



## Barix Exstreamer 500 Network Receiver w/XLR Cable Set



Welcome to I.P. distribution for the Huskers Radio Network from Nebraska Athletics!

With our launch of the Huskers Radio Network, the network will be distributed with I.P. based technology, not aging satellite systems and dish antennas, and anticipated interference from 5G cellular services. The distribution backbone is a constant dual redundant system. Your decoder (a.k.a. receiver) constantly checks all connectivity paths and at any given moment locks on to the best service and path for your station. As a bonus, the twice a year sun signal fades don't affect this I.P. distribution system.

Depending on your Huskers Radio Network programming clearance commitment and available over the air signals in your market, you may be provided with more than one decoder. The initial rollout will provide all Sports Nightly affiliates with a decoder for the main NET-1 distribution channel (Sports Nightly) and in some cases audio for the NET-2 distribution channel. Shortly after the initial rollout we will be providing affiliates who can clear multiple simultaneous Husker radio broadcasts with more than one decoder...arriving with ample time to install and test before the fall live sports season begins.

In the initial delivery, we are providing audio adapters, a mini screwdriver, and a wire stripper tool to assist with converting from the formerly used ICP satellite receiver to the Barix 500 decoder system for the Huskers Radio Network. No soldering is necessary with the components and adapters we are providing.

Your decoder requires a hard wired Ethernet Internet connection to your radio station's Internet network, it will not work on station WiFi connections. It does not require a public or a static IP address. The decoder connects similar to a computer. One important note, it works best if you first connect the Ethernet Internet and then power up the Barix decoder unit.

As a confirmation once you have completed the installation (and any time you want to test), the decoder will announce the unit's IP address from the audio connection...so put the audio in cue on your board and listen after power cycling the unit. Within a minute you will hear the announcement. This confirms it is receiving an IP address from your station Internet network, and your audio is properly connected.

The Barix decoder provides all four contact closures for programming on the NET-1 satellite channel, the same four contact closures the ICP satellite receiver provided for NET-1. Depending on your station clearance commitment, the audio will either be a stereo feed of the NET-1 programming on the two audio connectors...or a dual feed with NET-1 in mono on one connector and NET-2 in mono on the other audio connector.

If your affiliation includes two signals in your market that regularly clear two simultaneous broadcasts, we will be following up with a second Barix decoder for NET-2 which will include contact closures so you can automate NET-2 programming. In this situation, you will need two Ethernet Internet connections available to your station Internet.

For those of you who carry the monthly Governor's Call-In Show from the Nebraska Broadcasters Association, during this transition period we will distribute that show on the NET-1 channel. Since the show is not produced at the Huskers Radio network, the distribution is audio only – automation contact closures are not possible from the offsite studio hosting the Governor.

If you have any questions, reach out to [operations@HuskersRadio.net](mailto:operations@HuskersRadio.net) (this is a new email address) and note a good callback number and time. If possible include a cell phone number so we can text you.

# Installation



Connect the provided audio breakout cable to the rear panel **Balanced Stereo Analog IN & Out** connector. This breakout cable ships to you with screw terminal adapters for the audio connections, no soldering of audio connectors is needed.

For the next audio wiring conversion steps, look at the label on the back of your Barix decoder.

If the last letter at the end of your call letters on the label on the back of your decoder is A, B, C, D, E, or F - your decoder is configured for a dual NET-1 & NET-2 audio feed (the Barix breakout cable white wire will be the NET-1 channel and the red wire will be the NET-2 channel). Here are the wires you need to move for a dual mono NET-1/NET-2 feed...

- ICP Port B #4 to Barix white wire adapter #2 (NET-1 channel positive)
  - ICP Port B #9 to Barix white wire adapter #3 (NET-1 channel negative - no connection to #1)
  - ICP Port D #2 to Barix red wire adapter #2 (NET-2 Right channel positive)
  - ICP Port D #7 to Barix red wire adapter #3 (NET-2 Right channel negative - no connection to #1)
- You now have your NET-1 and NET-2 audio connected!

Or, If the last letter at the end of your call letters is G, H, I, or J - your decoder is configured for this NET-1 stereo audio feed (the white wire will be the left channel and the red wire the right channel). The audio connector plugged into the "B" port of your ICP satellite receiver is your NET-1 audio connection. Here are the wires you move for a stereo feed...

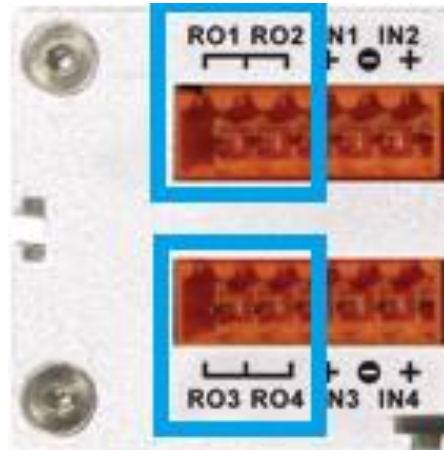
- ICP Port B #4 to Barix white wire adapter #2 (Left channel positive)
  - ICP Port B #9 to Barix white wire adapter #3 (Left channel negative - no connection to #1)
  - ICP Port B #2 to Barix red wire adapter #2 (Right channel positive)
  - ICP Port B #7 to Barix red wire adapter #3 (Right channel negative - no connection to #1)
- You now have your NET-1 stereo audio connected!



Next we convert the NET-1 contact closure wiring (the only contact closure needed for Sports Nightly is Relay #1, but best to convert all four now so you are ready for live games/events).

The large 37 pin connector that plugs into the contact closure adapter box on the back of your ICP satellite receiver are where you automation system contact closure wiring is. Unplug that large connector and take off the connector cover so you can identify the connector pins.

Using two the provided six position screw terminal plug-in blocks on the left rear of the Barix decoder, identify and move the contact closure wiring...



**R01:** Relay #1 from ICP pins 11 & 29 move to the Barix upper left connector pins 1 & 2 – Local Break Start

**R02:** Relay #2 from ICP pins 12 & 30 move to the Barix upper connector pins 2 & 3) – Legal ID

Note: there will be two wires on Barix connector pin #2

**R03:** Relay #3 from ICP pins 13 & 31 move to the Barix lower connector pins 1 & 2) – End of Game

**R04:** Relay #4 from ICP pins 14 & 32 move to the Barix lower connector pins 2 & 3) – Local Sponsor Liner

Note: there will be two wires on Barix connector pin #2

If you have four more wires on the large connector from the ICP receiver, leave them as they are for later connection to a standalone NET-2 decoder which will be shipped soon.

You now have all four contact closures for NET-1 moved from the ICP receiver to the Barix decoder.

Connect an Ethernet cable from your station network to the **ETH 1** connector on the rear panel. The receiver is set to receive an IP address from your network via DHCP.

Plug the receiver power cube connector into the **POWER** jack on the rear panel then plug the power cube into a power outlet.

HINT: Listen to the audio output from the receiver when you power it up for it to audibly announce the IP address of the receiver. Knowing this IP address can help if troubleshooting with Huskers Radio Network staff is necessary.

The rear panel RS-232 connector is not used.

Next to the ETH-1 connector are a yellow and green LED. Green indicates status of the Ethernet link, yellow indicates activity (data) on the network...



On the front panel, normally the green LED is solid with a blink every three seconds. The red LED will illuminate and blink during booting of the unit, but once the unit has booted if the red LED stays on or is blinking, it indicates a problem locking onto the audio stream and/or with the unit configuration.

The four LED's labeled 1, 2, 3, and 4 illuminate for the duration of any associated contact closure received from the network (#1 is local break, etc.).



Do not use the reset button on the front panel of the receiver, as this could delete all configuration from the unit and require you to send it back to the Huskers Radio Network for reconfiguration. If you think the unit needs power cycled, unplug the power cube from the AC power outlet for about 30 seconds, then plug the power brick back in.

Do not plug any cables or devices into the front panel EXT (USB) jack as this could force a configuration change.

## Tech Installation Notes for your I.T./Engineering Staff

- The decoder pulls a DHCP assigned address from your station Internet network. Static and/or public IP's are not necessary. Firewalls should be programmed to be open for all ports to/from the Barix, both UDP and TCP for full functionality.
- The unit is most efficient pulling a DHCP address if the Ethernet is fully connected before powering up the Barix unit (opposed to powering up then plugging in the Ethernet).
- Both audio outputs announce the IP address of the unit within a minute after powering up as a confirmation DHCP is working, and audio is connected properly.
- The relay connections on the rear of the Barix are dry relay contacts, each set of two share a common connection.
  - R01:** Relay #1 Barix upper left connector pins 1 & 2 – NET-1 Local Break Start
  - R02:** Relay #2 Barix upper connector pins 2 & 3) – NET-1 Legal ID
  - R03:** Relay #3 Barix lower connector pins 1 & 2) – NET-1 End of Game
  - R04:** Relay #4 Barix lower connector pins 2 & 3) – NET-1 Local Sponsor Liner(Initially only R01 is necessary for Sports Nighty, you will need all contact closures to fully automate games by late August)
- The DB9 audio connector from the ICP satellite receiver is not wired compatible with the Barix DB9 audio connector, you cannot move the DB9 from the ICP audio port to the Barix audio port.
- If you use WheatNet or Axia/Livewire, you could make a RJ45 to DB9 adapter (not provided) with a CAT5 cable. FYI Barix DB9 audio output pins are: 1:L+, 2:L-, 6:R+, 7:R- StudioHub/AngryAudio RJ45 to XLR adapters can also be used with the supplied DB9 to XLR breakout cable.
- Notes above help determine if your Barix decoder is configured for a stereo NET-1 audio feed, or a dual mono NET-1 and NET-2 audio feed. Both configurations have only NET-1 contact closures available. Affiliates who often clear and need to automate simultaneous broadcasts from both NET-1 and NET-2 will be provided with a second Barix decoder that will provide automation contact closures for NET-2. If necessary, the second decoder will be shipped within the next 14-20 days (the first NET-2 programming will not occur until late August or September).
- The main status screen of the Barix decoder is visible on the IP address the unit announces when rebooted. Configuration settings can only be changed within a password protected area. If changes are necessary, you will need to return your Barix decoder to the Huskers Radio Network or schedule a time for remote access to your computer network and the Barix decoder at your station.
- We are using 128K bandwidth for each channel (up from 56K the ICP satellite system used). With control signal overhead one Barix decoder will use less than a quarter meg of your inbound Internet bandwidth (for example if your inbound bandwidth is 10 meg, one Barix decoder will use under 2% of that bandwidth). Two Barix decoders will use about 6% of 10 meg inbound Internet bandwidth.
- Questions, email: [operations@HuskersRadio.net](mailto:operations@HuskersRadio.net) (this is a new email address)