

Girder in the Real World

by Todd Reed

This guide is based upon Girder 3.3.1

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Typical System

Girder controls programs like WinDVD, WinAmp and Windows Media Player using infrared and wireless remote controls so you can sit back and enjoy your digital library from your couch. Girder can also control X10 home automation devices, for complete “smart home integration”. Girder is the “behind the scenes glue” providing full control of your multimedia PC experience.



In this document we will explore some of the features of Girder using a real world example. We will be using various hardware and software combinations. Our example system includes an MP3 Jukebox computer, a multiple zone audio system, an X10 automation controller, and an IR control network.

Hardware

PIII-900 computer with DVD, Audio
Carver dual zone audio system
Xantech IR bus control with several IR receivers and Emitters
IRA-2 serial IR interface
Adicon “Ocelot” X10 controller

Software

Windows 98, ME, XP
Girder 3.3.1c
Musicmatch MP3 Jukebox software, v7.x and v8.x
Adicon CMAX Software v2.00e for X10 control
Girder Plugins: Ocelot, KeyboardEx, OSD, etc...

This manual is intended to teach you the basics of Girder using real world examples. If you have trouble understanding concepts we recommend downloading the “Getting Started” guide for review.

More advanced topics are better suited for the online forum. So, we are trying to keep it as simple as possible. If you do find things that are not clear please drop me us email.

Overview

Make a list of your desired features, and there is most likely hardware available to get the results you want. As long as the PC has some serial or USB ports you are in good shape!

For this system I wanted to integrate an existing X10 system to a dual zone stereo system, and add an MP3 Jukebox to complete the package. I wanted to control it all using either IR, X10 or time based events.

Since the computer was in the stereo closet, I needed to be able to control the PC remotely. So I used an IRA-2 serial to IR interface. I added an emitter to my existing Xantech IR system, so I could then send IR commands from the living room to the IR receiver in my stereo closet.

The result was a fully controllable MP3 Music System, with not a unit in sight!

For a complete overview of this system, go to <http://toddjreed.home.comcast.net/ToddsHApject.pdf>

Now on to the fun stuff!

Configuring Girder

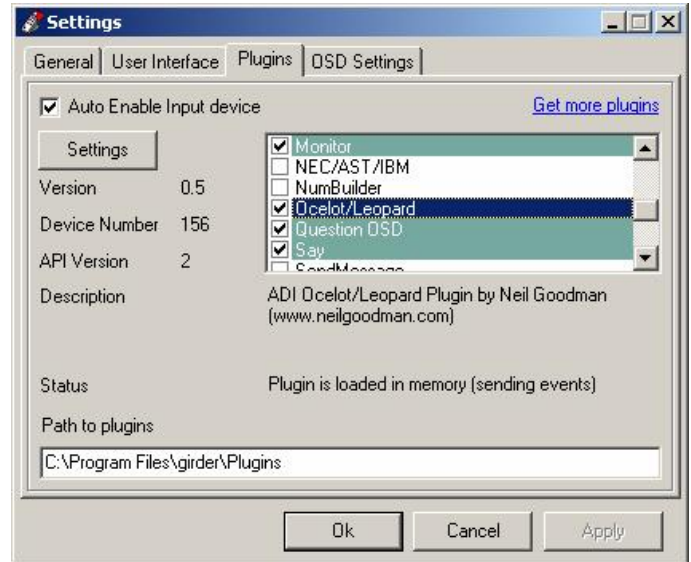
The first thing we need to do (after installing Girder), is to load all the required plugins for your hardware. They must be put into the “plugin” directory, and then using the ‘file/settings’ menu, you must check each plugin that you will be using. If they don’t show up, they are not in the proper ‘plugin’ directory.

Check the ‘path to plugins’ box to make sure Girder knows where to find your plugins!

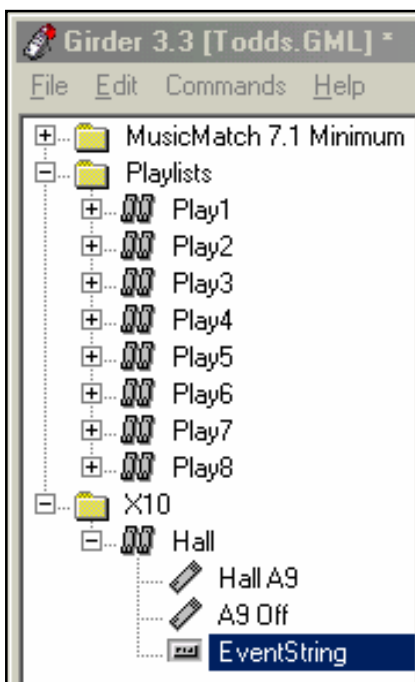
In this case we needed the Ocelot/Leopard plugin for the Ocelot X10 controller and we added the KeyboardEx plugin for local keyboard control.

We also activated the included UIR/Irman/IRA plugin to control the IRA-2 serial IR interface.

With this done, we proceeded to the Girder forum and downloaded a few groups, to use as a starting point for our commands.



You can download the Musicmatch, Winamp, winDVD, and other groups to be used for examples.



We imported the Musicmatch group to create a command tree as shown below. Next we created several new groups to contain our custom commands. We labeled these Playlists, X10, KeyboardEx, etc.

On to more fun...!

Real World Examples

IR control for an MP3 Jukebox PC

We setup the MP3 computer with Musicmatch Jukebox, Girder, and the IRA-2 interface and stuck it in a closet with the rest of the audio gear. We recorded our CD's into Musicmatch as MP3 files and made the appropriate playlists.

You could use Winamp, Windows Media Player, or any other MP3 software.

We added an emitter to our existing Xantech IR bus so that we could send IR from the living room into the closet, to the IRA-2 interface.

If you have a direct line-of-sight view of your IR interface, you can bypass the Xantech system.

We downloaded the Musicmatch 'group' from the Girder website, and imported the group as a starting point.

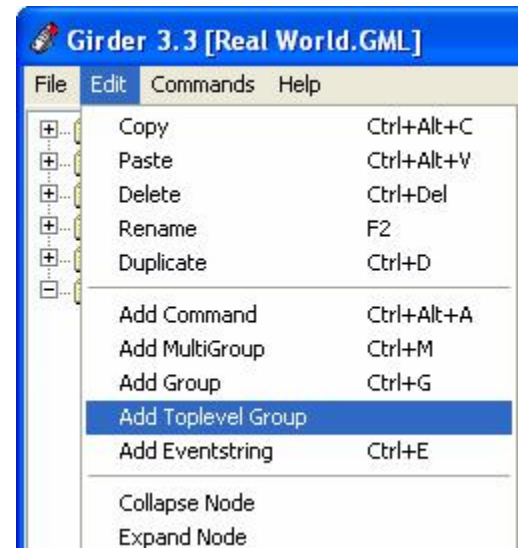
The imported group may be cleaned up to eliminate any commands not needed. (I call this my 'minimal' Musicmatch group). Simply delete the commands you will never use!



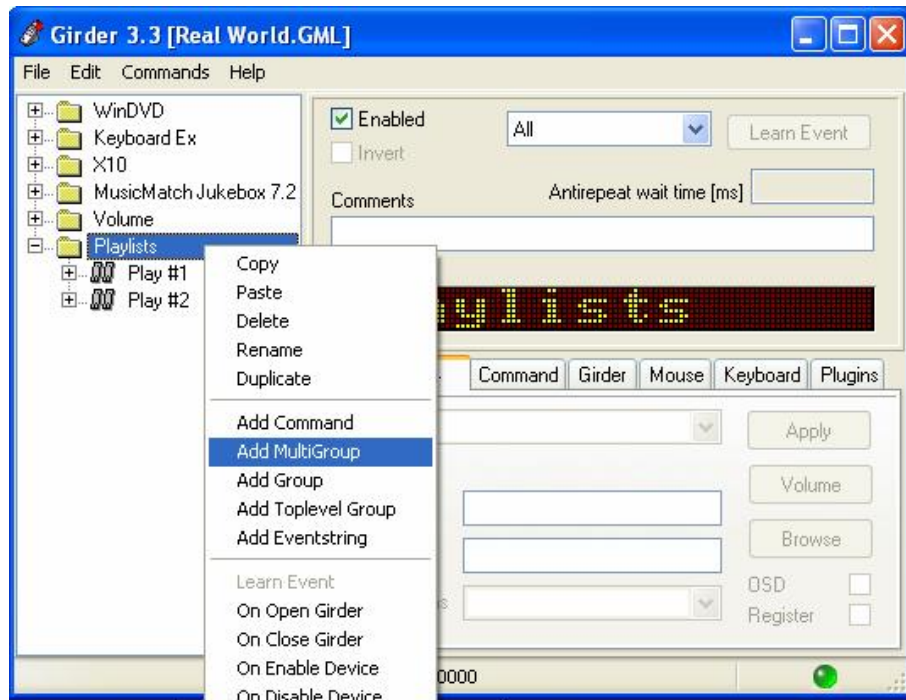
Add Playlist Commands

Then we created a new 'top level group' called "Playlists" and started creating our Girder multigroup commands.

When you create a new group, you must select the 'New' group and right click to select 'Rename' and change the name to your desired group name.



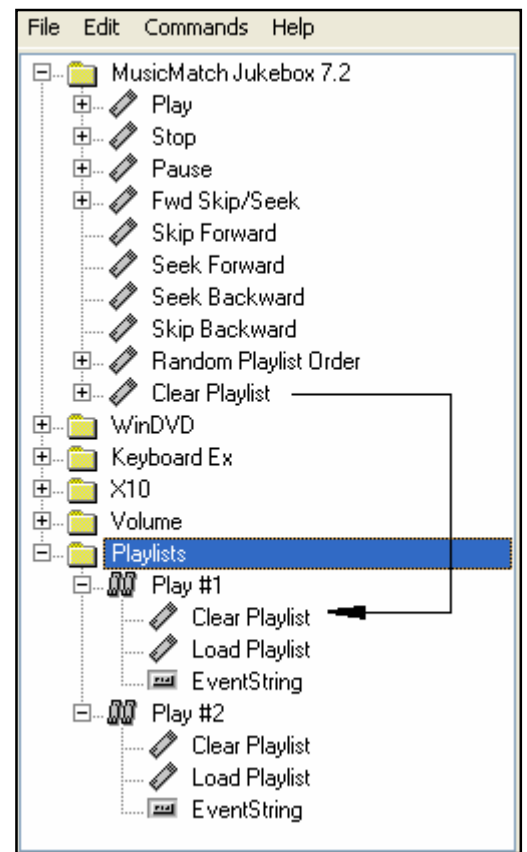
We create a 'Multigroup' command for each playlist, and create several commands, along with an Event trigger. Right click on the "Playlists" group and select 'Add Multigroup'. Then rename it to your playlist name, such as "Play #1".



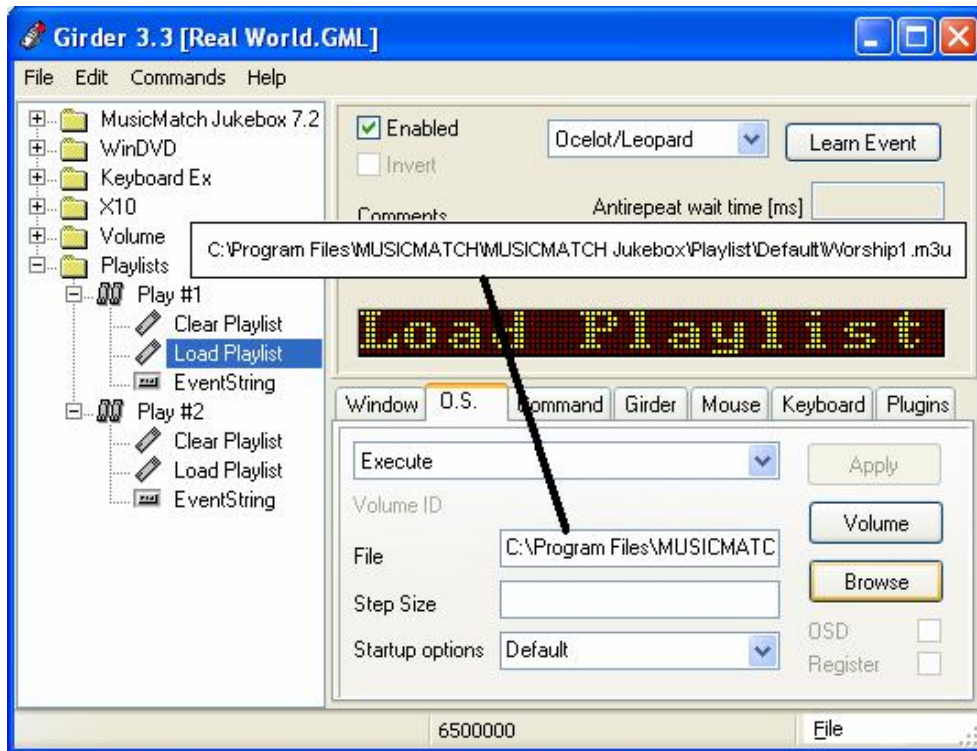
We create several commands for each playlist. One to "Clear playlist" and another to "load a new playlist". The commands are executed in a top down order, so place the "Clear playlist" command first, then add the "Load playlist" command. (You can also add a command to 'randomize the playlist').

We can copy the "Clear playlist" command from the Musicmatch group, and paste it into our new "Playlist" group.

Next we select the "Load playlist" command and tap the **OS Action tab** in the lower right box.



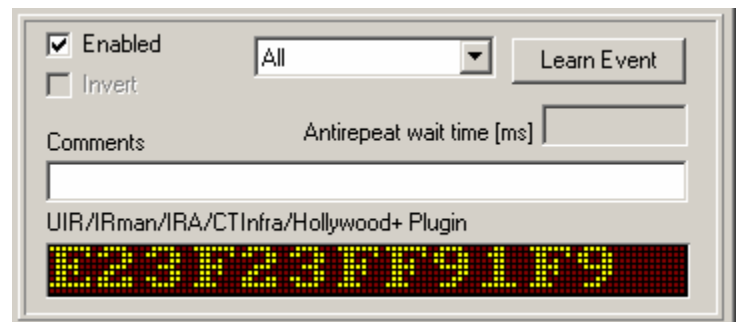
For the 'Load playlist' command, we select the 'Execute' action from the OS action tab pull down. Then we click in the 'file' box, and tap 'Browse'. We want to select the playlist file (play#.m3u) for the command to execute. Don't forget to tap **'Apply'** to save your changes!



Finally!

Triggering Playlist Commands

To train the 'Event trigger', we select the desired Multigroup command, and tap 'Learn Event'. Then, we send the desired IR command from any remote control to the IRA-2 interface. Girder "learns" the IR code which is then displayed in the LED window, and creates the "Event trigger" for the Multigroup.



Notice the plugin used is "UIR/IRman/IRA/CTInfra/Hollywood+" and is listed above the LED display. The LED code is the actual IR code received from the IR remote.

When complete, press 'File, Save' to save your new Girder GML file.

To test, simply fire your remote at the IRA-2 interface, and it should start Musicmatch with your desired playlist!

X10 control for an MP3 Jukebox PC

Once the play lists are set up, you can also trigger the playlist event with an X10 command. We used the Ocelot X10 controller and plugin, but several X10 options are available on the Girder website.

There are other plugins available for the CM11A controller and the X10 Firecracker module as well.

We plugged the Ocelot X10 controller into COM1 of the MP3 PC, and loaded the CMAX software that comes with the ADI Ocelot unit. Then we created our normal X10 control program (20-30 hours!!).

It is assumed that the Ocelot is operating correctly, and that you understand basic X10 home automation principles.

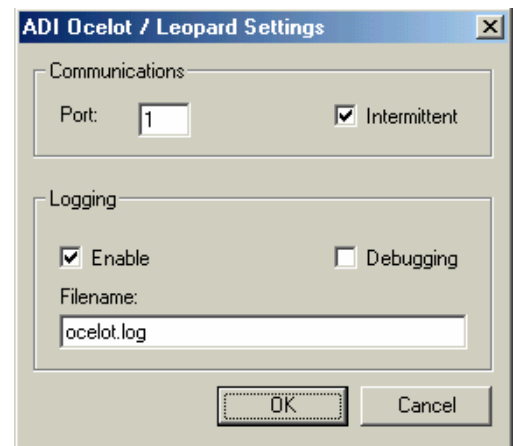
We downloaded the Ocelot/Leopard plugin, and installed it into the Girder 'plugins' directory. From the 'File/Settings' menu we select the plugin to activate it, and tap 'settings' to configure the Plugin. Once activated, it will show up on the 'Events' 'type' pull down selector, and the 'Plugins' Action tab.

Configure the Plugin

Select 'File-Settings' and enter the COM port your Ocelot or Leopard is connected to.

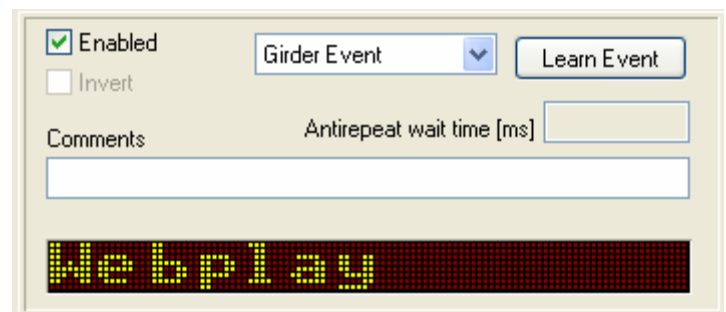
Select 'Intermittent' if you want the serial port to be available to other software that communicates with the Ocelot such as the Snapstream, BeyondTV Ocelot Tuner, or C-Max. Enabling this feature may result in some infrared signals or being missed by the plugin.

Enable 'Logging' if you wish to record all Ocelot or Leopard activity in a log file. Leave 'Debugging' unchecked unless you discover a problem with the plugin and wish to submit a bug report.



Triggering with X10

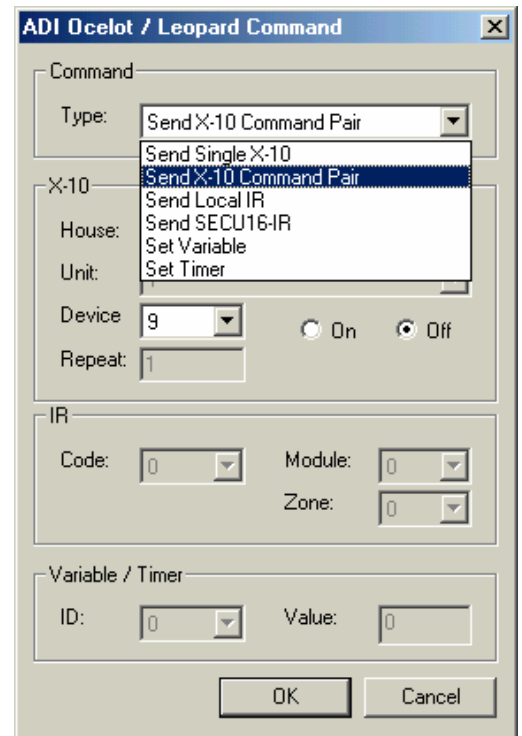
Now, you can trigger the Girder 'playlist' commands with an X10 command. Select the 'Playlist' command and set the 'Event type' pull down to 'Ocelot/Leopard' and tap 'Learn event'.



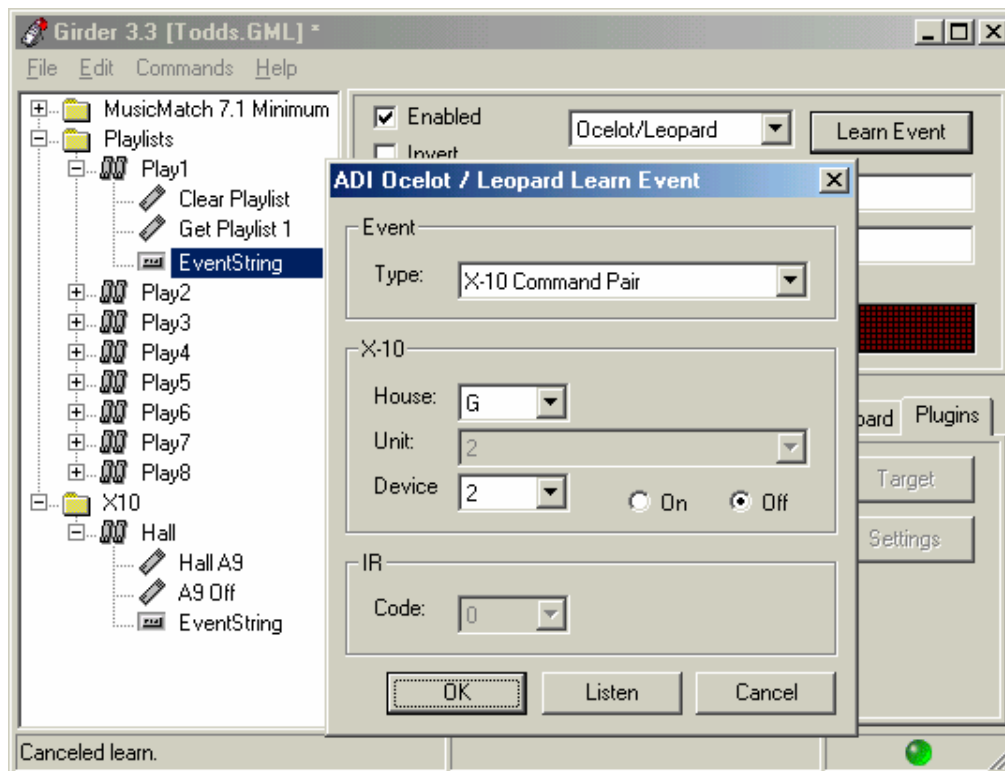
A popup window is displayed where you can select the Type of Ocelot event, and enter the X10 House code/Unit code information, the Ocelot IR code number, or the Ocelot variable ID and value.

To select an X10 command pair as the trigger, select that type from the pull down, and set the X10 house code and device code, and choose either the “On” or “Off” command.

So, something like “A9 Off” will start the playlist.



In the example below, we are using the X10 command “G2 Off” to start the ‘Play 1’ playlist. You can trigger any Girder command with an X10 trigger signal, including the track search, and playlist controls in Musicmatch.



Girder Control for X10 Home Automation

With the Ocelot plugin, we can receive X10 commands as ‘Event triggers’ or send X10 commands as ‘Actions’. With this capability, we can send an X10 command to start an MP3 playlist, use a desktop shortcut to trigger an X10 scene, and much more.

Using an Ocelot “Event”

To use the Ocelot input as a ‘trigger’, you create a command or multigroup, then select the Ocelot/Leopard from the ‘type’ pull down, and tap ‘Learn Event’. Then select the X10 event parameters in the popup window.

Select the ‘type’ of Ocelot command.

Select the X10 House code/Unit code and the ‘on’ or ‘off’ radio button.

Or...

Select the Ocelot IR code number.

ADI Ocelot / Leopard Learn Event

Event

Type: X-10 Command Pair

Single X-10

X-10 Command Pair

X-10 Device Turns On/Off

IR Received

IR Sent

X-10

House:

Unit: 1

Device: 1

On Off

IR

Code: 0

OK Listen Cancel

Using an Ocelot “Action”

In this example, we will send an X10 command pair from Girder to the Ocelot. It is for a Hall light, A6. For this purpose we create a command titled ‘Hall’. Then we tap the “Plugin’s” tab and tap ‘Settings’.

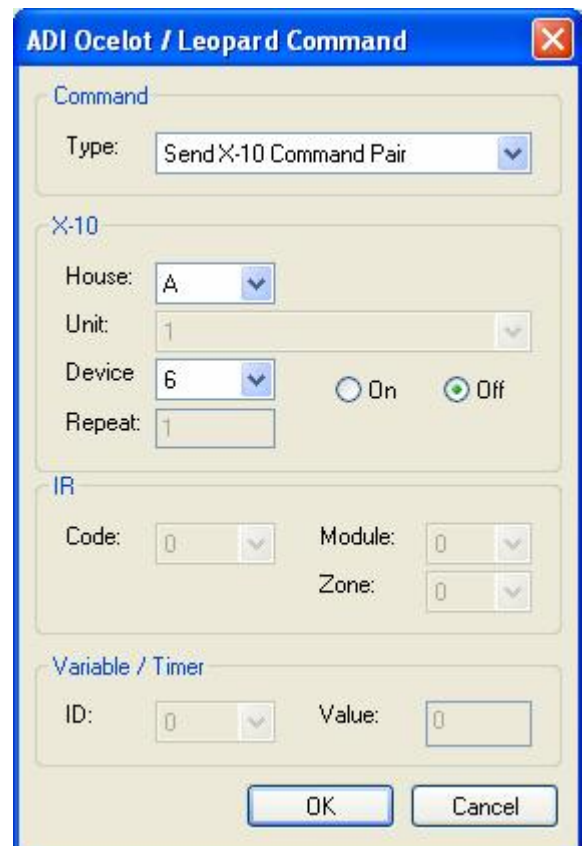


Select ‘Send X-10 Command Pair’ from the command pull down.

Select the House code **A** and Device code **6**, then check the radio button **Off**. Tap ‘OK’ when finished.

The command pair A6-Off will be sent when the command is triggered. The ‘event’ could be any event trigger, including an Ocelot X10 trigger! You can also send an IR command, or a new setting for an Ocelot Variable or Timer value.

To test the command, tap ‘Test command’ from the ‘Commands’ menu.



Using Desktop Shortcuts to Trigger Girder Events

I use this feature to trigger complex X10 lighting scenes from my computer. It uses the ‘Girder Event’ trigger to activate these events.

Create the Shortcut

Create a Desktop Shortcut and give it the following properties.

Browse for, or set the ‘Target’ to the ‘Event.exe’ program that comes with Girder.

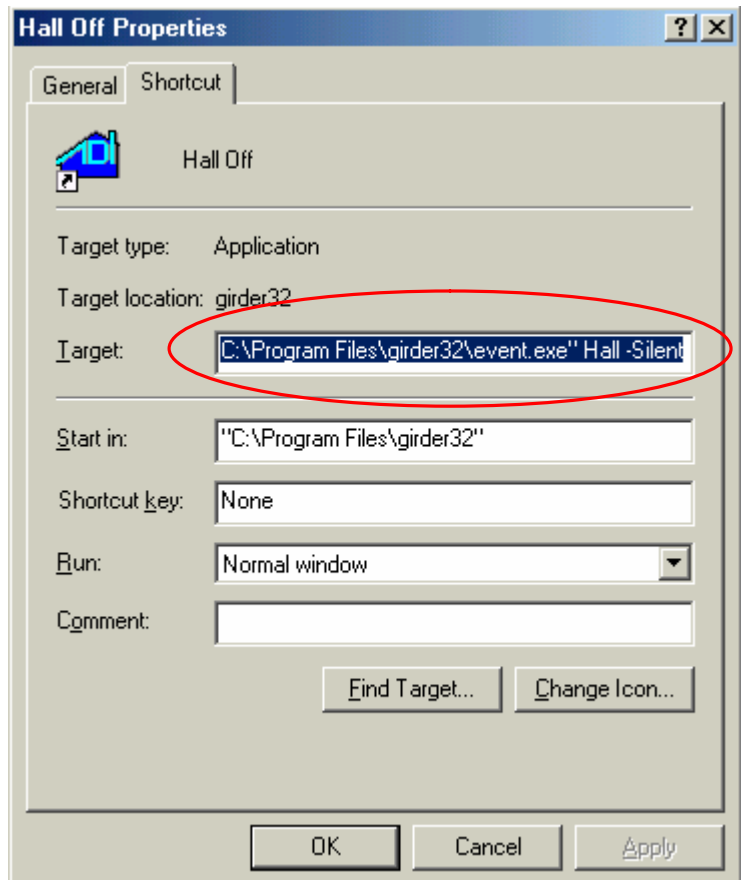
Use the full path as listed, to the Event.exe application.

Add an **Event name**. We used ‘Hall’ in this example.

Add the ‘-silent’ option to eliminate the Event.exe dialog window.

Change the icon, if desired, to something you will easily recognize.

Click ‘OK’



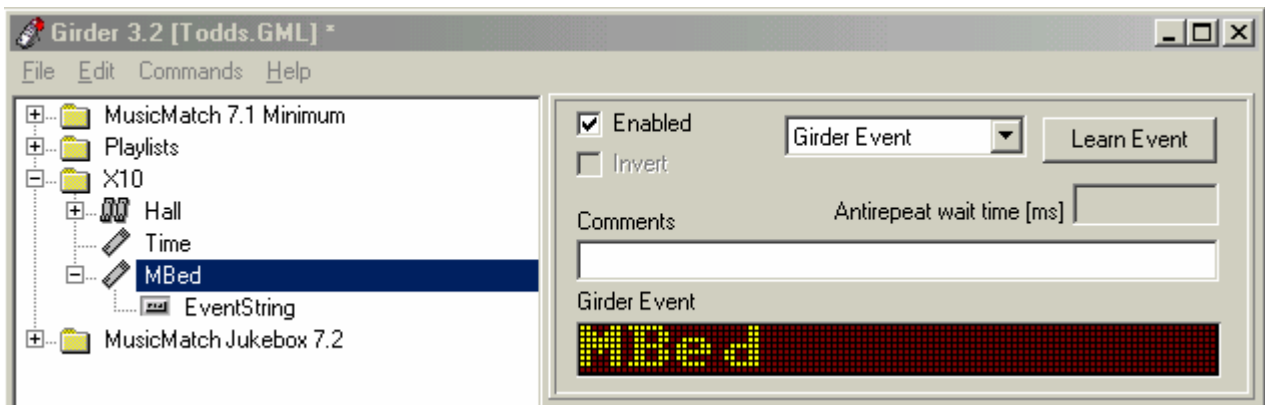
Create the Trigger

Select your Command or Multigroup that you want to trigger. We selected the “Hall” Multigroup for this shortcut trigger.

Select the ‘Girder Event’ type, and tap ‘Learn’. The popup window allows you to select a type of Girder Event, or to simply enter the **Event name**. Tap in the box and type the same **Event name** that you assigned in the desktop shortcut. We used “Hall”. Tap ‘Select’ to finish.



Once the Girder Event is learned, if you select that command, it will show you several indicators. The LED display will show you the **Event name**, and just above that it will say “Girder Event” to let you know that it is a Girder Event!



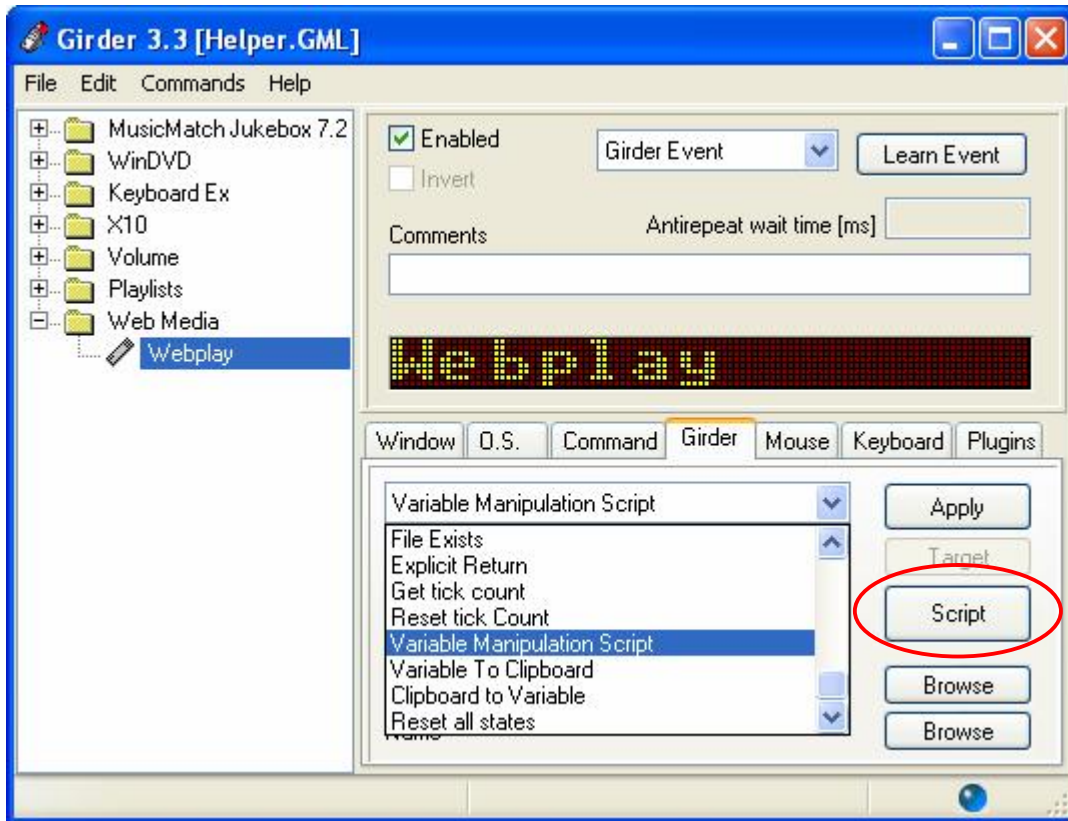
Launching Web Based Streaming Media

This is a method that I use to allow X10 to launch a web based streaming media program, like a web radio broadcast, or a streaming media file.

It involves creating a Lua script to launch a website media file. Details are enclosed, but more Lua scripting information is available online as well. You must also download and install the **Lua Windows Functions** plugin for this procedure to work.

To use this technique you need to know the web address for the media file you want to open. Many of these daily web programs use a date identifier in the file name. In the script, you can use Lua to generate the date stamped file name. See notes below.

Create a command and rename it 'Webplay'. Then select the Girder Action tab and find the 'Variable Manipulation Script' item.



Tap the **'Script'** button to open the Girder Script Editor.

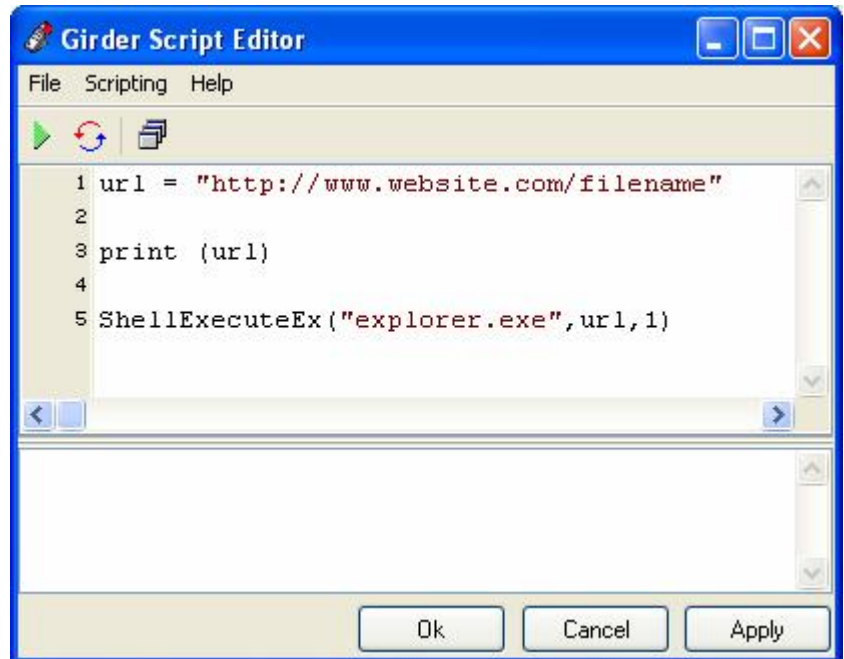
Enter the following commands, substituting your desired file information in the “url” line of the script.

If your file needs the date as part of the filename, you can use the ‘date’ function to get the year, month, or day number as required. See below.

To test your script, tap the green right arrow. A message will be displayed in the lower box if errors occur.

Finally, add a trigger to run the command (script).

I use an X10 signal as the trigger, so an X10 wall button can start my webcast!



Adding the Date

To add the date to the file name, you can concatenate as shown below. Example:

```
url = " http://www.streamingmedia.com/file"..date("%Y")..date("%m")..date("%d").. ".wax"
```

For year = 2004, month = July, day = the 15th, then the “url” result would be:

```
"http://www.streamingmedia.com/file20040715.wax"
```

Date Formatting

%Y = 4 digit year number

%y = 2 digit year number

%m = month as 2 digit number

%d = day as 2 digit number

%a = abbreviated weekday name

%A = Full weekday name

Search the Girder forum for more details on this type of date formatting.