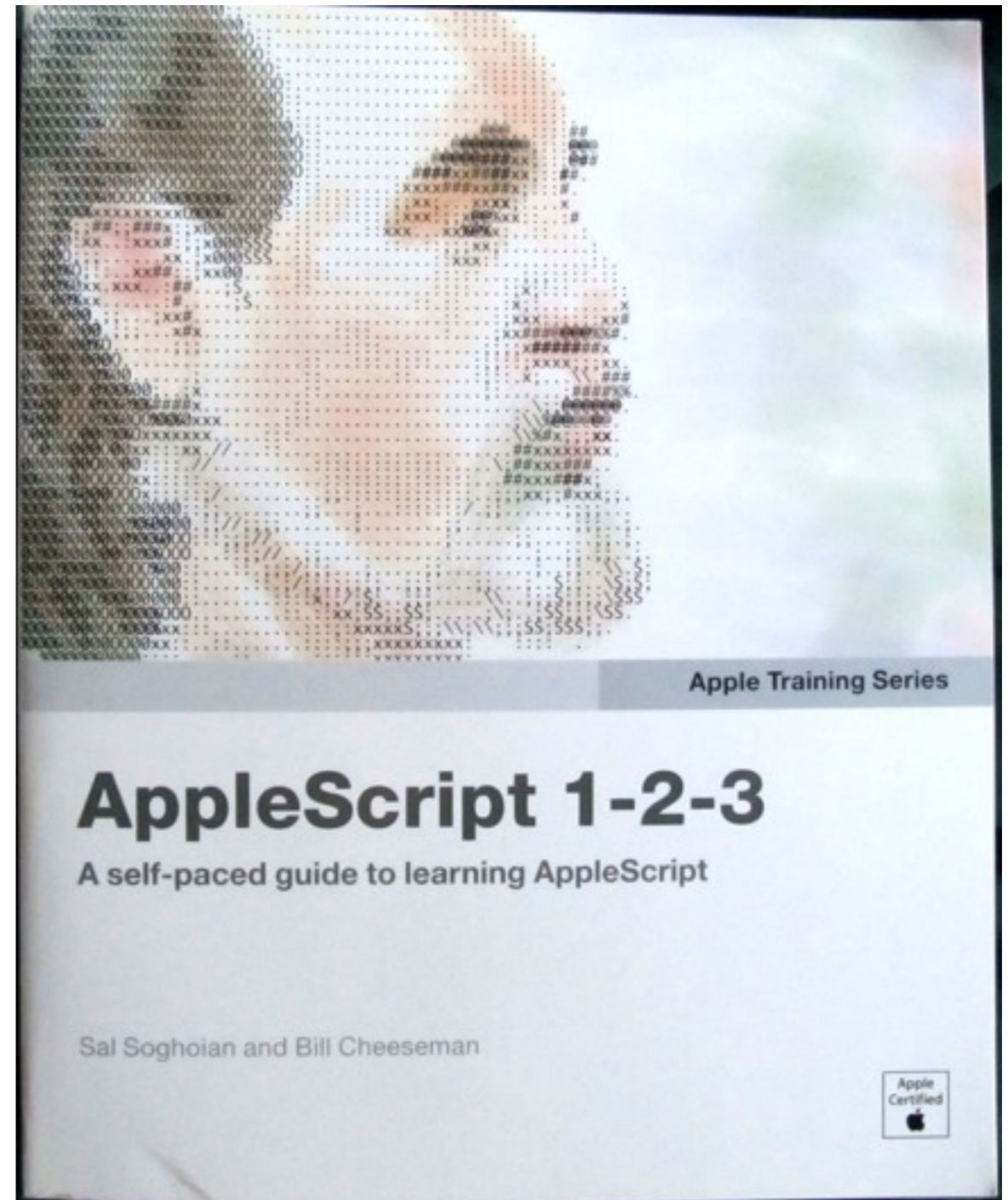
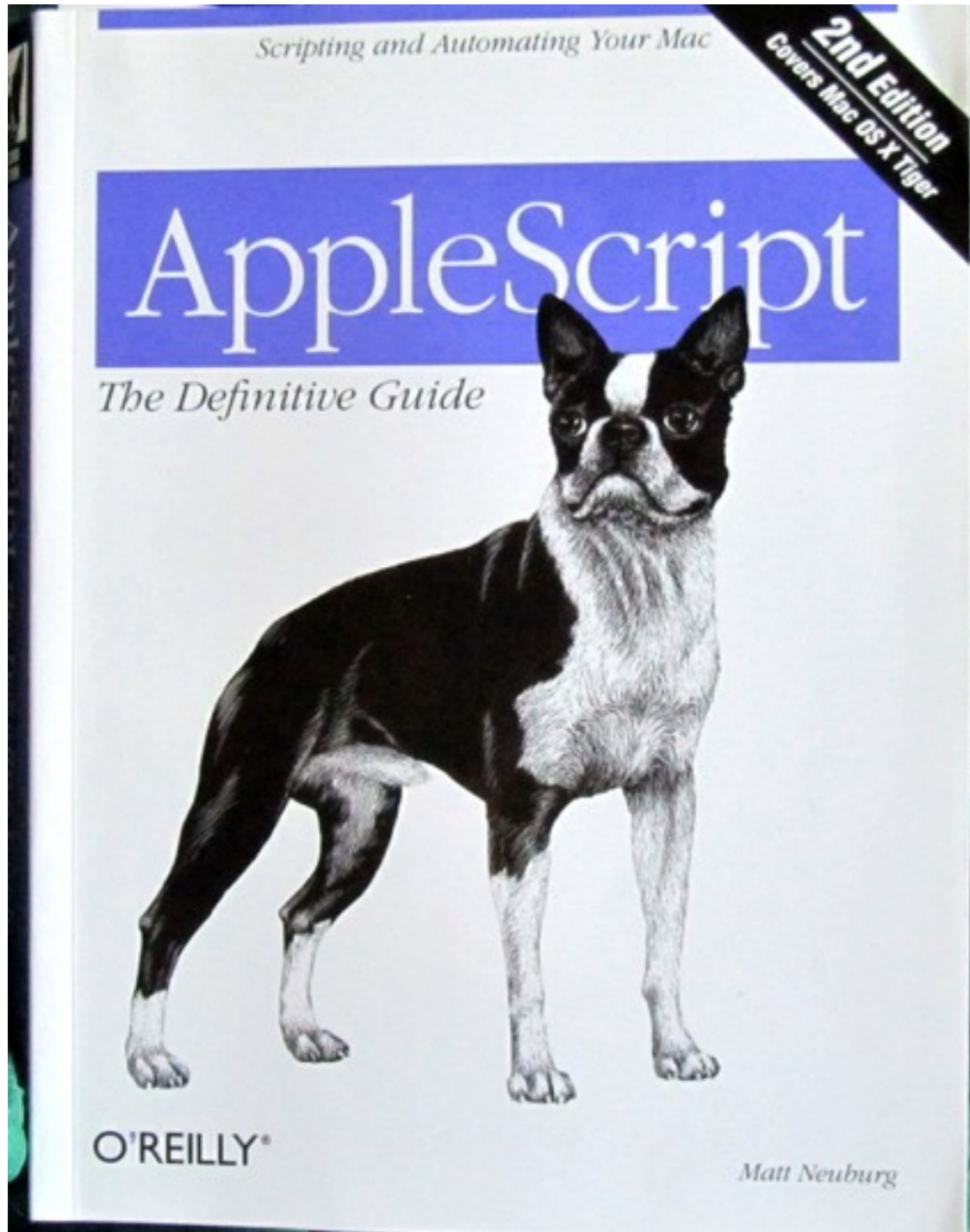
Some Advanced Techniques  
to Consider Later

# Features I Consider Important

(Or why I chose XTension from Sand Hill Engineering)

- X10
- Newer Protocols
- Direct I/O
- Other types of sensors like temperature
- S/W Add-Ons
- Web Interface
- Programmable
- Both wired & wireless
- Includes UPB (but not Insteon)
- Weeder, Barionet, WGL Assoc
- RFXCon - Oregon sensors, Cent-a-meter, etc
- WeatherMan, Database, Video
- X2Web - Web & iPhone Screens
- Based on AppleScript

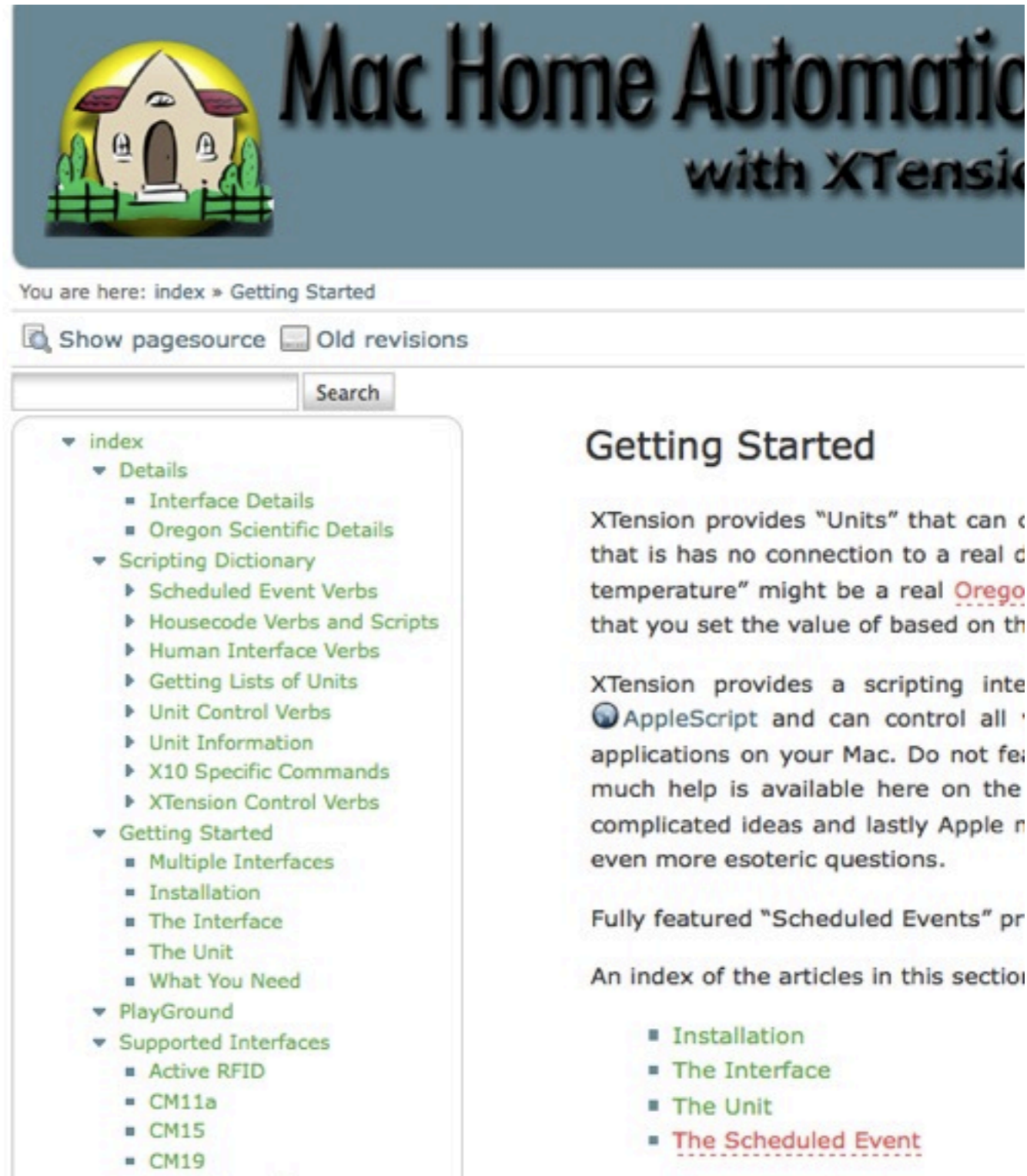
# Additional References



# Getting Started

## Before Installing XTension

Read sections about getting started  
on the new XTension web site  
[www.MacHomeAutomation.com](http://www.MacHomeAutomation.com)



The screenshot shows the website header with a house icon and the title "Mac Home Automation with XTension". Below the header is a breadcrumb trail "You are here: index » Getting Started" and links for "Show pagesource" and "Old revisions". A search bar is present. The main content area features a sidebar with a tree view of the site's structure. The "Getting Started" section is expanded, showing sub-items like "Multiple Interfaces", "Installation", "The Interface", "The Unit", and "What You Need". The "Installation" item is highlighted in red. The main content area displays the "Getting Started" article text, which discusses XTension's "Units" and provides a list of links for further reading, including "Installation", "The Interface", "The Unit", and "The Scheduled Event".

Mac Home Automation  
with XTension

You are here: index » Getting Started

Show pagesource Old revisions

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  - PlayGround
  - Supported Interfaces
    - Active RFID
    - CM11a
    - CM15
    - CM19

### Getting Started

XTension provides "Units" that can control a real device that is has no connection to a real device. A "temperature" might be a real Oregon Scientific temperature that you set the value of based on the real temperature.

XTension provides a scripting interface using AppleScript and can control all applications on your Mac. Do not fear, much help is available here on the website for even more esoteric questions.

Fully featured "Scheduled Events" provide a way to control your home automation system.

An index of the articles in this section:

- Installation
- The Interface
- The Unit
- The Scheduled Event

# Getting Started

## Downloading the latest version

- ▼ X2Web: Internet Control And Monitoring for XTension
  - ▶ X2Web: Beta Downloads
- ▼ Xtension Manual
  - The Attachments Script
  - Extended Codes
  - Simulated Preset Dim
  - Special Scripts
  - Suntimes
  - Unit Extract Record
- Beta Versions
- Macintosh Home Automation With XTension
- Purchasing
- sidebar
- Video Pitcher

## Beta Versions

---

download  XTension Beta build 811

- download  Radio Shack multimeter 22-812 plugin

### 12/3/10 build 811

- fixed an inability to edit scripts in a couple of places.
- fixed an error upon receiving the ack from controlling a ba error every time you controlled it.
- moved to most recent compilers and plugins and libraries f

### 8/27/10 build 807

- Stops processing malformed RFXMeter packets before the causing 2702 applescript errors.
- fixed the popups for selecting the type of weeder card so input card. It should now be possible to place one on any s
- fixed backwards are you sure logic in the dialog asking if y to a new interface.
- added the "multiqueue" property to the xInterface object.

# Getting Started

For a downloadable manual go to the original site - [Shed.com](http://Shed.com)



[Home](#) | [How to order](#) | [XTension](#) | [Download Page](#) | [Home Automation](#) | [Ideas](#) | [Sand Hill](#) | [Links](#) | [Mailing List](#)

[FREE DOWNLOAD GOODIES](#)

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**The latest OSX release supports  
17 automation controllers including  
the [Barionet](#) and all [RFXcom RF receivers](#) !**

• [Download the Application](#) •

And do visit [Mac Home Automation](#)  
where you can find the latest copies of X2Web, XTdb, and Video Pitcher !

• [Manual Only](#) •

- This version will run in Lite mode until serialized. •
- You can create up to 5 units in the database. •

• [Peek at some screen shots ?](#) •

# Getting Started with XTension

## Setting up the Physical Interface

Older CMI1 (will need serial adapter)

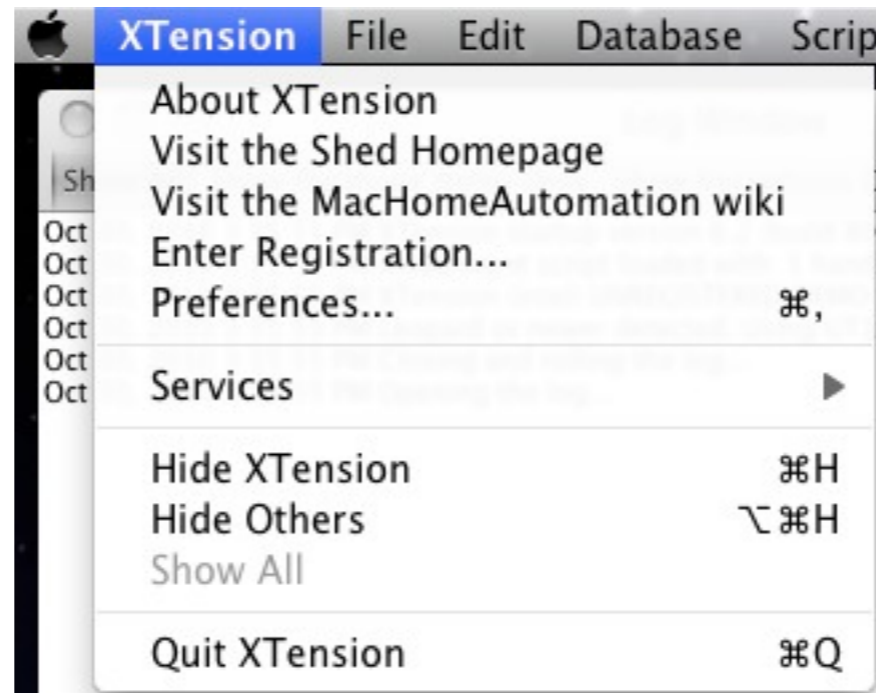


Newer CMI5A (USB)



# Getting Started

## Installing the Physical Interface



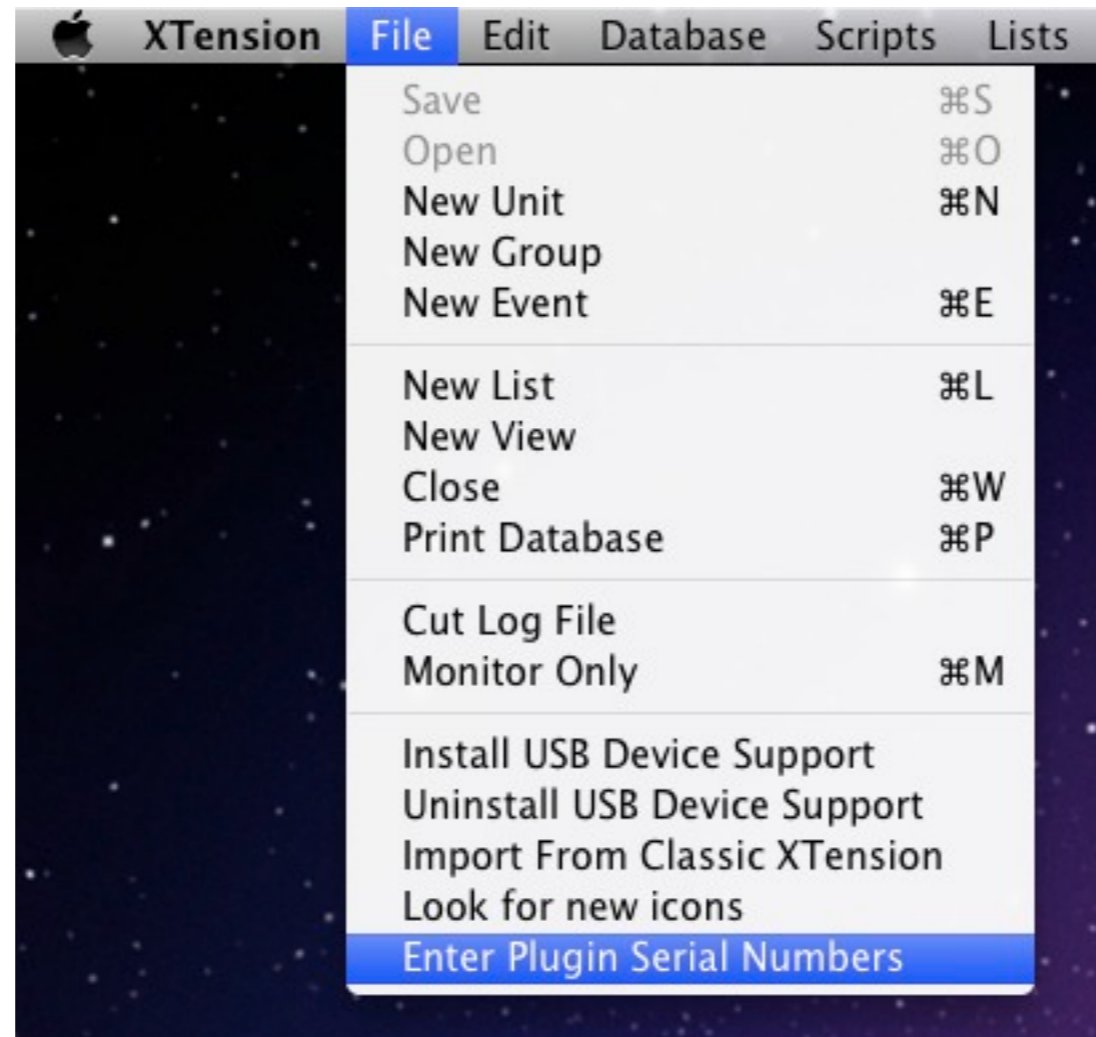
To connect a **cm11** you'll probably need a **usb serial adaptor** as most modern machines dont have any serial ports anymore. Once you have the device physically connected you need to setup XTension to talk to it.

A screenshot of the XTension configuration dialog box. The 'Name' field contains 'CM11'. The 'Device' dropdown menu is set to 'CM11'. The 'Port' dropdown menu is set to 'SerialPort-1 (cm11)'. There is an 'Add Port Comment' button to the right of the port dropdown. Below these fields is a section titled 'Default Interface:' with the text 'select these to use this interface for outgoing commands not sent from a specific unit if no interface parameter is specified'. There are two checkboxes: 'Outgoing Powerline Default' (checked) and 'Outgoing Wireless Default' (unchecked). At the bottom right are 'Cancel' and 'Save' buttons.



# Getting Started

## Installing the X10 Units



# Getting Started

## Installing the X10 Units

New Unit: Entry Hall

Name:  Address:  ...

Description:  ...

**Unit Type:**

Interface:  ▾

Device:  ▾

Unit of Measure:

ON Label:

OFF Label:

**Unit Scripts:**

On Script:

OFF Script:

**Icons:**

On Icon

Off Icon

(click to choose or edit icon)

Single click in view toggles

Ignore clicks in list

**Unit Options:**

Dimmable  ▾

Reverse Logic  Receive Only

**Device Options:**

# Getting Started

## Adding Pseudo Units - Flags & Variables

**Edit Unit: V-Outside High Temperature**

Name:  Address:  ...

Description:  ...

**Unit Type:**

Interface:  ▾

Device:  ▾

Unit of Measure:

ON Label:

OFF Label:

**Unit Options:**

Dimmable  ▾

Reverse Logic  Receive Only

**Device Options:**

**Unit Scripts:**

On Script:

OFF Script:

**Icons:**

On Icon

Off Icon

(click to choose or edit icon)

Single click in view toggles

Ignore clicks in list

# Getting Started

## Viewing the Master List

Name	Value	Address	Flags	Last Activity	Interface	Description
R-Sprinkler-C	↓	A3	○ ↑ ↓	Tue 6:30 AM	Weeder A	
R-Sprinkler-D	↓	A4	○ ↑ ↓	Tue 6:30 AM	Weeder A	
R-WB8-Spare	↓	B8	○ ↑ ↓	10/31/10 12:58 PM	Weeder B	
S-Davis Humidity	53%		○ ↑ ↓	Today: 12:38:51 PM		Weather data from Vantantage Pro 2
S-Davis Pressure	30.15psi		○ ↑ ↓	Today: 12:38:51 PM		
S-Davis Temperature	58°F		○ ↑ ↓	Today: 12:38:51 PM		Weather data from Vantantage Pro 2
S-Davis Wind Dir	161°		○ ↑ ↓	Today: 12:38:51 PM		Weather data from Vantantage Pro 2
S-Davis Wind Speed	5mph		○ ↑ ↓	Today: 12:38:51 PM		Weather data from Vantantage Pro 2
S-Kitchen Outdoor Temp	58.1°F	P5	○ ↑ ↓	Today: 12:41:17 PM	RFX	Temperature sensor Outside Kitchen
S-Oregon Humidity Sensor	46%	J7	○ ↑ ↓	Today: 12:41:15 PM	RFX	Oregon Humidity Sensor
S-Oregon Temp Sensor	59.36°F	J7	○ ↑ ↓	Today: 12:39:18 PM	RFX	Oregon Temperature Sensor
S-Power A	20		○ ↑ ↓	11/22/10 11:10 AM	RFX	Input from Cent-a meter
S-Power Weight	0	K1	○ ↑ ↓	11/22/10 9:57 AM	RFX	
<b>Security Lights</b>	↓	(8)	○ ↑ ↓	11/4/10 12:55 PM		Used for GhostWalk
SP-All LED Off	↓		○ ↑ ↓	11/30/10 3:55 PM		Indicator All LEDs off (call using Off)
SP-Blue LED	↑		○ ↑ ↓	11/30/10 3:55 PM		Indicaor Blue LED on/off
SP-Green LED	↑		○ ↑ ↓	11/30/10 3:55 PM		Indicator Green LED on/off
SP-Pink LED	↓		○ ↑ ↓	11/30/10 3:53 PM		Indicator Pink LED on/off
SP-White LED	↑		○ ↑ ↓	11/30/10 3:55 PM		Flag to turn on/off White LED
SP=Red LED	↓		○ ↑ ↓	11/30/10 3:53 PM		Indicator Red LED on/off
SP=Yellow LED	↓		○ ↑ ↓	11/30/10 3:53 PM		
<b>Sprinkler Zones</b>	↓	(10)	○ ↑ ↓	11/9/10 11:04 AM		All sprinkler zones
V-D-DrpZone	4		○ ↑ ↓	Today: 10:21:00 AM		Plant Drip Zone
V-D-PlantLength	9		○ ↑ ↓	Today: 3:00:00 AM		Length of back drips for plants
V-Humidity	47		○ ↑ ↓	Today: 12:38:51 PM		(soon to be) Outside humidity
V-Outside High Temperature	57.92°F		○ ↑ ↓	Today: 12:38:51 PM		Low temperature today

# Getting Started

## Installing other Interfaces

Weeder Technologies  
Digital I/O

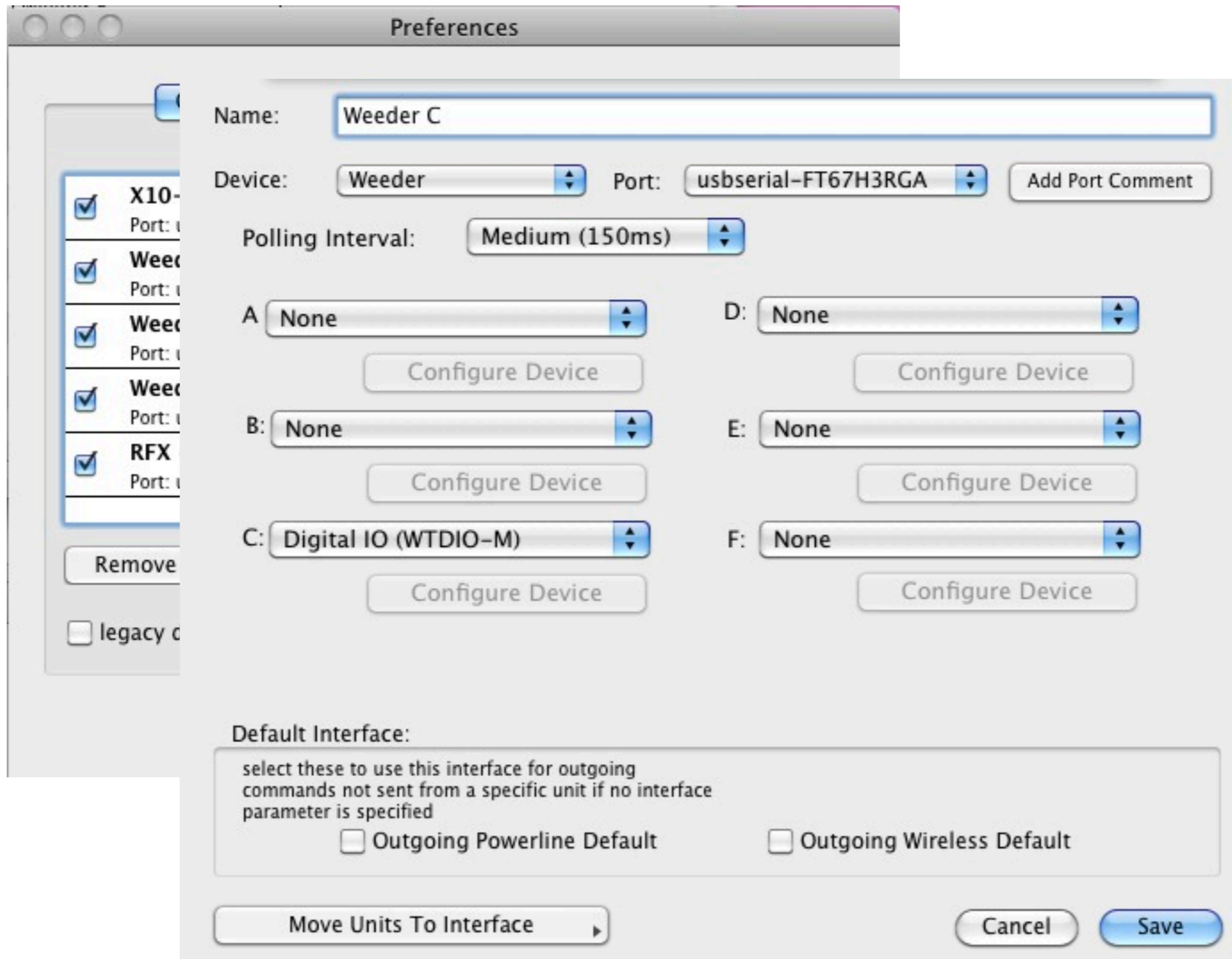


RFXCom  
Dual Receiver



# Getting Started

## Installing other Interfaces



# Getting Started

## Installing other Interfaces

**Edit Unit: D-A-Alarm Set Away**

Name:  Address:

Description:

**Unit Type:**

Interface:

Device:

Unit of Measure:

ON Label:

OFF Label:

**Unit Scripts:**

On Script:

OFF Script:

**Unit Options:**

Dimmable

Reverse Logic  Receive Only

**Icons:**

On Icon

Off Icon

(click to choose or edit icon)

Single click in view toggles

Ignore clicks in list

**Device Options:**

# Events & Scripting

## Simple Event

**New Event**

Name:  Active on days:  Sun  Mon  Tue  Wed  Thu  Fri  Sat

Date:

Action:

All Units:  To:

Repeat Every:

Suntime +/-  minutes

Randomize by  minutes  Don't execute unit script

## Unit Script

**New ON script for: X-Office Fan**

Check Syntax Run Script Insert Handlers Larger Smaller Revert

```
turnoff "X-Office Fan" in 1 * hours
```



# Events & Scripting

## Event with Randomized Timing

**Edit Event: Den Light Off**

Name:

Active on days:  Sun  Mon  Tue  Wed  Thu  Fri  Sat

Date:

Calendar view for Dec 2010:

S	M	T	W	T	F	S
	1	2	3	4		
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Action:

All Units:

To:

Repeat Every:

Suntime +/-  minutes

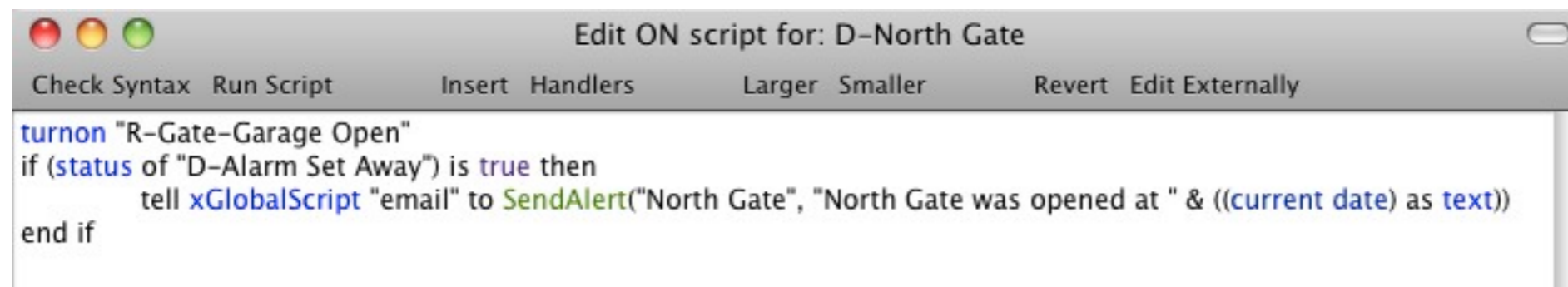
Randomize by  minutes  Don't execute unit script

# Events & Scripting

## Unit Initiating Script

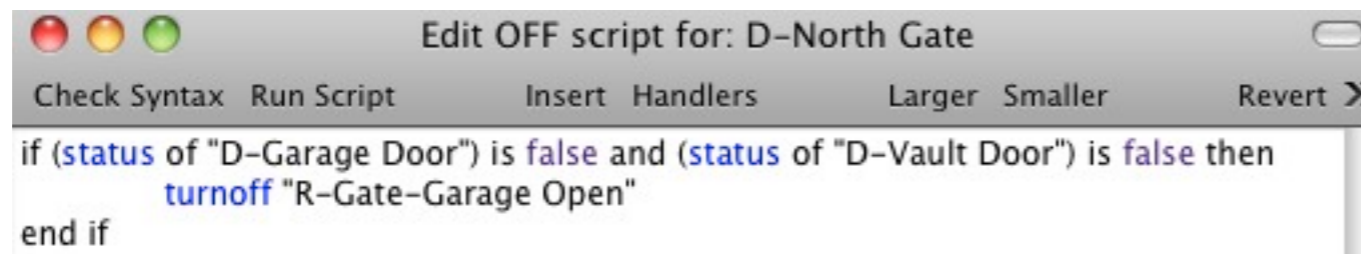
Gate-Garage Open [Indicator] =  
North Gate Open  
OR  
Garage Door Open  
OR  
[Rain Water] Vault Door Open

## Unit On Script



```
turnon "R-Gate-Garage Open"  
if (status of "D-Alarm Set Away") is true then  
    tell xGlobalScript "email" to SendAlert("North Gate", "North Gate was opened at " & ((current date) as text))  
end if
```

## Unit Off Script



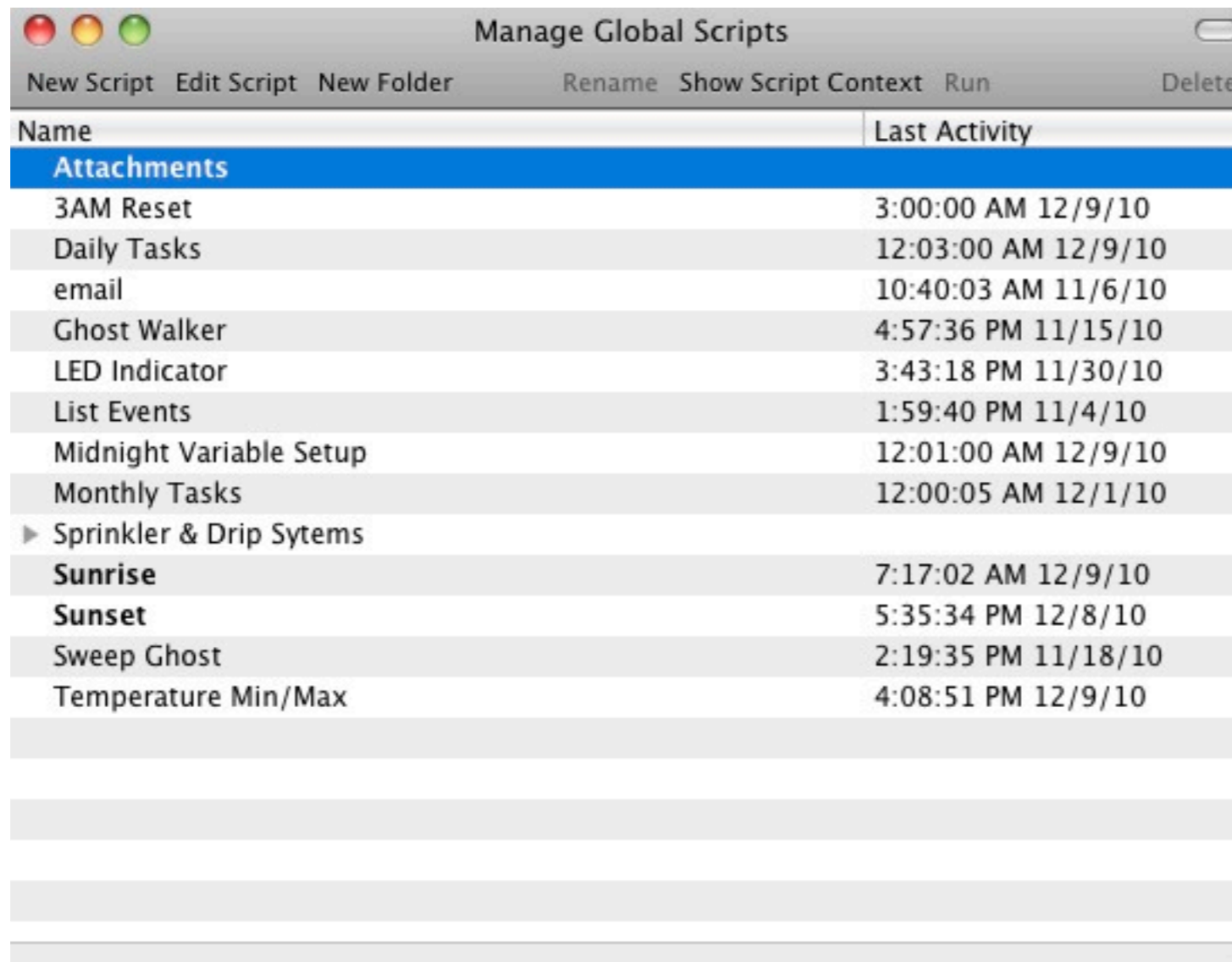
```
if (status of "D-Garage Door") is false and (status of "D-Vault Door") is false then  
    turnoff "R-Gate-Garage Open"  
end if
```

# Global Scripts

*A global script* is an AppleScript that a scheduled event can execute or another script can call. In XTension, global scripts are the glue that ties your whole automation system together.

- Gordon Meyer - *Smart Home Hacks*

# Global Scripts

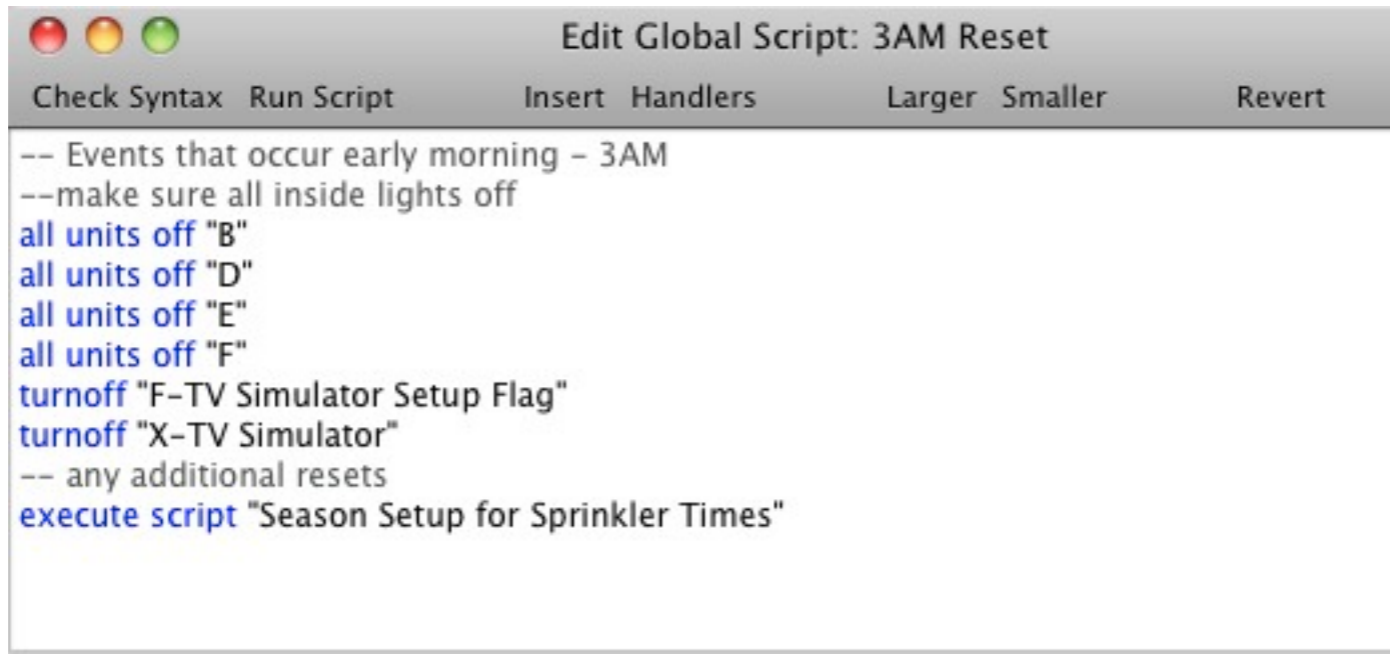


The screenshot shows a window titled "Manage Global Scripts" with a menu bar containing "New Script", "Edit Script", "New Folder", "Rename", "Show Script Context", "Run", and "Delete". The window displays a table with two columns: "Name" and "Last Activity". The "Attachments" folder is selected and highlighted in blue. Below it, a list of scripts is shown with their last activity timestamps.

Name	Last Activity
<b>Attachments</b>	
3AM Reset	3:00:00 AM 12/9/10
Daily Tasks	12:03:00 AM 12/9/10
email	10:40:03 AM 11/6/10
Ghost Walker	4:57:36 PM 11/15/10
LED Indicator	3:43:18 PM 11/30/10
List Events	1:59:40 PM 11/4/10
Midnight Variable Setup	12:01:00 AM 12/9/10
Monthly Tasks	12:00:05 AM 12/1/10
▶ Sprinkler & Drip Sytems	
<b>Sunrise</b>	7:17:02 AM 12/9/10
<b>Sunset</b>	5:35:34 PM 12/8/10
Sweep Ghost	2:19:35 PM 11/18/10
Temperature Min/Max	4:08:51 PM 12/9/10

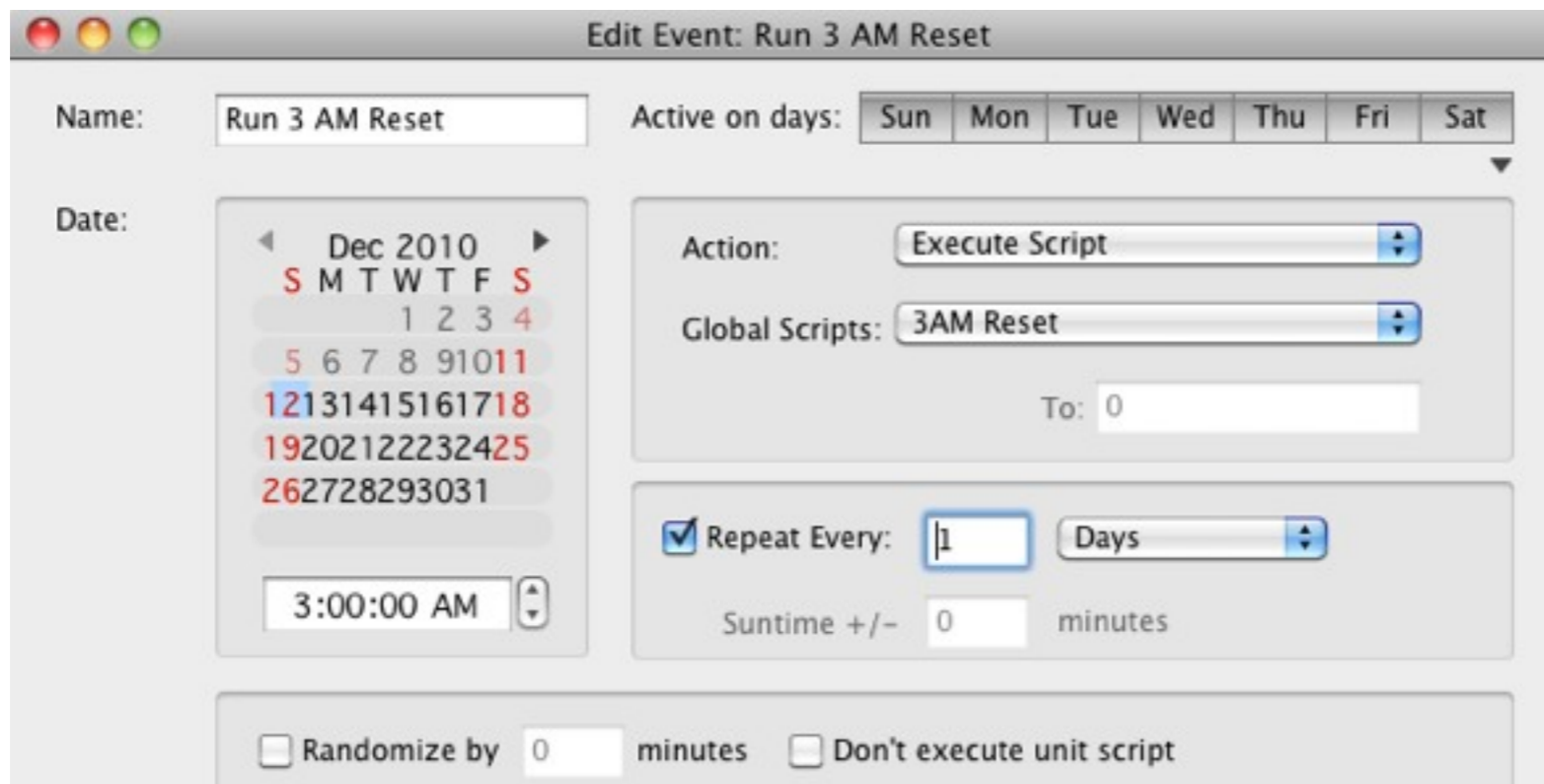
# Global Scripts

## Simple Event Script



The screenshot shows a window titled "Edit Global Script: 3AM Reset". The window has a menu bar with "Check Syntax", "Run Script", "Insert", "Handlers", "Larger", "Smaller", and "Revert". The main text area contains the following script:

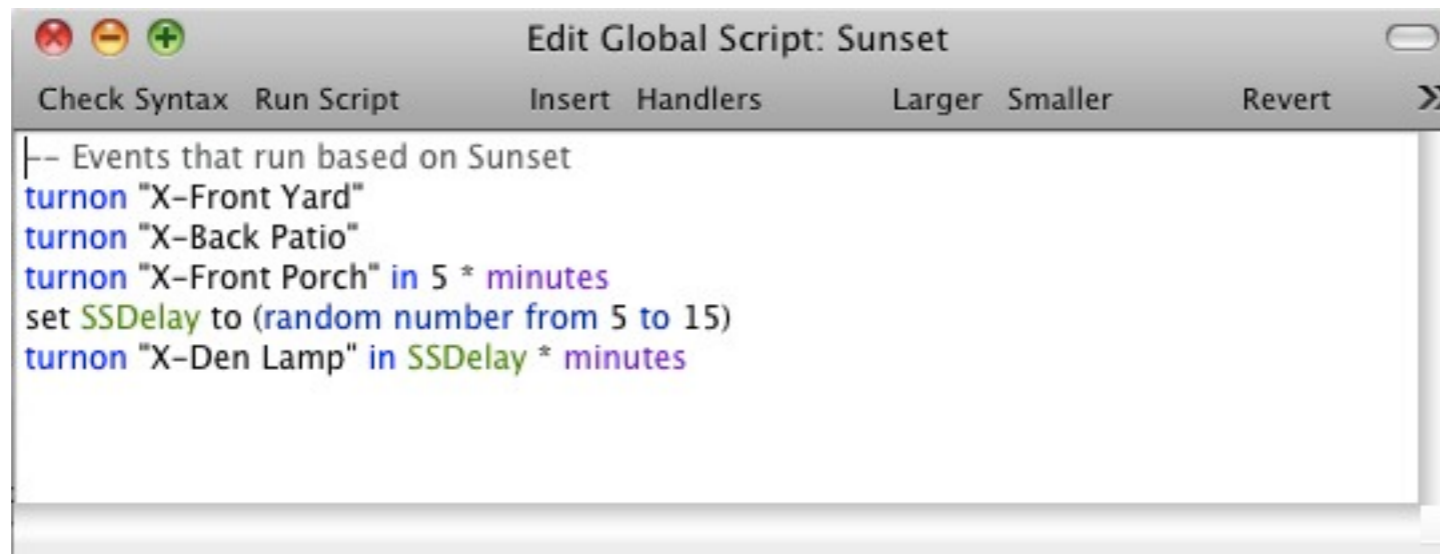
```
-- Events that occur early morning - 3AM
--make sure all inside lights off
all units off "B"
all units off "D"
all units off "E"
all units off "F"
turnoff "F-TV Simulator Setup Flag"
turnoff "X-TV Simulator"
-- any additional resets
execute script "Season Setup for Sprinkler Times"
```



The screenshot shows a window titled "Edit Event: Run 3 AM Reset". The window has a "Name:" field with "Run 3 AM Reset" and an "Active on days:" section with buttons for Sun, Mon, Tue, Wed, Thu, Fri, and Sat. The "Date:" section includes a calendar for Dec 2010, a time field set to "3:00:00 AM", and a "Repeat Every:" section with a checked checkbox, a field containing "1", a "Days" dropdown, and a "Suntime +/-" field set to "0" minutes. At the bottom, there are checkboxes for "Randomize by 0 minutes" and "Don't execute unit script".

# Global Scripts

## System Event Script



```

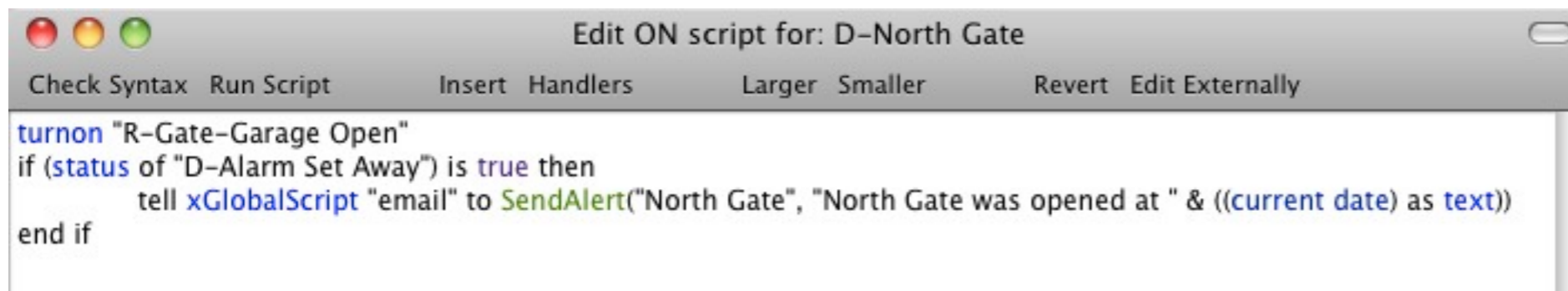
Edit Global Script: Sunset
Check Syntax Run Script Insert Handlers Larger Smaller Revert >>
|-- Events that run based on Sunset
turnon "X-Front Yard"
turnon "X-Back Patio"
turnon "X-Front Porch" in 5 * minutes
set SSDelay to (random number from 5 to 15)
turnon "X-Den Lamp" in SSDelay * minutes

```

# Global Scripts

## Scripts using Handler Calls for passing parameters

Script “email” for sending emails

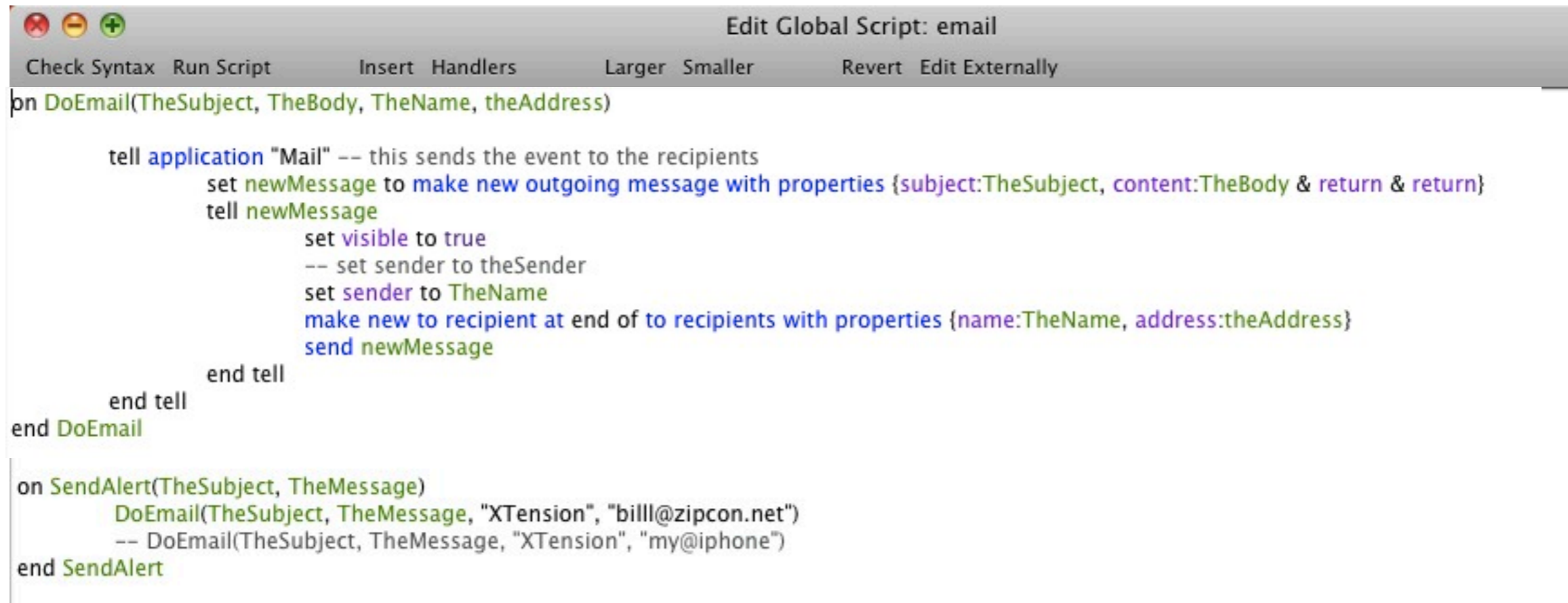


```
turnon "R-Gate-Garage Open"  
if (status of "D-Alarm Set Away") is true then  
    tell xGlobalScript "email" to SendAlert("North Gate", "North Gate was opened at " & ((current date) as text))  
end if
```

# Global Scripts

## Scripts using Handler Calls for passing parameters

### Script “email” for sending emails



```
on DoEmail(TheSubject, TheBody, TheName, theAddress)

    tell application "Mail" -- this sends the event to the recipients
        set newMessage to make new outgoing message with properties {subject:TheSubject, content:TheBody & return & return}
        tell newMessage
            set visible to true
            -- set sender to theSender
            set sender to TheName
            make new to recipient at end of to recipients with properties {name:TheName, address:theAddress}
            send newMessage
        end tell
    end tell
end DoEmail

on SendAlert(TheSubject, TheMessage)
    DoEmail(TheSubject, TheMessage, "XTension", "bill@zipcon.net")
    -- DoEmail(TheSubject, TheMessage, "XTension", "my@iphone")
end SendAlert
```

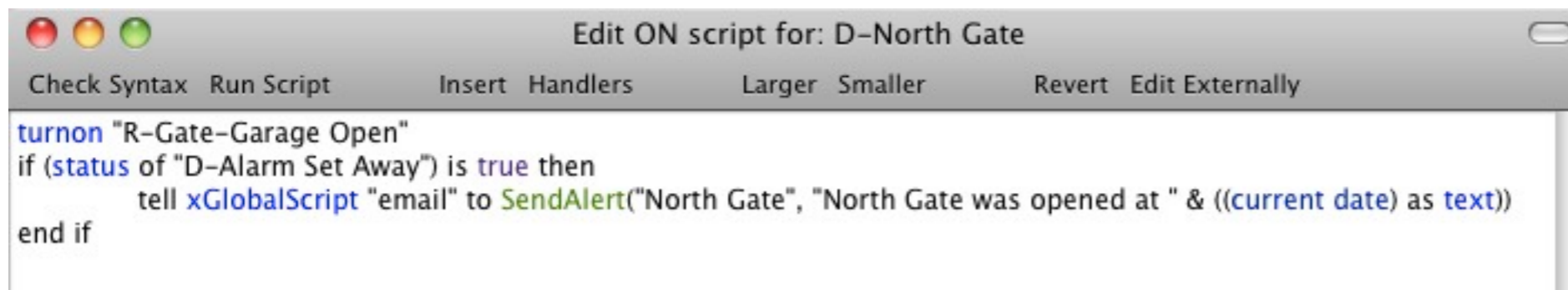
Taken from “Tutorials”  
section on the  
MacHome Automation Web Site



# Global Scripts

## Scripts using Handler Calls for passing parameters

Script “email” for sending emails



```
turnon "R-Gate-Garage Open"
if (status of "D-Alarm Set Away") is true then
    tell xGlobalScript "email" to SendAlert("North Gate", "North Gate was opened at " & ((current date) as text))
end if
```

<p><b>From:</b> Bill Lundell <b>Subject:</b> North Gate <b>Date:</b> January 9, 2011 1:31:06 PM CST <b>To:</b> XTension &lt;bill@zipcon.net&gt;</p> <hr/> <p>North Gate was opened at Sunday, January 9, 2011 1:31:06 PM</p>
--

# Global Scripts

## Making a house look “occupied”

Script “GhostWalker” for turning lights on & off at random times

### Hack #72 - Gordon Meyer - *Smart Home Hacks*

#### Setting up:

---

Add lights (units) to a Group (or Groups)

Create the Ghost Walker script

Add repeating event to rerun the GhostWalker script

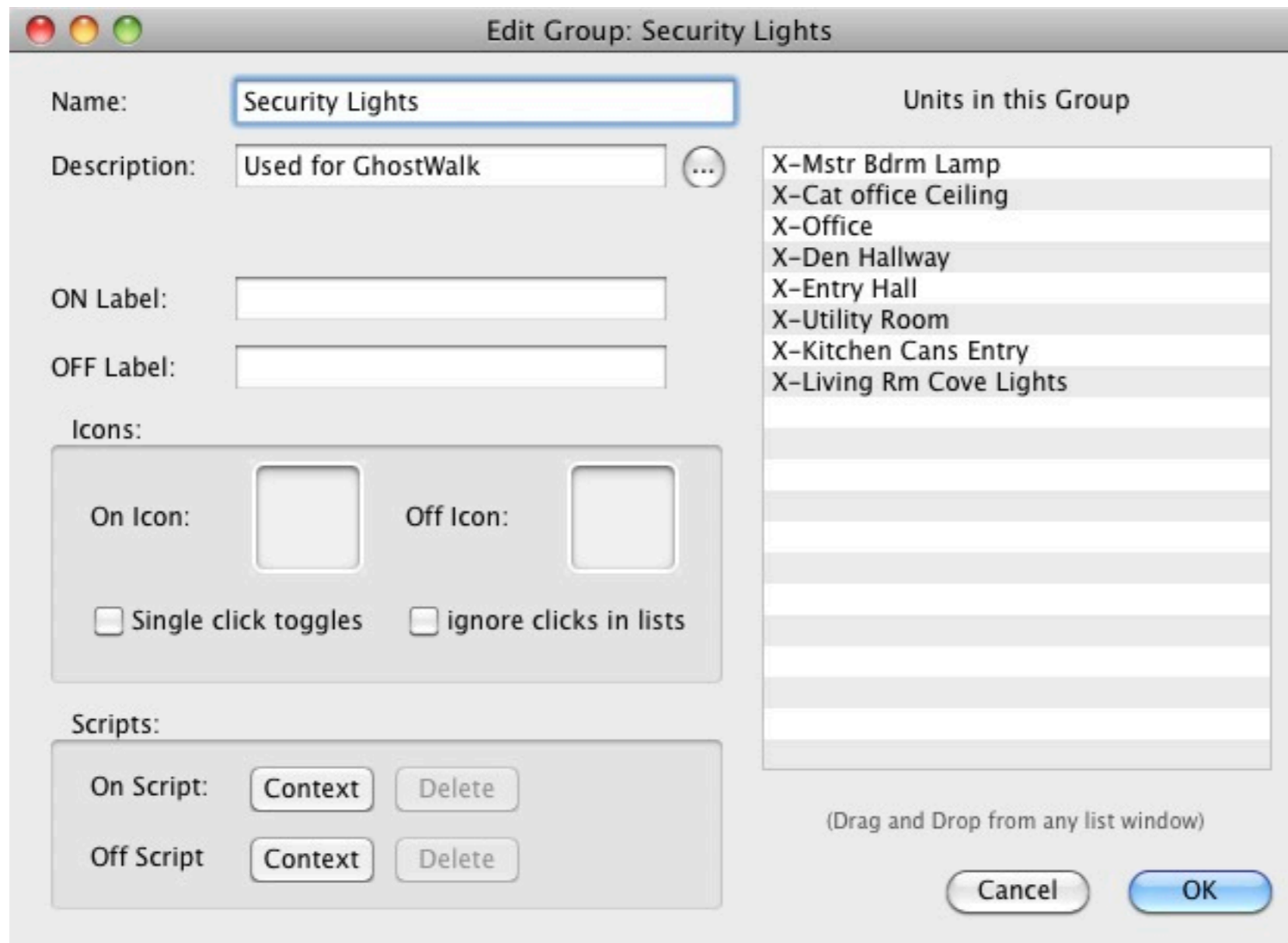
Add event to trigger GhostWalker script

Add event to turn off GhostWalker Script

# Global Scripts

## Making a house look “occupied”

### Adding units to a [New] Group “Security Lights”



# Global Scripts

## Making a house look “occupied”

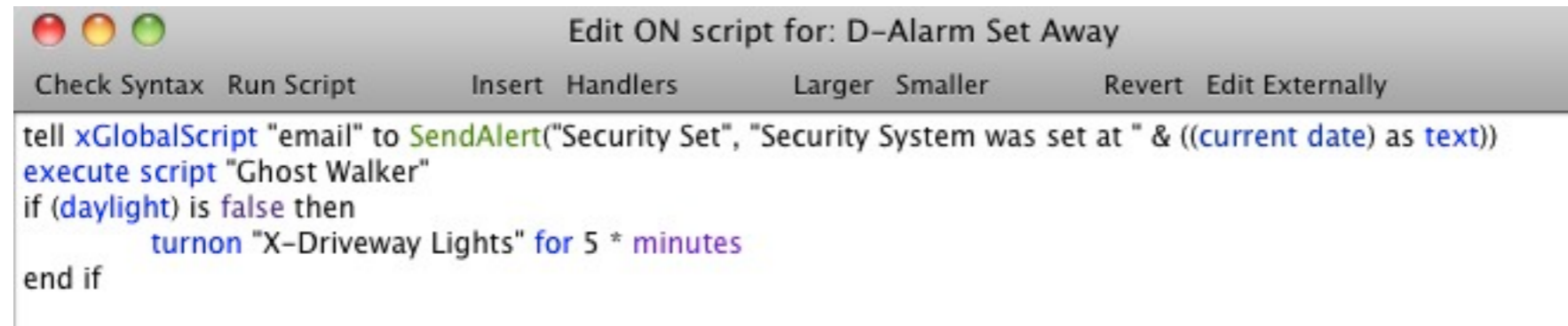
### Enter GhostWalker Script

```
-- Ghost Walk Script
-- Randomly turns on & off lights & TV simulator to make house seem occupied
--set seed to (random number 1 to 2) -- a 50% chance anything will happen this time
--if seed is equal to 1 then
if (status of "D-Alarm Set Away" ) is true then -- only if occupants are away
  if time of (current date) < (23 * hours) and time of (current date) > (5 * hours + 59 * minutes) then
    -- not during midnight to 6AM
    if (daylight) is false then -- make sure it is dark outside
      set randLights to all of group "Security Lights"
      set uname to some item of randLights
      set EventNum to (random number from 1 to 1000) as string
      set InTime to (random number from 1 to 10)
      set OnTime to (random number from 7 to 50)
      set EventOnName to "Ghost Light On" & EventNum
      set EventOffName to "Ghost Light Off" & EventNum
      create event EventOnName that turnson unit uname in InTime * minutes
      create event EventOffName that turnsoff unit uname in OnTime * minutes
      write log "Ghost Walk Scheduled: " & uname
      if time of (current date) > (18 * hours) and time of (current date) < (22 * hours) then --only in evening
        if (status of "F-TV Simulator Setup Flag") is false then
          set InTime to (random number from 1 to 50)
          set EventOnName to "Ghost Light On TV"
          create event EventOnName that turnson unit "X-TV Simulator" in InTime * minutes
          turnon "F-TV Simulator Setup Flag"
        end if
      end if
    end if
    if time of (current date) > (22 * hours) and (status of "F-TV Simulator Setup Flag") is true then
      set OnTime to (random number from 1 to 30)
      set EventOffName to "Ghost Light Off TV"
      create event EventOffName that turnsoff unit "X-TV Simulator" in OnTime * minutes
      turnoff "F-TV Simulator Setup Flag"
    end if
  end if
end if
execute script "Ghost Walker" in (random number from 35 to 50) * minutes
-- rerun script later in 35 - 50 minutes
end if
```

# Global Scripts

## Making a house look “occupied”

### Starting GhostWalker Script



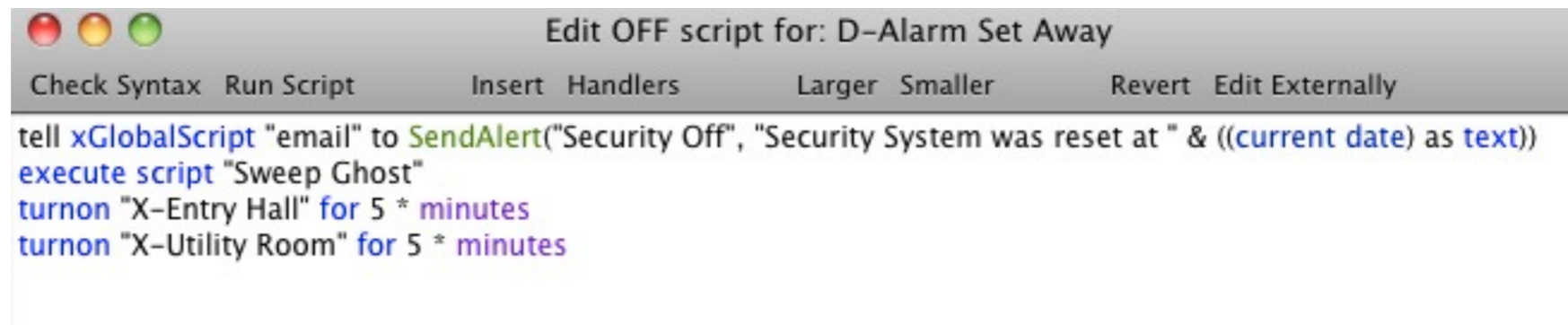
```
tell xGlobalScript "email" to SendAlert("Security Set", "Security System was set at " & ((current date) as text))
execute script "Ghost Walker"
if (daylight) is false then
    turnon "X-Driveway Lights" for 5 * minutes
end if
```

# Global Scripts

## Making a house look “occupied”

Stopping (& Cleaning up after) GhostWalker Script

```
-- sweep out the ghosts after occupants return
set EventList to all events
repeat with x from 1 to count of items in EventList
    set e to item x in EventList
    if e contains "Ghost Light" then
        remove event e
    end if
end repeat
turnoff "F-TV Simulator Setup Flag"
turnoff "X-TV Simulator"
```



```
Check Syntax Run Script Insert Handlers Larger Smaller Revert Edit Externally
tell xGlobalScript "email" to SendAlert("Security Off", "Security System was reset at " & ((current date) as text))
execute script "Sweep Ghost"
turnon "X-Entry Hall" for 5 * minutes
turnon "X-Utility Room" for 5 * minutes
```

# External Add-On Programs

## Add Additional Features to XTension

---

- WeatherMan - Adds access to local weather forecasts
- Weather Tracker - Connection to physical weather station
- XTdb - Database for XTension Events
- VideoPitcher - Add video clips for viewing events
- X2Web - Web Interface for Monitoring & Control
- External Scripts

# Web Interface - X2Web

## Add-On web interface for XTension

Remote monitor and control

**X2Web: InstantX 4.0** [refresh](#) [admin](#) [add module](#) [logout](#)  
Sunday, December 12, 2010 5:46:46 PM [XTension Home](#) [X2Web Home](#)

**Master List** [conf](#) [up dn](#) [x](#)  
All Units

**Weather** [conf](#) [up dn](#) [x](#)

Outside <b>54.5°</b>	Humidity <b>26.0%</b>	Outside <b>56.66°</b>
Station Temp <b>53.4°</b>	Station Humidity <b>27.0%</b>	Station Pressure <b>30.29°</b>

**Global Scripts:** [conf](#) [up dn](#) [x](#)

- Manual Plant Drip Cycle
- Manual Sprinkler Cycle
- Stop Plant Drip Cycle
- Stop Sprinkler Cycle

**Weatherman:** [conf](#) [up dn](#) [x](#)  
Currently: **Mostly Cloudy Skies**  
57.0°

**Tonight: 28°**  
Clear, with a low around 28. North northeast wind between 5 and 10 mph becoming calm.

**Monday: 63°**  
Sunny, with a high near 63. Calm wind becoming south southwest between 5 and 10 mph.

**Monday Night: 36°**  
Increasing clouds, with a low around 36. South southwest wind between 5 and 10 mph.

**XTdb Graphs** [conf](#) [up dn](#) [x](#)  
[Show All](#)

**Weather Station** 5:46 PM Dec 12, 2010

Time	Outside Temperature (°F)	Outside Humidity (%)
7pm	64	26
9pm	58	28
11pm	52	30
1am	48	32
3am	44	34
5am	42	36
7am	40	38
9am	40	38
11am	68	38
1pm	64	32
3pm	58	28
5pm	52	20

**Doors** [conf](#) [up dn](#) [x](#)

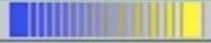
Garage Door Closed	North Gate Closed	Vault Door Closed
-----------------------	----------------------	----------------------



# Web Interface - X2Web

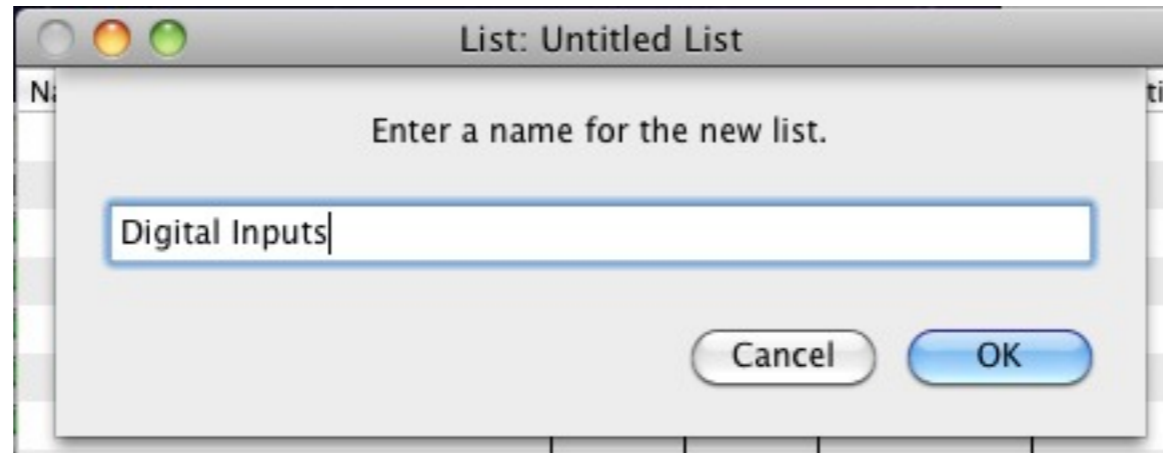
## Add-On web interface for XTension

All Units - no configuration

Unit List: All Units				<a href="#">Home</a> <a href="#">refresh</a> <a href="#">logout</a>
Sunday, December 12, 2010 5:50:29 PM				All Units <input type="button" value="v"/>
<input type="checkbox"/> CAM Amps	34.0	5:50:19 PM	<input type="button" value="On"/>  <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> CAM Cents per Hour	46.0	5:50:19 PM	<input type="button" value="On"/> <input type="text" value=""/> <input type="button" value="send"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> CAM kW	3.74	5:50:19 PM	<input type="button" value="On"/> <input type="text" value=""/> <input type="button" value="send"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> CAM Update Secs	12.0	5:50:19 PM	<input type="button" value="On"/> <input type="text" value=""/> <input type="button" value="send"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-Alarm Set Away	On	Yesterday: 12:06:14 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-Any Alarm	Off	Sunday, 10/31/10 2:45:55 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-Front Porch Sensor	Off	Sunday, 10/31/10 5:39:27 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-Garage Door	Off	Sunday, 11/14/10 11:22:04 AM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-North Gate	Off	Yesterday: 12:12:23 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-RS-Garage Hi	Off	Sunday, 10/31/10 5:15:23 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-RS-Garage Lo	Off	Sunday, 10/31/10 5:15:24 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-RS-NW Hi	Off	Sunday, 10/31/10 5:16:21 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-RS-NW Lo	Off	Sunday, 10/31/10 5:16:21 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-RS-Patio Hi	Off	Sunday, 10/31/10 5:17:27 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-RS-Patio Lo	Off	Sunday, 10/31/10 5:17:54 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-RS-Pressure OK	Off	Sunday, 10/31/10 5:00:39 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-RS-Pump Detect	Off	Sunday, 10/31/10 2:44:54 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-RS-Tanks Full	Off	Sunday, 10/31/10 5:16:57 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-RS-Water Detect	Off	Sunday, 10/31/10 2:43:31 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-S-Rain Sense	Off	Sunday, 10/31/10 2:10:53 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-S-Stop PB	Off	Sunday, 10/31/10 2:42:16 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> D-Vault Door	Off	Saturday, 11/13/10 7:05:55 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> Daily kWh	7.2109248E+4	5:50:19 PM	<input type="button" value="On"/> <input type="text" value=""/> <input type="button" value="send"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> F-D-1-Patio	Off	Yesterday: 10:09:00 AM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	
<input type="checkbox"/> F-D-2-Porch	Off	Yesterday: 10:12:00 AM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>	

# Web Interface - X2Web

## Separate Lists



A table titled "List: Digital Inputs" is shown. The table has six columns: Name, Value, Address, Flags, Last Activity, and Interface. The table contains 18 rows of data. The "Value" column shows green down arrows for most entries, and a red up arrow for "D-RS-Pressure OK". The "Flags" column shows various icons for each entry. The "Last Activity" column shows dates and times. The "Interface" column shows "Weeder A", "Weeder B", or "Weeder C".

Name	Value	Address	Flags	Last Activity	Interface
<input checked="" type="checkbox"/> D-Any Alarm	↓	C14	○ ↑ ↓ ▾	10/31/10 2:45 PM	Weeder C
<input checked="" type="checkbox"/> D-Front Porch Sensor	↓	A14	○ ↑ ↓ ▾	10/31/10 5:39 PM	Weeder A
<input checked="" type="checkbox"/> D-Garage Door	↓	A11	○ ↑ ↓ ▾	1/16/11 11:36 AM	Weeder A
<input checked="" type="checkbox"/> D-North Gate	↓	A12	○ ↑ ↓ ▾	1/9/11 2:06 PM	Weeder A
<input checked="" type="checkbox"/> D-RS-Garage Hi	↓	B9	○ ↑ ↓ ▾	1/17/11 3:43 PM	Weeder B
<input checked="" type="checkbox"/> D-RS-Garage Lo	↓	B10	○ ↑ ↓ ▾	10/31/10 5:15 PM	Weeder B
<input checked="" type="checkbox"/> D-RS-NW Hi	↓	B11	○ ↑ ↓ ▾	10/31/10 5:16 PM	Weeder B
<input checked="" type="checkbox"/> D-RS-NW Lo	↓	B12	○ ↑ ↓ ▾	10/31/10 5:16 PM	Weeder B
<input checked="" type="checkbox"/> D-RS-Patio Hi	↓	B13	○ ↑ ↓ ▾	10/31/10 5:17 PM	Weeder B
<input checked="" type="checkbox"/> D-RS-Patio Lo	↓	B14	○ ↑ ↓ ▾	10/31/10 5:17 PM	Weeder B
<input checked="" type="checkbox"/> D-RS-Pressure OK	↑	C10	○ ↑ ↓ ▾	1/11/11 11:30 AM	Weeder C
<input checked="" type="checkbox"/> D-RS-Pump Detect	↓	C11	○ ↑ ↓ ▾	10/31/10 2:44 PM	Weeder C
<input checked="" type="checkbox"/> D-RS-Tanks Full	↓	C9	○ ↑ ↓ ▾	10/31/10 5:16 PM	Weeder C
<input checked="" type="checkbox"/> D-RS-Water Detect	↓	C12	○ ↑ ↓ ▾	10/31/10 2:43 PM	Weeder C
<input checked="" type="checkbox"/> D-S-Rain Sense	↓	A9	○ ↑ ↓ ▾	10/31/10 2:10 PM	Weeder A
<input checked="" type="checkbox"/> D-S-Stop PB	↓	A10	○ ↑ ↓ ▾	10/31/10 2:42 PM	Weeder A
<input checked="" type="checkbox"/> D-Vault Door	↓	A13	○ ↑ ↓ ▾	1/9/11 2:06 PM	Weeder A

# Web Interface - X2Web

## Separate Lists

### Configure: XTension Unit Lists

Module Title:

Select the lists from XTension that you would like to access from this list.

- Show "All Units" link
- S-Oregon Humidity
- Digital Inputs
- Relay Outputs
- Sensors
- LEDs
- X10 Units

Select the link style to the list:

- Links
- Buttons

Select the list style

- List
- Blocks

# Web Interface - X2Web

## Separate Lists

**X2Web: InstantX 4.0** [refresh](#) [admin](#) [add module](#) [logout](#)  
Sunday, January 16, 2011 12:03:22 PM [XTension Home](#) [X2Web Home](#)

[conf](#) [up dn](#) [x](#)

### Master List

All Units

[conf](#) [up dn](#) [x](#)

### X10 Controls

X10 Units

[conf](#) [up dn](#) [x](#)

### Weatherman: 78230 Area San Antonio

Currently: **Overcast Skies 53.1°**

**This Afternoon: 58°**  
A 30 percent chance of rain. Mostly cloudy, with a high near 58. North northwest wind between 5 and 10 mph.

**Tonight: 41°**  
Patchy fog after 3am. Otherwise, mostly cloudy, with a low around 41. North wind between 5 and 10 mph becoming calm.

**M.I.king Day: 68°**  
Areas of fog before 10am. Otherwise, mostly sunny, with a high near 68. Calm wind becoming southwest between 5 and 10 mph.

[conf](#) [up dn](#) [x](#)

### Weather

Outside <b>55.22°</b>	Humidity <b>98.0%</b>	Outside <b>56.48°</b>
Station Temp <b>54.9°</b>	Station Humidity <b>99.0%</b>	Station Pressure <b>29.96°</b>

[conf](#) [up dn](#) [x](#)

### Global Scripts:

Manual Plant Drip Cycle

Manual Sprinkler Cycle

Stop Plant Drip Cycle

Stop Sprinkler Cycle

[conf](#) [up dn](#) [x](#)

### XTdb Graphs

[Show All](#)

Weather Station  
12:03 PM Jan 16, 2011

Time	Outside Temperature (°F)	Outside Humidity (%)
2pm	53.1	98.5
4pm	53.1	98.5
6pm	53.1	98.5
8pm	53.1	98.5
10pm	53.1	98.5
12am	53.1	98.5
2am	53.1	98.5
4am	53.1	98.5
6am	53.1	98.5
8am	53.1	98.5
10am	53.1	98.5
12pm	53.1	98.5

[conf](#) [up dn](#) [x](#)

### Doors

Garage Door Closed	North Gate Closed	Vault Door Closed
-----------------------	----------------------	----------------------

[conf](#) [up dn](#) [x](#)

### Sensors

[Sensors](#)

[conf](#) [up dn](#) [x](#)

### LEDs

[LEDs](#)

[conf](#) [up dn](#) [x](#)

### Digital Inputs

[Digital Inputs](#)

[conf](#) [up dn](#) [x](#)

### Relay Outputs

[Relay Outputs](#)

# Web Interface - X2Web

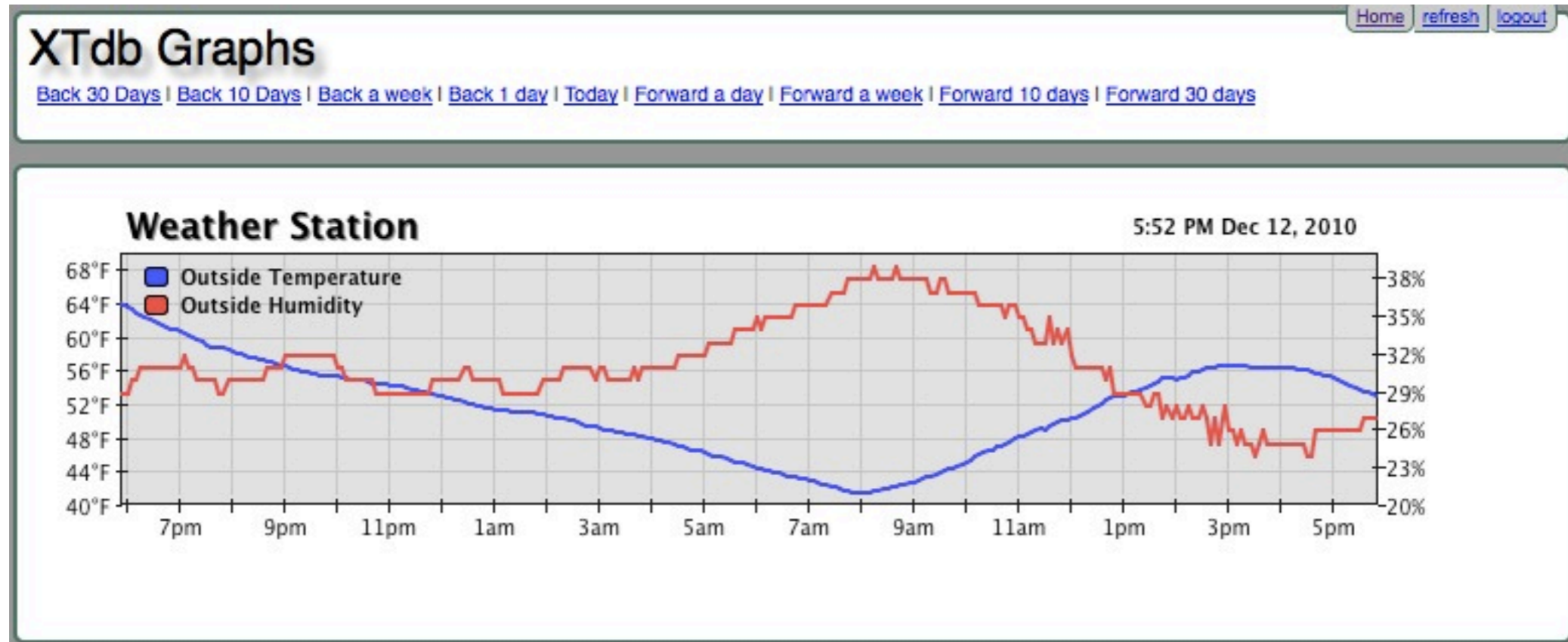
## Separate Lists

Unit List: Digital Inputs				<a href="#">Home</a> <a href="#">refresh</a> <a href="#">logout</a>
Sunday, January 16, 2011 12:05:41 PM			Digital Inputs	
<input type="checkbox"/>	D-Any Alarm	Off	Oct 31, 10/31/10 2:45:55 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-Front Porch Sensor	Off	Oct 31, 10/31/10 5:39:27 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-Garage Door	Off	11:36:34 AM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-North Gate	Off	Sunday, 1/9/11 2:06:23 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-RS-Garage Hi	Off	Oct 31, 10/31/10 5:15:23 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-RS-Garage Lo	Off	Oct 31, 10/31/10 5:15:24 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-RS-NW Hi	Off	Oct 31, 10/31/10 5:16:21 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-RS-NW Lo	Off	Oct 31, 10/31/10 5:16:21 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-RS-Patio Hi	Off	Oct 31, 10/31/10 5:17:27 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-RS-Patio Lo	Off	Oct 31, 10/31/10 5:17:54 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input checked="" type="checkbox"/>	D-RS-Pressure OK	On	Tuesday, 1/11/11 11:30:45 AM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-RS-Pump Detect	Off	Oct 31, 10/31/10 2:44:54 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-RS-Tanks Full	Off	Oct 31, 10/31/10 5:16:57 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-RS-Water Detect	Off	Oct 31, 10/31/10 2:43:31 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-S-Rain Sense	Off	Oct 31, 10/31/10 2:10:53 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-S-Stop PB	Off	Oct 31, 10/31/10 2:42:16 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>
<input type="checkbox"/>	D-Vault Door	Off	Sunday, 1/9/11 2:06:17 PM	<input type="button" value="On"/> <input type="button" value="more"/> <input type="button" value="Off"/>

# Web Interface - X2Web

## Add-On web interface for XTension

Adding graphs from XTdb



# Web Interface - X2Web

## Add-On web interface for XTension

### Adding Global Scripts

### Configure: Global Scripts

Module Title:

Highlight scripts to show:

- Plant Drip Relays
- Plant Drip Start
- Season Setup for Sprinkler Times
- Sprinkler Relay Output
- Sprinkler Start
- Stop Plant Drip Cycle
- Stop Sprinkler Cycle
- Sunrise
- Sunset
- Sweep Ghost

Select the style to show the links as:

Display As Links

Display As Buttons

Display as Popup Menu

# Web Interface - X2Web

## Add-On web interface for XTension

### Configuring action buttons for Units

#### Configure: Units

Module Title:

```
page=tinytemp&unit=S-Kitchen Outdoor Temp&name=Outside  
page=tinyhumidity&unit=S-Oregon Humidity Sensor&name=Humidity  
page=tinytemp&unit=S-Oregon Temp Sensor&name=Outside  
page=tinytemp&unit=S-Davis Temperature&name=Station Temp  
page=tinyhumidity&unit=S-Davis Humidity&name=Station Humidity  
page=tinytemp&unit=S-Davis Pressure&name=Station Pressure
```

Save

Cancel

#### Inline Unit pages currently available:

page=tinytemp

Displays an analog temperature value with the name of the unit, the temp in larger numbers and the background color selected based on the temperature.

Parameters:

- unit=TheUnitName (required, the unit name from which to draw the temperature)
- name=MyThingy (optional, if not there it will display the full unit name)

Example: page=tinytemp&unit=TEMPERATURE Main Attic&name=main attic

page=tinyhumidity

Displays a humidity value with the name of the unit, the humidity in larger numbers and a percent sign.

Parameters:

- unit=TheUnitName (required, the unit name from which to draw the humidity)
- name=MyThingy (optional, if not there it will display the full unit name)

Example: page=tinyhumidity&unit=HUMIDITY master bath&name=master bath



# Web Interface - X2Web

## Login Screen



X2Web: InstantX 4.0: Login

Please enter your password for access to this site:

Keep this machine signed in.

# Web Interface - X2Web

**X2Web: InstantX 4.0** [refresh](#) [admin](#) [add module](#) [logout](#)  
Sunday, January 30, 2011 7:16:10 PM [XTension Home](#) [X2Web Home](#)

[conf](#) [up dn](#) [x](#)

### Master List

All Units

[conf](#) [up dn](#) [x](#)

### X10 Controls

X10 Units

[conf](#) [up dn](#) [x](#)

### Weatherman: 78230 Area San Antonio

Currently: **Mostly Clear Skies**  
73.0 °

**Tonight: 57°**  
Areas of fog after 3am. Otherwise, mostly cloudy, with a low around 57. South southeast wind around 5 mph.

**Monday: 78°**  
Areas of fog before 9am. Otherwise, mostly cloudy, with a high near 78. South southeast wind between 5 and 15 mph, with gusts as high as 20 mph.

**Monday Night: 44°**  
A slight chance of showers, then a chance of showers and thunderstorms after midnight. Mostly cloudy, with a low around 44. Southeast wind between 10 and 15 mph, with gusts as high as 20 mph. Chance of precipitation is 50%.

[conf](#) [up dn](#) [x](#)

### Weather

Outside <b>69.8°</b>	Humidity <b>41.0%</b>	Outside <b>70.7°</b>
Station Temp <b>72.3°</b>	Station Humidity <b>39.0%</b>	Station Pressure <b>29.91°</b>

[conf](#) [up dn](#) [x](#)

### Global Scripts:

Manual Plant Drip Cycle

Manual Sprinkler Cycle

Stop Plant Drip Cycle

Stop Sprinkler Cycle

[conf](#) [up dn](#) [x](#)

### XTdb Graphs

[Show All](#)

**Weather Station** 7:16 PM Jan 30, 2011

Time	Outside Temperature (°F)	Outside Humidity (%)
9pm	69	44
11pm	65	65
1am	63	65
3am	63	65
5am	63	65
7am	63	65
9am	63	65
11am	78	89
1pm	75	75
3pm	72	65
5pm	70	55
7pm	70	35

[conf](#) [up dn](#) [x](#)

### Sensors

[Sensors](#)

[conf](#) [up dn](#) [x](#)

### Digital Inputs

[Digital Inputs](#)

[conf](#) [up dn](#) [x](#)

### Relay Outputs

[Relay Outputs](#)

[conf](#) [up dn](#) [x](#)

### LEDs

[LEDs](#)

[conf](#) [up dn](#) [x](#)

### Doors

Garage Door Closed	North Gate Closed	Vault Door Closed
-----------------------	----------------------	----------------------

# Web Interface - X2Web

[refresh](#) [admin](#) [logout](#)

## X2Web: InstantX 4.0

Sunday, January 30, 2011 7:24:46 PM

[XTension Home](#) [X2Web Home](#)

### Master List

[All Units](#)

### Weather

Outside <b>69.8°</b>	Humidity <b>42.0%</b>	Outside <b>70.52°</b>
Station Temp <b>71.9°</b>	Station Humidity <b>40.0%</b>	Station Pressure <b>29.91°</b>

### Global Scripts:

[Manual Plant Drip Cycle](#)

[Manual Sprinkler Cycle](#)

[Stop Plant Drip Cycle](#)

[Stop Sprinkler Cycle](#)

### X10 Controls

[X10 Units](#)

### XTdb Graphs

[Show All](#)

**Weather Station** 7:24 PM Jan 30, 2011

Time	Outside Temperature (°F)	Outside Humidity (%)
9pm	69	44
11pm	65	55
1am	63	62
3am	63	68
5am	63	75
7am	63	82
9am	63	89
11am	78	89
1pm	75	75
3pm	75	62
5pm	75	44
7pm	72	35

### Sensors

[Sensors](#)

### Weatherman: 78230 Area San Antonio

Currently: **Mostly Clear Skies**  
**73.0°**

**Tonight: 57°**  
Areas of fog after 3am. Otherwise, mostly cloudy, with a low around 57. South southeast wind around 5 mph.

**Monday: 78°**  
Areas of fog before 9am. Otherwise, mostly cloudy, with a high near 78. South southeast wind between 5 and 15 mph, with gusts as high as 20 mph.

**Monday Night: 44°**  
A slight chance of showers, then a chance of showers and thunderstorms after midnight. Mostly cloudy, with a low around 44. Southeast wind between 10 and 15 mph, with gusts as high as 20 mph. Chance of precipitation is 50%.

### Doors

Garage Door Closed	North Gate Closed	Vault Door Closed
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### Digital Inputs

[Digital Inputs](#)

### Relay Outputs

[Relay Outputs](#)

### LEDs

[LEDs](#)

010

75

Saturday, February 19, 2011

**Thank You**

## Home Automation for Mac - Links

### *Smart Home Hacks* Book

Although *Smart Home Hacks* has a copyright of 2004, the information contained in it is still relevant for today's home automation designer. And it is a good introduction for both XTension and Indigo software. Available in Paperback & Kindle Editions  
<http://www.amazon.com/Smart-Home-Hacks-Tools-Automating/dp/0596007221>

### O'Reilly Information on *Smart Home Hacks*

<http://oreilly.com/catalog/9780596007225/>

### PDF "Best of Smart Home Hacks" from the author

<http://www.g2meyer.com/osxcon/BestSmartHomeHacks.pdf>

## System Software

### XTension

For X10, UPB (in beta), as well as wired & wireless interfaces

New Site:

<http://www.machomeautomation.com>

Original Site:

<http://www.shed.com/>

To join XTension discussion list

<http://lists.shed.com/mailman/listinfo/xtensionlist>

Archive of XTension Discussion List

<http://lists.shed.com/pipermail/xtensionlist/>

Searchable database of XTension DiscussionList

<http://void.nothingness.org/archives/xtension/index.php>

### Add-Ons & Plugins for XTension

<http://sentman.com/Software.html>

### Indigo

If you plan to use Insteon devices, Indigo is probably your best software choice

<http://www.perceptiveautomation.com/>

Indigo User Forum

<http://www.perceptiveautomation.com/userforum/>

Indigo How-To Wiki

<http://www.perceptiveautomation.com/wiki/doku.php>

### Thinking Home

X10 and (recently added) basic Insteon

<http://alwaysthinking.com/thinkingHome.html>

Thinking Home Forum

<http://alwaysthinking.com/support/community/>

To join mailing list

<http://alwaysthinking.com/webpages/maillinglist.html>

### Comparison of Thinking Home, XTension, Indigo

<http://alwaysthinking.com/FeatureComparison.html>

### Shion Online

<https://www.shiononline.com/>

New arrival to home automation - Their offerings are just becoming available

## Software Add-Ons

WeatherMan & WeatherTracker Software

WeatherMan can be interfaced to XTension to provide local weather information.

WeatherTracker is a way to get information from you own weather station into XTension

<http://www.afterten.com/>

## Hardware

X10 Site

For X10 information (and the latest specials), go to the source

<http://www.x10.com/>

X10 - How It Works

<http://www.x10.com/technology1.htm>

X10 Wiki

<http://kbase.x10.com/wiki/>

Wikipedia on X10

[http://en.wikipedia.org/wiki/X10\\_\(industry\\_standard\)](http://en.wikipedia.org/wiki/X10_(industry_standard))

UPB (PulseWorx) Controllers & Modules

UPB is a faster, 2-way protocol over power lines.

[http://pulseworx.com/products\\_.htm](http://pulseworx.com/products_.htm)

UPB Technology

[http://pulseworx.com/UPB\\_.htm](http://pulseworx.com/UPB_.htm)

UPB Simply Automated Controllers & modules

<http://www.simply-automated.com/>

UPB Technology

[http://www.simply-automated.com/UPB\\_Technology.php](http://www.simply-automated.com/UPB_Technology.php)

Insteon

<http://www.insteon.net/>

Insteon used a dual technology - both power lines and radio frequency

How Insteon Works

<http://www.insteon.net/about-howitworks.html>

## Hardware Add-Ons

JV Digital Engineering

<http://jvde.us/>

The best X10 repeater available.

XTB-IIR X10 Transmit Booster / Repeater

[http://jvde.us//xtb/XTB-IIR\\_description.htm](http://jvde.us//xtb/XTB-IIR_description.htm)

RFXCom Receivers

Use 415 MHz receiver for Oregon Scientific and others

Use 310 MHz receiver for X10 sensors (or X10 CM-15 or WGL W800)

[http://www.cheapertronics.com/products.php?category\\_id=64](http://www.cheapertronics.com/products.php?category_id=64)

WGL & Associates

Modules & Sprinkler Controllers  
WGL products include a UPB sprinkler module  
<http://www.wgl designs.com/>

FTDI Serial Drivers  
If your design uses serial ports, try to use an FTDI deigned interface or adapter.  
For the latest drivers, go the the source:  
<http://www.ftdichip.com/Drivers/VCP.htm>

(Single) USB - Serial adapter  
This is one example of an FTDI serial port adapter:  
<http://www.easysync-ltd.com/product/526/es-u-1001-r100.html>

8-Port USB - Serial Adapter  
If you end up using lots of serial ports, here is an 8-port box that uses FTDI drivers.  
<http://www.vscom.de/617.htm>  
(There is also 4-port version by the same company.)  
The cheapest price I've found was on Amazon.  
<http://www.amazon.com/VSCom-8-port-Serial-Adapter-RS232/dp/B000NZPJ4>

Serial Cables - Inexpensive (but well made)  
<http://www.cablesforless.com/c-500-db9-male-to-female.aspx>

Weeder Technologies  
Input/Output Serial Modules  
<http://weedtech.com/>  
For use with XTension, only the WTDIO (digital) and the WTADC (analog) modules are supported.  
[http://sentman.com/Weeder\\_Plugin\\_files/weeder\\_readme.pdf](http://sentman.com/Weeder_Plugin_files/weeder_readme.pdf)

BarioNet IP Enabled Interface  
Another device that is supported by XTension is the BarioNet controller  
Interfaced via ethernet, it has contact closure inputs, relay outputs & 1-wire support  
[http://www.barix.com/Barionet\\_50/1351/](http://www.barix.com/Barionet_50/1351/)  
US Distributor:  
<http://www.datanab.com/>

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Although not discussed in this seminar, another home automation protocol is Z-Wave  
For completeness, I have included a few Z-Wave links

Z-Wave  
An RF-only home automation system -  
<http://www.waynedaltonstore.com/index.php>  
Z-Wave interface to Mac  
<http://www.waynedaltonstore.com/product/741714108971.html>

Vera - a Stand-alone box to control Z-Wave (including Schlage locks)  
<http://micasaverde.com/vera.php>

Schlage locks & deadbolts (Z-Wave secure)  
<http://link.schlage.com/Products/Pages/DeadboltStarterKit.aspx>

~~~~~

And if you have an extra 10-20K that you want to spend  
and don't want to do it yourself:  
(But good for ideas)

Savant

[http://www.savantav.com/residential\\_solutions.aspx](http://www.savantav.com/residential_solutions.aspx)

Control4

<http://www.control4.com/residential/>