

## Optical Layer Automatic Protection Switch (APS) Module



Optical fiber networks PDH (140Mbps), SDH, WDM and DWDM have become the main system deployed on backbone trunks as well as the metropolitan area networks. One important factor for the deployment of any communication systems is the protection of the traffic. This is particularly vital for the sensitive networks such as the trunk SDH/PDH and the DWDM systems, which carry huge traffics. Thus, the requirement for a good protection system cannot be over-emphasized. In these networks, one minute of failure is disastrous already.



In general, there are two approaches that are normally taken in providing the network protection: Re-routing and Back-up. Re-routing approach involves sending the traffic through different routes when there is a failure in a specific connection. However, in many cases, the larger network may be too large and re-routing cannot provide a good recovery time. In the second approach, two identical systems are installed for one specific link; one as working line, the other as a standby or protection line. Nevertheless, the disadvantage of this approach is that the system is not robust enough. Thus, a more reliable protection scheme is required to make sure that service continuity is guaranteed and enough time is provided for repair before a total failure takes place.



*Automatic Protection Switch*

Optical Layer Automatic Protection Switch (APS) Module provides automatic switching between main and protection fibers (in case of faulty fibers) at the optical layer to support a survivable fiber optic link or network system. It is the perfect add-on solution for existing fiber optic links or network system equipment without fault-tolerant features. It offers solution to fiber data communication equipment without requiring any modification. It also provides alarms and indicators to warn the user of loss of the main local optical source and faults in the main fiber. Adding APS into the system will generate up to eight possible communication paths. This means that the system that uses APS will face a total failure only when both of the same elements of the main and back up networks fail. Therefore, unlike the conventional system, APS can still support the transmission when any other failures take place.

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