OSC Extension

The OSC Extension for NetLogo provides primitives to send data from NetLogo models via OSC (Open Sound Control) to third party applications. In this way, Turtles, Breeds, Links, Patches and any other variables from NetLogo models can be routed to a compatible external hardware or software, via Ethernet.

Using the Sound Extension

The OSC extension must be downloaded and installed. There are two ways to install OSC extension for NetLogo:

a- Put the osc folder into Extensions folder in the same location as the NetLogo application (recommended).

b- Put the osc folder into the current model folder.

After installing the OSC extension, add the following line to the top of your procedures tab:

```
extensions [osc]
```

For more information on using NetLogo extensions, see the Extensions Guide.
For examples to learn how to use the OSC extension, see the netlogo-examples folder included in the downloaded osc-netlogo package.

About OSC

OSC is becoming the most popular protocol to connect between different pieces of hardware and software like SuperCollider, Pure Data, MaxMsp, Processing, iOS and Android apps, Arduino, Flash, etc.
In contrast to MIDI, OSC Packets are "transport-independent", they can be sent over any hardware standard such as TCP or UDP.
A "loopback" connection can be done by setting “localHost” as the IP address, in this way you are looped back to your own machine. You also can choose any port number to send data through. Low-numbered ports are already assigned to common services; it is better to choose a higher numbered port, between 5000 and 10000.
Currently the OSC extension only provides the possibility of sending data but it can not receive osc packets from an external program.

Primitives

osc:port-out osc:send-agents osc:send-variables

osc:portout

osc:port-out IP Port

This primitive should be used in the setup of the model.
The user can set the IP (String) and port number (integer) of the receiving host:

```
(osc:port-out " 169.254.183.129 " 10000)
```

If "port-out" is not defined, the extension will use the default parameters, ip: localHost and port: 57110.

osc:send-agent

osc:send-agent "tagName" agentsetName "var1" "var2" "var3" …

This primitive receives as input a string with the name of the osc tag, followed by the name of an agentset of the model, and names of default or defined variables for this agentset, and sends them out.

```
(osc:send-agents "myTurtles" turtles "xcor" "size")
(osc:send-agents "breeds" cars "XCOR" "age")
(osc:send-agents "links" blue-links  "weight")
(osc:send-agents "patches" patch 2 2 "pcolor" "pxcor")
```

osc:send-variable

osc:send-variable variableName

This primitive receives as input the name of any variable of the model and sends it out.

```
(osc:send-variables "decays" decays)
```