

Quick Start - Bench Test for Flexstar Exciter to Exporter Ethernet Communication

- 1) Before operating the FlexStar HDX Exciter, unlock the PLL shipping screw on the rear of the exciter.
- 2) If you connecting Exciter to a DexStar that is converted to an Exporter, a new product key must be obtained from the factory prior to operation. Contact Customer Service for a new product key.
- 3) If externally mounting the Exciter, use shelf part number 992-9854-011 to house the exciter. Do not use a shelf intended for a Digit exciter, they appear similar but does not have sufficient ventilation for the HDX.
- 4) Use the supplied memory stick to save user configurations after final installation. Multiple configurations can be saved on the same memory stick.
- 5) Test the Exciter and Exporter back to back to verify communication prior to configuration for your network. This step will save much time when troubleshooting non-communication issues.

Before installing, with equipment located at separated sites, it is required to bench test the **Exciter** and **Exporter** together as a system to validate that these units do communicate properly over Ethernet with each other, before separating them via a Network or STL link. This will provide you a valid point of reference if any communication issues arise during installation into your system.

Until the units are configured properly there will be communication problems. The Harris factory configures “Default” IP addresses in these components before shipping them, that will allow quick and easy testing. After completing bench testing, other IP addresses assigned by your network administrator may be used to operate with local equipment.

If your unit(s) have already had their IP addresses changed then setting them back to these basic addresses will help with troubleshooting. However the units need to be operated separately from a local LAN while using these addresses.

Default IP addresses:

Equipment	Field Name	Address	Location
Exciter	Exporter Link Address:	10.10.10.11	Serial Setup 3/3
Exporter	IP Address:	10.10.10.10	Network Configuration
	Net Mask:	255.255.255.0	Network Configuration
	Default Gateway:	10.10.10.13	Network Configuration
	Exciter Link:	10.10.10.11	Network Configuration
	Exciter MAC:	<i>see <u>Exciter MAC Note</u> below</i>	
Importer	IP Address	10.10.10.9	Windows, Ethernet Connection, TCP/IP Properties
	Subnet Mask	255.255.255.0	Windows, Ethernet Connection, TCP/IP Properties
	Default Gateway	10.10.10.13	Windows, Ethernet Connection, TCP/IP Properties

Exciter MAC Note: For installations that will use a unidirectional Ethernet connection, over an STL from the Exporter to the Flexstar exciter; the Exciter Link MAC address, from Serial Setup 3/3 in the exciter, should be entered in the Exporter network configuration page. Make sure you use the correct MAC as the exciter has four of them. You may reduce the complexity of the installation by clearing this Exciter MAC field when a bidirectional Ethernet STL is used.

Bench Testing: Before proceeding it is recommended to save the exciter’s configuration on a USB memory stick. Leave Config 1 for the fresh from the factory Config and use Config 2 or higher. Make sure that the USB memory device has the lock switch off if equipped with one. See: Sections 3 and 6 of the HDx-FM manual.

1 - Connect the **Flexstar exciter’s Exporter Link Ethernet port** to the **Exporter Ethernet port** using a **crossover cable**. Straight through cables may be used when an Ethernet Switch is located between the units. **CAUTION:** During this test do not connect these units to a network with other traffic.

2 - Terminate the **Exciter** into a **50 ohm load** capable of dissipating the set power output of the exciter. Maximum exciter power is 55 watts in FM mode. (NOTE: if a test load is not available, customer may optionally leave exciter terminated in its host transmitter).

3 - Connect a monitor, keyboard, and mouse to the Exporter.

4 – Power up the Exporter and exciter.

5 - Verify the IP addresses listed above.

6 – An exciter RF output test is only possible if its RF mute line is held in the proper logic state, or if the mute line is temporarily disabled. To disable the mute line for RF test, see the Installation section, TX remote connector.

If the exciter is not making power and you want it to:

- Go to Output Setup 1/4 (Setup, Output) and select Transmitter Type: **Stand Alone**.
- Go to Advanced Setup Page 3/4 (Setup, More Setup, Next, Next) and adjust mute settings as needed to un-mute the exciter. Make sure Mute button at bottom center of screen is not selected to Mute.

7 – To verify communication to the exciter; navigate to the EXGINE screen in the exciter's Signal Processor Status 3/5 screen. The fields HD Buf, DSP Run and EL Run should be OK (not FAULT).

The next step is to install the units into your network and possibly change the IP addressing to match your network addressing. (If you are unfamiliar with IP addressing, check with your network administrator).

TROUBLESHOOTING:

If the exciter stills shows a warning and HD Buf fault:

- Cycle the exciter's AC power to imbed the new IP address, wait 20 seconds before reconnecting the power.
- Make sure that the IP configuration in the Exporter has been saved (requires a reboot).
- Make sure the Ethernet cable is plugged into the Exporter Link port on the exciter.
- The exciter's Exporter Link Ethernet port should have one steady LED and a flashing LED.
- Carefully check all IP address setups in your system.
- Firewalls and routers may need additional re-configuration.
- Ethernet STLs have limited bandwidth that is being exceeded by other network traffic.
- Some Ethernet switches cause poor HD radio performance, temporality bypass or replace the switch.
- If the simple setup with only a crossover cable was not tried then go back and try that.
- Connect a PC, addressed as above except use 10.10.10.30 for the IP address with a crossover cable to each unit, one at a time.. Then use the PING command, in a DOS window, to verify that each unit's port works.

MPS PAD The interconnection for MPS PAD begins at the automation system equipment at the studio (Audio Vault, {Prophet etc). Typically it is over Ethernet and needs to connect to the Exporter. MPS PAD can also be connected to the Exporter over an RS232 serial connection to the DB9 on the rear panel.

Required Ethernet switch A HUB or Switch is required to be used when the system has any additions to the basic Exporter and Flexstar exciter. Without a switch, adding an Importer and an Ethernet MPS PAD data source connection will exceed the Exporter's number of connections. In addition, an SPS PAD source also needs to use Ethernet, to reach the Importer, which requires yet another port.

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