WWO Pad Data via UDP

The most recent version of Westwood One XDS Pro 4Q receiver software (v3.4.12) provides for the generation of Westwood One Pad Data (Program Associated Data, i.e. RDS) via UDP. Pad Data in UDP form can now be sent to a destination IP address and port. This function is present only on PRO4Q receivers and does not exist in the PRO4 (non-Q) model receivers.

The PAD IPROUTE receiver command allows you to configure a receiver to pass Program Associated Data to an external device via UDP as UNICAST, BROADCAST, or MULTICAST. When a PAD IPROUTE address and port is configured in a WWO XDS-PRO receiver AND the receiver passes PAD DATA, the PAD DATA will also be sent to the IP address configured via UDP.

The following are receiver commands and options that may be accessed using telnet (port 2000), a serial console connection, or from the receiver's local webpage '*Console*' tab, which is a new addition with the upgraded software.
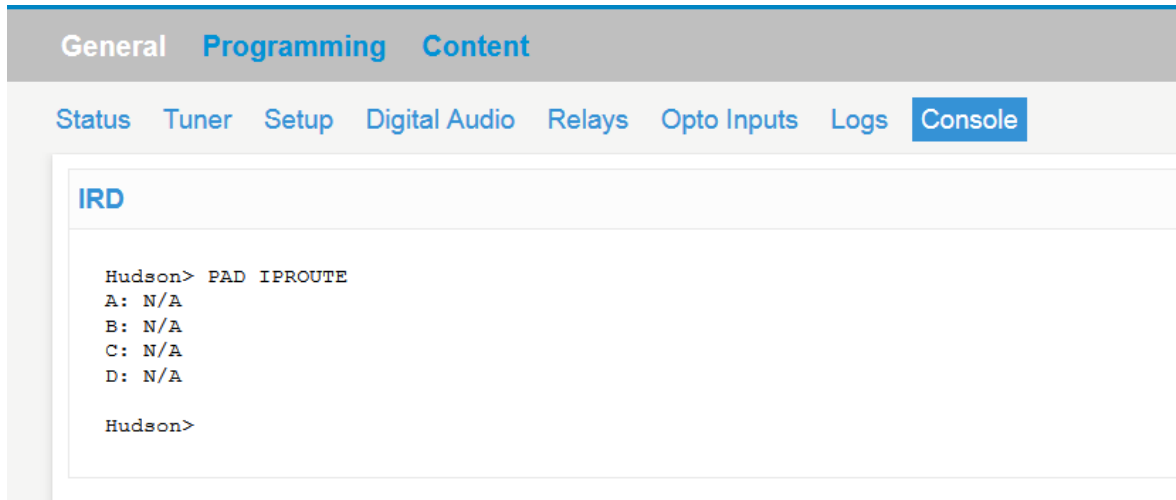
The syntax is as follows:

**PAD IPROUTE [ip:port/CLEAR]**

Example:

In the screenshot below, I have logged into my receiver via its local web page address, clicked on the new '*Console*' tab, which brings me to my receiver prompt (*Hudson>*)
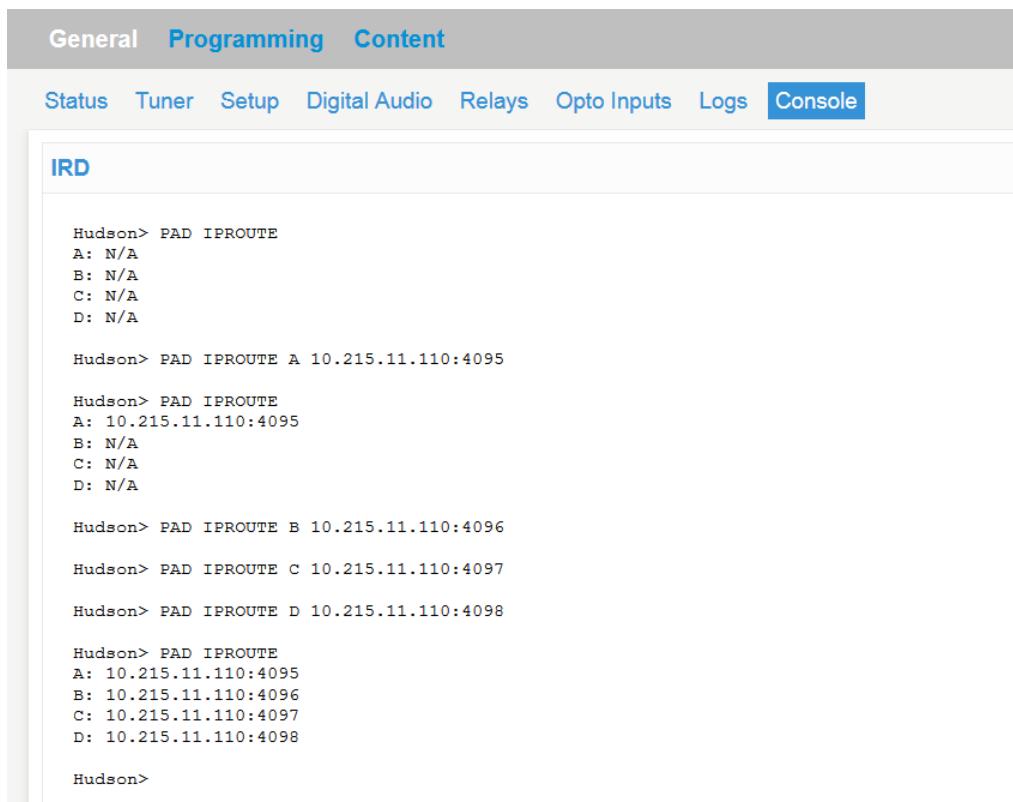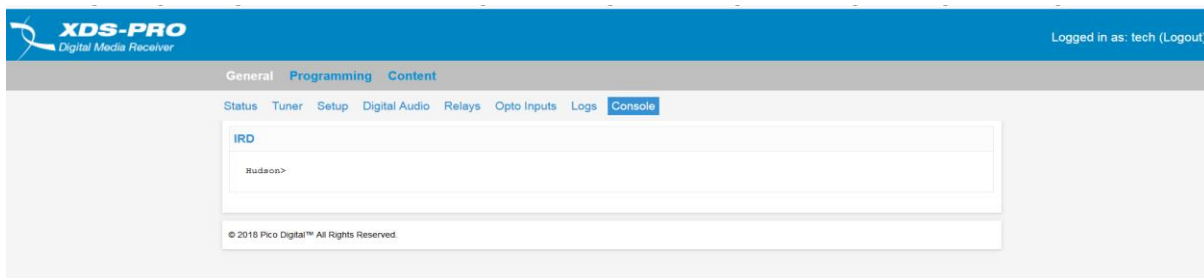
Typing '*Pad IPROUTE*' will show you the current configuration for each of your ports, which initially will be blank.

I'm now going to add an entry for Audio Port A (WWO-Classic Rock) to send unicast UDP pad data to 10.215.11.110 on port 4095. I'll then type in '*PAD IPROUTE'* to confirm my entry.
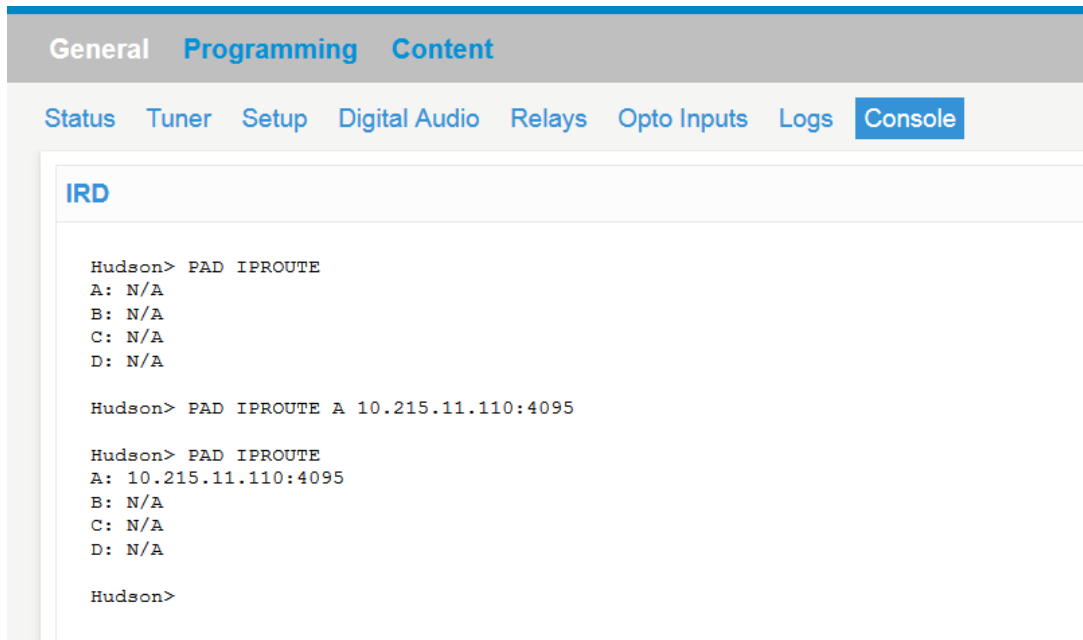
I'll now set up each audio port to send unicasts to same server, but on different (in this case ascending) IP ports. You can use the 'up arrow' to auto-fill in previous commands as needed, then make any minor edits, similar to a DOS command or router/switch console prompt.


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General   Programming   Content

Status   Tuner   Setup   Digital Audio   Relays   Opto Inputs   Logs   Console

IRD

Hudson> PAD IPROUTE
A: N/A
B: N/A
C: N/A
D: N/A

Hudson> PAD IPROUTE A 10.215.11.110:4095

Hudson> PAD IPROUTE
A: 10.215.11.110:4095
B: N/A
C: N/A
D: N/A

Hudson> PAD IPROUTE B 10.215.11.110:4096

Hudson> PAD IPROUTE C 10.215.11.110:4097

Hudson> PAD IPROUTE D 10.215.11.110:4098

Hudson> PAD IPROUTE
A: 10.215.11.110:4095
B: 10.215.11.110:4096
C: 10.215.11.110:4097
D: 10.215.11.110:4098

Hudson>
```

Configuring for Unicast:

Example to configure PAD from the program on audio port 'A' of your WWO XDS receiver to send unicast UDP Pad Data to a server with an address of 10.215.11.110 using port 4095:

PAD IPROUTE A 10.215.11.110:4095

Example to clear audio port 'A' of your WWO XDS receiver to no longer send unicast UDP PAD Data to a destination address:

PAD IPROUTE A CLEAR

Configuring for Broadcast:

Example to configure PAD from the program on audio port 'A' of your WWO XDS receiver to send UDP Pad Data to a broadcast address of 10.215.11.255 using port 4095. In this case, the command would send the pad data to all hosts on the 10.215.11.0/24 subnet. Since IP broadcasts don't normally traverse across subnets, your XDS Receiver IP address must be on the same subnet as the hosts who must receive the data.

PAD IPROUTE A 10.215.11.255:4095

Configuring for Multicast:

Example to configure PAD from the program on audio port "A" of a receiver to send to a multicast IP address of 226.1.1.1 using port 50095: (NOTE: Requires LAN2 port on XDS-PROR receiver and will work on LAN1 or LAN2 on XDS-PROQ receiver):

PAD IPROUTE A 226.1.1.1:50095

Routing between Subnets

Since the XDS receiver Ethernet port has a _gateway address_, these unicast UDP datagrams can be routed to other subnets/VLANS, if required. You'll just have to make sure as you do with other IP networks, that you have the routing policies in you router or Layer 3 switch to allow UDP traffic between the two required subnets/VLANS. In my case, my receiver is on a different VLAN than my server, but we have ACL's written in our Layer 3 switch to allow traffic between these two VLANS.

To test this function before implementation, you can use any type of UDP test application (I'm using UDP TEST TOOL 3.0) or you can use Wireshark on your destination server.

In the below screen shot I have my UDP Test Tool application on my server looking at IP Port 4095 (from XDS Receiver Port A for Classic Rock) and IP Port 4096 (from XDS Receiver port B for Good Time Oldies).

On IP Port 4095 for the WWO- Classic Rock format, PAD data for song 'Black Dog' from artist 'Led Zeppelin' was confirmed received.   On IP Port 4096 for Good Time Oldies format, PAD data for song 'Brother Louie' from the artist 'Stories' was confirmed received.
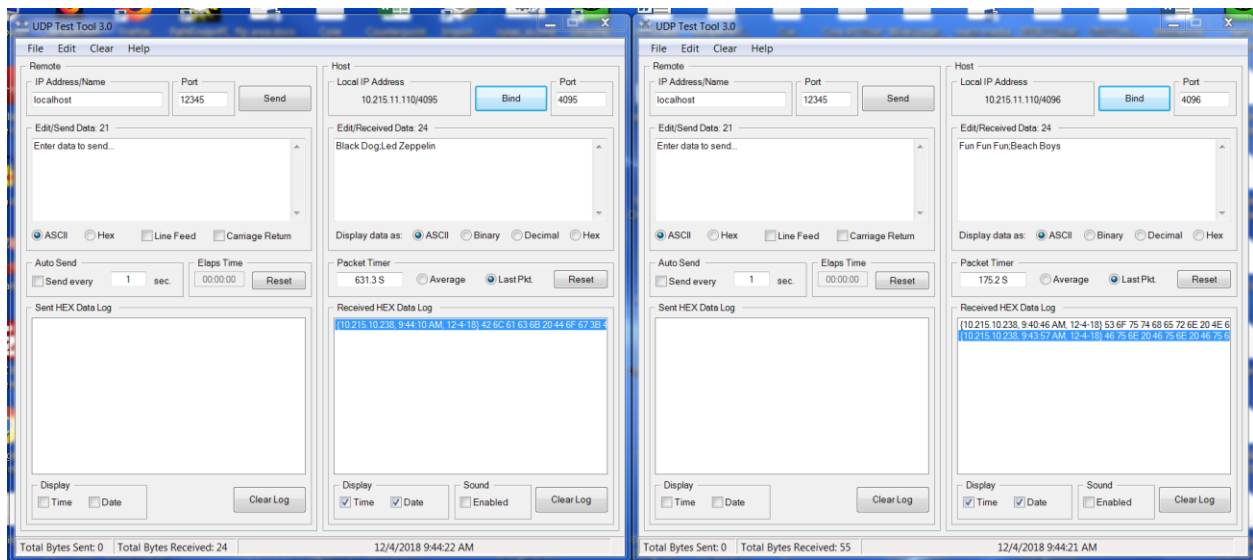
As mentioned above, if decide to use the 'Broadcast' option, you must program the 'Broadcast' IP address of the subnet the XDS Receiver is on and only hosts on that subnet will receive the PAD Data UDP datagrams.