



This application note explains how to configure the Qualstar Fibre Channel Option (FCO) and the Emulex LP7000/LP850 Host Bus Adapter (HBA) for Windows NT 4. Examples are provided to assist the user in configuring Fibre Channel Arbitrated Loop operation. The objective is to understand how FCO device addresses translate to Windows NT SCSI device addresses. Software storage applications use the SCSI device addresses presented by Windows NT and the Emulex HBA device driver.

Qualstar FCO - Arbitrated Loop Address Assignment

Fibre Channel Arbitrated Loop (FC-AL) initialization assigns a unique Arbitrated Loop Physical Address (AL_PA) value to each port on the loop. Valid AL_PA values are listed in Table 1. Since the 126 valid AL_PA address values are not in sequential order, a "Loop Id" value is used as a numerical index into the list of valid AL_PA values.

The Qualstar Fibre Channel Option (FCO) uses two methods to obtain an Arbitrated Loop address. The FCO "SOFT" mode automatically negotiates for the first available AL_PA, starting its address search from "Loop Id" 0. The FCO "FIXED" mode negotiates for a user selected AL_PA address. If the user's selected address cannot be obtained, the FCO will revert to the "SOFT" mode, and automatically obtain a usable AL_PA address.

FCO Parameter	Setting	AL_PA	Description
Id Mode	SOFT		The FCO will arbitrate for an available AL_PA starting from the Loop Id 0.
Loop Id	na*	na*	
Topology	LOOP		Arbitrated Loop operation.

*na = Not Applicable

Example 1 FCO Menu Soft Address Setup

FCO Parameter	Setting	AL_PA	Description
Id Mode	FIXED		The FCO will arbitrate for the AL_PA selected by the Loop Id setting. If unavailable, the FCO reverts to "SOFT" address operations to obtain a usable AL_PA address.
Loop Id	0	0xEF	The Loop Id 0 maps to AL_PA 0xEF. See Table 1.
Topology	LOOP		Arbitrated Loop operation.

Example 2 FCO Menu Fixed Address Setup for AL_PA Address 0xEF

FCO Parameter	Setting	AL_PA	Description
Id Mode	FIXED		The FCO will arbitrate for the AL_PA selected by the Loop Id setting. If unavailable, the FCO reverts to "SOFT" address operations to obtain a usable AL_PA address.
Loop Id	50	0x90	The Loop Id 50 maps to AL_PA 0x90. See Table 1.
Topology	LOOP		Arbitrated Loop operation.

Example 3 FCO Menu Fixed Address Setup for AL_PA Address 0x90

