LOSP/NSC (DB) Node

A DB module is the interface between a foreground processor channel and a external device, such as a CRAY-1 type low speed channel or a Network System (NSC) type adaptor. The DB module switches to Low Speed node via software. The deadstart sequence selects NSC node.

Below is a list of the main areas on the DB module.

Control and Function Decode
Data Buffer
Length Register
Interrupt Address
Status Register

Control and Function Decode

The DB module accepts functions from the foreground channel. It decodes the function and performs the desired sequence.

Data Buffer

There is one data buffer on the DB module. It is used for either Reading or Writing data between the foreground channel and the external device. The buffer can hold 512-64 bit words. The foreground channel can also do a 32 bit word reference to the buffer.

Length Register

The length register is a 9 bit register which indicates the amount of 64 bit words to be transferred between the DB module and external device or between the DB module and the foreground channel. The 040, 050, 060, and 070 functions use the length register. The register is decremented by one for every 64 bit word transferred.

Interrupt Address Register

This is a 16 bit register that holds a foreground branch address. The interrupt address will be outputted to the foreground channel during a call sequence if the DB needs servicing. A 010, 060, and 070 functions use this register. See DB Function responding to a call sequence chart.

Status Register

The status register contains bits 2^0-2^6,2^{15}

2^0 - Parity Error on Bits 2^0-2^3
2^1 - Parity Error on Bits 2^4-2^7
2^2 - Parity Error on Bits 2^8-2^{11}
2^3 - Parity Error on Bits 2^{12}-2^{15}
2^4 - Disconnect received and length count did not equal zero
2^5 - Resume received and a 070 function not active
2^6 - Lost function (DB active and another function received)
2^{15} - Ready Waiting (Ready received from external device and a 060 function not active)

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