

GX5000 Digital Trunk Interface Wiring Tests - DRAFT

This procedure assumes that circuit link cable connectors and message link cable connectors have been installed and programmed and that all cabling to the DSX-1 panel is completed.

1. Ensure that digital link descriptors have been assigned in digital link descriptor assignment view. There should be a minimum of two assignments, one for the AMI line code (b8zs zero code suppression = no) and one for B8ZS line code (b8zs line code suppression = yes).
2. Assign one or the other digital link descriptor in the digital link assignment view. If you do not know what line code will be used when the digital trunk interface is placed into service, use the descriptor for the AMI line code.
3. Ensure the proper digital trunk interfaces have been programmed in system configuration view and that the installed card type and programmed card type fields are the same. Possible digital trunk interfaces are t1 ccs7 link, t1 trunk, t1 ccs7 f link, t1 r link, and ds1 formatter.
4. Use a DS1 tester to check for transmit signal at the DSX-1 OUT jack. Configure the tester for the same line code as used in step 2. above and set the receive port to TERMINATE. The signal level should be $0 \text{ dBdsx} \pm 1.0 \text{ dB}$. If the signal level does not meet this requirement, there could be three problems:
 - a. No signal reading at all indicates the DSX-1 is not wired correctly. Check to ensure the interface transmit port is wired to the line OUT jack and the receive port is wired to the line IN jack.
 - b. A high reading indicates either the tester receive port is not set to TERMINATE or the equalizer is set incorrectly on the interface cards. In small central offices, the setting should be 0 – 133 ft. for interface cards plugged into peripheral interface slots (for example, t1 trunk cards). The equalizer for these cards is set through the digital link descriptor assignment view. For ds1 formatter cards, the setting should be 0 – 150 ft. as set through dip switches on the card itself.
 - c. A low reading indicates the cabling to the DSX or connector wiring is faulty.
4. Use the DTSAT Read command to check the state of each digital trunk interface card. For example, for a t1 trunk card in bay 1, shelf 1, slot 12, the command would be `dts r 1 1 12`; for a ds1 formatter card in bay 2, shelf 2, slot 17, the command would be `dts r 2 2 17 1` (for the first circuit on this card) or `dts r 2 2 17 2` (for the second circuit on this card). Be sure to check both circuits on ds1 formatter cards.

Use the `dts r` command for each interface with nothing plugged into the corresponding DSX-1 port. The fields in the upper right corner of the display should show:

Peripheral Interface Card
Sync: absent
Far end alarm: unavailable

DS1 Formatter Card
Sync: absent
Far end alarm: unavailable
Link power: present

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Plug a patch cord into the DSX-1 IN and OUT line jacks of an interface to provide a loop (or use a looping plug). After a moment, use the `dts r` command again. The fields in the upper right corner of the display should show:

Peripheral Interface Card	DS1 Formatter Card
Sync: present	Sync: present
Far end alarm: absent	Far end alarm: absent
	Link power: present

The important field for this test is Sync. If the interface card is wired to the DSX correctly, the interface will receive its own signal, and synchronization will be present.

5. If necessary, use `dts cl` command to clear trouble counters on the interface.