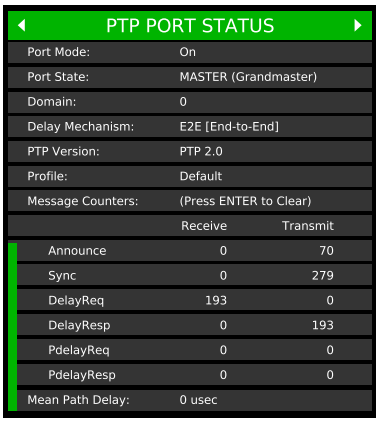
Using the DXD Status pages for Network Troubleshooting

The DXD includes several Status pages that contain useful information when troubleshooting network issues.

Status pages are accessed by pressing the STATUS button and using the navigate keys.

1. PTP Port Status



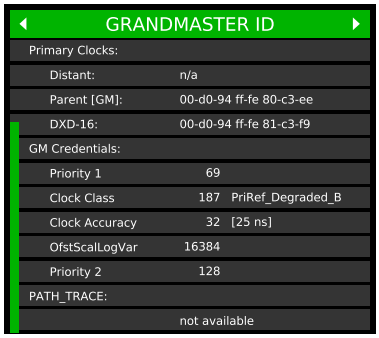
Of particular interest for this discussion are the message counters at the bottom of the page displaying the number of PTP messages received and transmitted by the DXD.

- ANNOUNCE and SYNC messages are transmitted by the PTP Grandmaster and received by the PTP Slaves (Followers).
- In E2E mode, DELAY REQUEST are transmitted by the Slaves to the Grandmaster; once received, DELAY RESPONSE are transmitted by the Grandmaster to the Slaves.
- In P2P mode PDELAY REQUEST and PDELAY RESPONSE messages are exchanged between the DXD and its immediate neighbor in the network.

Sync errors will occur when PTP messages do not arrive at their intended destination. For example, with the DXD as the Grandmaster, if DELAY REQUEST messages transmitted by a slave are blocked at a switch, the DXD will not return DELAY RESPONSE messages and the slave will loose sync. Or, if multiple devices on the same PTP domain are Grandmaster, that would indicate that ANNOUNCE messages are not getting through.

For information on the different PTP messages, please refer to the "General Information on PTP" chapter in the DXD manuals.

2. Grandmaster ID

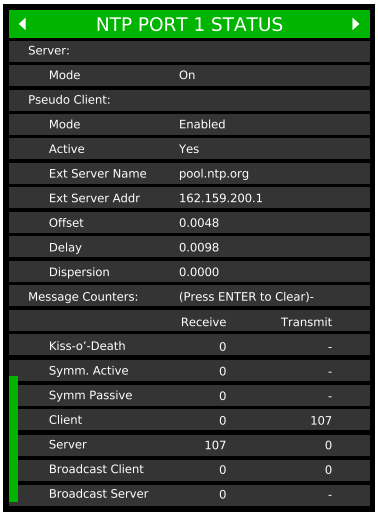


This is a more advanced PTP Status page giving the operator some information concerning the current Grandmaster such as its clock ID.

• Primary Clocks: the clock ID of the DXD is listed here with the letters [GM] if it is the Grandmaster; otherwise, the Grandmaster clock ID appears just above it with the letters [GM] next to it. 'Parent' is 1 step away from the DXD; 'Distant' more than 1 step away.

• Grandmaster Credentials: the parameters/settings of the current GM are listed here. This can be used when setting the DXD to be the GM, by making sure Priority 1 on the DXD is set lower than the current Grandmaster.

3. NTP Port Status



This page has similar message counters as the PTP Port Status page, but for NTP.

In the same way that looking at the PTP message counters on the PTP Port Status page can help identify PTP issues, looking at the NTP CLIENT and SERVER message counters can also confirm proper communication on the network between the NTP server and the NTP client. Or not.

Note that, although all NTP messages are listed on this page, under most normal circumstances, you will only see CLIENT and SERVER messages on these counters.

For information on proper PTP network settings, specifically concerning Multicast Address Management and IGMP, please refer to the "Advanced Networking Notes for the DXD Universal Clocks" document.