MOCHAD

Mulitple Online Controllers for Home Automation Daemon.

Using mochad...for installation see INSTALL and README.

To make use of mochad one needs to connect to it. By default there are 3 ports one can connect to: 1099,1100,1101
1099, and 1101 seem to be take one command, report back, and disconnect.
On 1100 I can stay connected. 1099 and 1101 are great for programming using nc (netcat) and other quick connect/disconnect methods. 1100 best for debugging/testing. I believe these settings

i.e.: telnet localhost 1100

will allow me to connect and issue multiple commands.
Commands are in the form of "[pl/rf] a# command"
where pl means powerline, rf means radio frequency and a would be replaced by house code and # be replaced by the unit # then the command and any parameters it may take.
Eg: pl a1 xdim 255   (fast on at full bright) for a lamp module that supports extended codes.
Note some codes do not require pl or rf to use:
Eg:getstatus a3

Note: Many of the apparent shortcomings of mochad are actually shortcomings in the X10 protocol itself. It is not apparently possible to tell if a device exists or not. If you have an appliance module at a10 with nothing plugged into it, unless you are in earshot of hearing the module switch on, you cannot verify it's existence or if it is working as X10 generally speaking was designed to be a one way protocol. There are some items that respond to status codes, most of those would be security devices sensors. Other than that, one must document what devices one has on what house codes, and try to track in your own code the status of the device. However if device status is changed locally, x10 does not report it.

Command List (Not comprehensive):

ALL_UNITS_OFF
ALL_LIGHTS_ON
ON
OFF
DIM
BRIGHT
ALL_LIGHTS_OFF
EXTENDED_CODE_1
HAIL_REQUEST
HAIL_ACK
EXTENDED_CODE_3
UNUSED
EXTENDED_CODE_2
STATUS_ON
STATUS_OFF
STATUS_REQUEST
XDIM
GETSTATUS
ST

Definitions:

ALL_UNITS_OFF: Turns off all units that respond to "OFF" applicance, lamp, or other.

ALL_LIGHTS_ON: Turns on all units that are type of Lamp module.

ON: Turns on a unit

OFF: Turns a unit off

DIM: dims by factor of X. Documentation on this varies and reported results vary. None of my units respond consistently to this command. Valid ranges seem to be 0-33, 0-63, 0-255, 0-100, depending on the actual unit. All of my units have the same date, but react differently every time I use it, so I don't.

BRIGHT: brightens by a factor of X. See DIM

ALL_LIGHTS_OFF: turns off all Lamp Modules

EXTENDED_CODE_1: See x10 documentation for your module

HAIL_REQUEST: Must be a security module. Nothing I have responds consistently

HAIL_ACK: See Hail Request

EXTENDED_CODE_3: See x10 documentation for your module

UNUSED: placeholder for a code in the middle of the set that appears unused per X10 docs.

EXTENDED_CODE_2: See X10 documentation for your module

STATUS_ON: Security device related

STATUS_OFF:Security device related

STATUS_REQUEST: Not sure produces results even for non-existant devices.

XDIM: sets brightness level of device, valid ranges:0-33,0-63,0-255. 255 acts as a fast on @ full brightness. Range of response depends on device.

GETSTATUS: Do not preface w/ pl or rf, just getstatus a# Returns on/off status of device

GETSTATUS XDIM: like previous, but returns current brightness.

ST: Returns a general status of things based on commands seen. Has no basis on actual devices, just commands seen by controllers.

Bridging (RF to PL, PL to RF, RF to RF)

Bridging allows one to send commands via one controller and have them repeated by other controllers. Receiving controllers must have bridging/repeating enabled for this functionality to work.

Warning: if multiple controllers are in repeat mode then there may be collisions (loss of commands) on the X10 "network".

 bridge: Rx RF -> Tx PL:

 if equivalent command exists such as A1 ON, relay RF commands to PL.
 RF remote keys such as ARM have no equivalent PL command. See RF key map.

 bridge: Rx PL -> Tx RF

 if equivalent command exists such as A1 ON, relay PL command to RF.

 relay : Rx RF -> Tx RF

  for all RF commands

 relay : Rx PL -> Tx PL

  for all PL commands

 echo : Tx RF -> Rx RF (done)

  Sending an RF command generetes a fake RF receive message. Consider 2
  clients connected to cm15ad. Client 1 send RF A1 ON. If this option is
  off, client 2 will not receive any indication this happened. The CM15A
  does not receive its own transmissions. When this option is on, cm15ad
  generates a fake Rx RF A1 ON for all clients except the client that sent
  the command.

 echo : Tx PL -> Rx PL (done)

  See above.

 RF remote key translation

  For backwards compatibility with systems that can only work with house/unit
  commands, translation RF keys into HouseUnit ON/OFF. For example,

  RF ARM MIN DELAY -> PL P1 ON
  RF DISARM -> RF P1 OFF
  RF ARM MAX DELAY -> RF P2 ON
  RF DISARM -> PL P2 OFF

In the other direction,

PL P1 ON -> RF ARM MIN DELAY

Sent by CM15a for B3 Dim 49%, Dim 0%, Dim 100%
07 e7 02 1f 31   pl b3 extdim 49
  H? ?U DA TF
  H = house code 'B
  U = unit code - 1
  T = Type 0..15
     0 = shutters and sunshades
     1 = sensors
     2 = reserved for security
     3 = control modules (dimmers and appliances)
       F = Function
         0 =
         1 = Preset receiver output
         DA[5..0] = dim amount = 0..63a
            NZ=ON,Z=OFF,
         DA[7..6] = T1 T0
            T 0=3.7s,1=30s,2=60s,3=300s
     4 = extended secure addressing
     5 = extended secure addressing for groups

07 e7 02 01 31   pl b3 extdim 0
07 e7 02 3e 31   pl b3 extdim 100