holzworth
instrumentation

# QUICK START GUIDE

ETHERNET COMMUNICATIONS MODULE INSTALLATION

Holzworth's HSM series RF Synthesizer modules are controlled via an SPI bus. For ease of integration into some applications and/or initial performance verification, Holzworth offers an Ethernet Communications Module for providing AC power and Ethernet control to the HSM series synthesizers.

SPI Connector (F)

2-56 Captive Screws

Ethernet Connector

Reset

Power Supply Connector
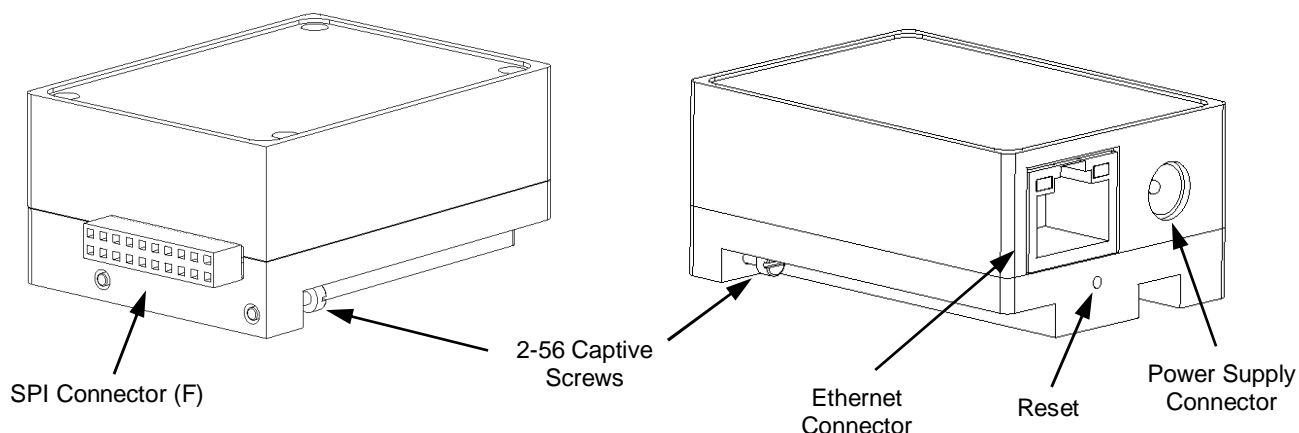
The Ethernet Communications Module (PN: HCM3) comes with a standard 10ft Cat6 Ethernet cable and an AC Power Supply (PN: HACC009). There are also 2-56 captive screws (QTY 2) pre-installed into the module for a solid connection to the synthesizer.

VIEW OF SYNTHESIZER REAR PANEL

Mod. Input	Ref. Input	Ref. Output	Data I/O Power ① ▼

SPI Connector (M)

2-56 Fastener Holes
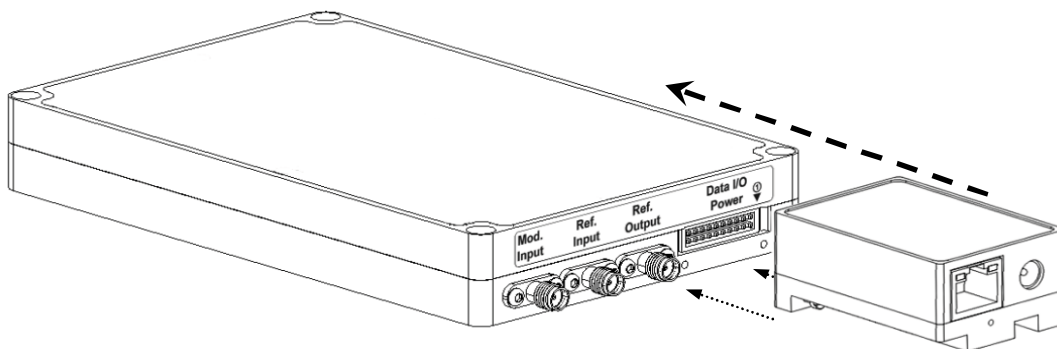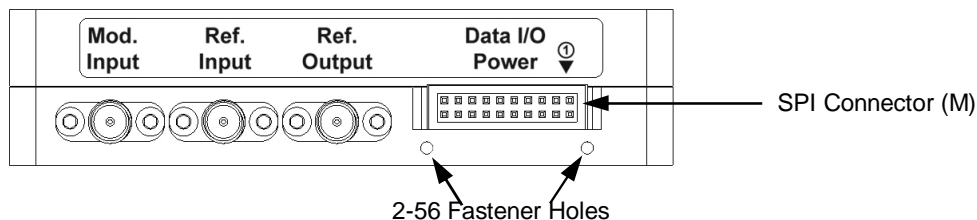
Firmly attach the Ethernet Communications Module (HCM3) SPI connector to the mating SPI connector on the rear panel of the synthesizer. The two housing surfaces should make uniform contact. Carefully thread and tighten the 2-56 Captive Screws into the synthesizer housing.

ETHERNET APPLICATION INSTALLATION

Holzworth Ethernet controlled synthesizers will operate via MATLAB[TM], LabVIEW[TM], or any terminal emulation program. Holzworth also provides an intuitive application GUI for single channel and multi-channel synthesizers. The Java[TM] based application runs efficiently enough to operate directly off of a USB memory stick.

Holzworth Ethernet controlled synthesizers do not require hardware drivers.

ETHERNET HARDWARE INSTALLATION

1. From the included CD, save the entire HolzworthHSXX01 folder onto the PC.
2. Open the "HolzworthHSXX01.jar" file to launch the application GUI.
3. Connect the synthesizer to the network using the provided Ethernet cable (alternatively use a cross over Ethernet cable for a direct PC connection).
4. Rear display will show a red and green led for less than 10 seconds.
5. When device is ready, rear display will show a green led only.
6. Click the Locate Device Button.
7. USB and Ethernet devices are listed separately. Choose the correct device.
8. The Selected Device window at the top of the application will also read: "HSM6001A-XXX"
   (Note: "XXX" denotes the specific 3 digit numeric serial number, which is contained on the barcoded label affixed to the instrument)."
9. Synthesizer is ready for operation.

TROUBLE SHOOTING

I. APPLICATION WILL NOT LAUNCH: Install the latest version of Java on the PC. Java[TM] downloads and updates are available at: http://java.com/en/download/index.jsp

II. APPLICATION DOES NOT RECOGNIZE DEVICE: Check for device recognition after each of the following steps. Most recognition issues are resolved at step one.

1. Verify that the "HolzworthHSXX01.jar" file, the "HolzworthHS1001.dll" and the "HolzworthHS1001.h" files are all contained in the same folder/directory. The DLL is still required only for USB communication. The software looks for devices on USB and Ethernet.
2. Close all applications. Disconnect the synthesizer. Open only one instance of the Holzworth GUI and reconnect the synthesizer to the network. Verify that the synthesizer goes through steps 4 and 5 from Hardware Installation list.
3. If the previous steps do not resolve the issue, then refer to the following page for details on the network configurations of the HCM3 module.

NETWORK CONFIGURATION

The HCM3 module supports a static IP address or DHCP. The default setup is DHCP. The network parameters can be configured using the Holzworth Ethernet Finder GUI.

1. From the included CD, save the entire HolzworthEthFinder folder onto the PC.
2. Open the "EthernetFinder.jar" file to launch the network configuration GUI.
3. Click the Locate Device Button and select the device. Changes can now be made to the HCM3 module.

In the event the static IP network parameters are incorrectly set and the module cannot be found on the network, unplug the HACC009 power supply from the HCM3 module. Use a pin to depress the internal reset button located below the Ethernet port on the HCM3 module. Plug in the HACC009 power supply while keeping the pin in place for at least three seconds.   The HCM3 module will come online with a DHCP assigned address.

UDP Discovery packets are accepted over port 30303. Send the request "Discovery: Who is out there?" to receive a list of Holzworth devices on the network. The Holzworth application GUI uses this functionality to locate devices. If the network is blocking this traffic, then the user can manually enter the IP address of the HCM3 module after clicking the Locate Device button.

The HCM3 module accepts TCP requests over port 9760. All instructions to the synthesizers should be sent via a TCP socket connection. Each instruction should be sent separately and followed by the Line Feed character.

If power is applied to the HCM3 prior to attaching the synthesizer, then the host name on the network will be the complete HCM3 serial number. If power is applied to the HCM3 after attaching the synthesizer, then the host name on the network will be the complete HSM synthesizer serial number.

TCP data communication can be established using the device IP address or the device host name.

The Holzworth provided DLL is only for USB communication. Any other application/software, other than the Holzworth GUI, should not use the DLL for Ethernet communication.

If connection or control problems are persistent, or for general performance/operational questions; contact Holzworth Instrumentation technical support directly at:

TECHNICAL SUPPORT

Email: support@holzworth.com

Phone: +1.303.325.3473   (option 2)