

Moku

System Administrator's Guide



The Moku family of Software-Defined Instrumentation platforms rely on network connectivity to communicate with all clients. This document provides System and IT Administrators the information required to facilitate this communication. This document applies to Moku:Go and Moku:Pro, in conjunction with Desktop (Mac, Windows), iPad and API (Python, MATLAB, LabVIEW) clients.

Connection Methods

USB

A Moku device connected over USB appears to the host as a network adapter with a fixed, IPv6 Link-Local connection to the Moku. This interface does not support IPv4 nor IPv6 routable addresses in order to simplify security considerations. The USB device is a standard CDC/NCM class. This is supported without drivers on Mac and Linux hosts, and a suitable driver is included with the Windows Desktop client and installed alongside it. This means that the Windows Desktop client is required to be installed on Windows if the user intends to use the USB connection, even if only for API clients (e.g., Python).¹

WiFi

A Moku device can advertise a WiFi access point (AP) and/or connect to an existing WiFi network (STA). As an AP, it runs a DHCP server on a subnet configurable by the user. As a STA it supports WEP, WPA2 PSK and WPA2 Enterprise encryption and authentication. It looks for IPv4 address allocation by DHCP or one can be statically assigned, and supports IPv6 routable and Link-Local addressing.

Ethernet

Moku devices with an Ethernet feature support up to Gigabit connections. The link supports IPv4 static and DHCP assignment, and IPv6 routable and Link-Local addressing.

Discovery

Moku devices use mDNS (also known as Bonjour) for discovery on the local network. They can also fall back to IPv6 Neighbour Discovery (ND) if the device and client are on the same Layer 2 network and the network supports it². If no discovery is available, the Moku's IP address must be ascertained by other means and entered into the Client's "Manual Connection" dialog.

API Clients do not have a built-in discovery method. It is expected that the user will find the device's allocated address using a Desktop or iPad client, or by other means before trying to connect.

Ports

Moku devices use TCP Port range 27181 – 27186 (inclusive) for communication with iPad and Desktop clients. API clients use TCP Port 80 (HTTP). If mDNS discovery is required, then UDP 5353 must be open for that purpose.

¹A standalone driver installer package is available on request to support@liquidinstruments.com

²IPv6 ND discovery coming soon.