



DL3500 Bridging DH+ Networks

GENERAL OVERVIEW

The DL3500-Bridge allows point-to-point DH+ network bridging communication between multiple stations on separate DH+ networks. This is achieved by connecting two or more DL3500-Bridging units by either a direct serial link, Radio, optical, or telephone modem.

Local DH+ networks can be bridged with a serial connection up to 230.4Kbaud, or via different type of modems for bridging remote DH+ networks. The DL3500 may be used in pairs for point-to-point, or in multiples (via controlled carrier modems) for multi-drop remote network bridging applications.

A major difference between the DL3500-Bridge and A-B network bridging products lies in its unique ability to bridge DH+ networks using local DH+ message commands. The protocol uses a flexible range addressing approach to allow DL3500's to be used in many custom bridging applications where A-B solutions are unsuitable or just too expensive.

A DL3500-Bridge accepts and responds to all DH+ messages falling within a pre-configured contiguous range of station numbers. The DL3500 can be configured to "own" a range of station addresses falling between a configurable lower station (Network) address, and an upper (High) address, and will respond to messages and tokens directed at any addresses falling in that range.

A new feature available is the ability to set the DL3500 Bridge to exchange PLC Global Status Words (GSW) from one network to the other. This feature can be turned on or off at any time and is configurable on Token Rotations on how often the data is to be exchanged across the bridge.

CONFIGURATION:

To configure or test the DataLink it is necessary to use the DL3500 User's Guide, DL32 V3.X Configuration software, a PC and the supplied serial connecting cable.

The DH+ bridge protocol requires the entry of a Lower Station Address and a High (Station) Address parameter selection during configuration. The High Address parameter enables the DL3500 to accept or "own" a contiguous range of DH+ station addresses on the local DH+ network. This range has to encompass the DH+ Stations on the remote DH+ network that you wish to access across the bridge.

The DL3500's ability to accept a range of addresses allows it to address and gain access to DH+ stations on other DH+ network(s), ie. to bridge multiple DH+ networks. This capability can also be used to effectively double the bandwidth a busy DH+ network by splitting it into two networks with as much interconnectivity between them as is required.

DL3500 BASE STATION ADDRESS: This is an OCTAL station address parameter entry from 00 to 77 and is set to the first (lowest) station address required to be accessed on a second (remote) DH+ network.

DL3500 HIGH ADDRESS: This is an OCTAL station address parameter entry from 00 to 77 and is set to the last (highest) station address required to be accessed on the second (remote) DH+ network.

GLOBAL STATUS WORD (GSW): This can be turned either on or off and if active the number of token rotations used to determine the time between data transfers can be selected (1 – 255).

ADDRESS CONFIGURATION EXAMPLES

1. If: Base Station Address = 01; High Address = 01; Only Station 01 can be accessed on another DH+ network
2. If: Base Station Address = 10; High Address = 20; Stations 10 to 20 octal are accessible on another DH+ network.

NOTES:

1. Station addresses of other devices on the same DH+ as the DL3500 must not fall within the range of those "owned" by the DL3500 or Duplicate Node errors will occur and the DL3500 CHA LED indicator will flash RED.
2. If the High address parameter is set to a lower value than that of the Base address, the address range will wraparound from station address 77 through station address 0 and up to the High Address value of the DL3500.

CAUTION: This should be done very carefully as the DL3500 might occupy the entire network.

3. Ensure station numbers are not duplicated between those "owned" by the DL3500 and other devices on the DH+.
4. To program a remote PLC over the bridge ensure that the programming terminal's local DH+ address is within the range of addresses configured and "owned" by the DL3500 connected to the remote PLC's DH+.



DL3500 DH+ Network Bridging Protocol

