157.x Silent Start

The access networks, especially ONUs, typically serviced with Multi-Gigabit Ethernet BiDi PHYs and related devices are, by nature, less well controlled than other telecommunications networks. Thus it is necessary to provide ONU PHYs with constraints such that, if inadvertently attached to an incompatible network, the newly connected ONU does not disrupt established services on the existing network. The silent start feature provides this protection.

All members of the Multi-Gigabit Ethernet BiDi PHY family are required to include PCS registers or variable equivalents that:

1) indicate the receive status of the PCS (see ~~49.2.14.1 and~~ 45.2.3.15.1), and
2) disable the PHYs transmitter(see 45.2.1.8).

By monitoring the PCS receive status indicator and appropriately setting the PHY transmitter control, upper layer management can prevent transmission by a Multi-Gigabit Ethernet BiDi ONU PHY when connected to an incompatible network (e.g., an EPON ~~network~~).

Transmission by a Multi-Gigabit Ethernet BiDi ONU PHY is disallowed whenever a receive fault is declared by the status indicator; once the status indicator declares the PCS is receiving a proper Multi-Gigabit Ethernet BiDi PHY signal for a pre-determined time period (e.g., 1 second) transmission may be enabled.

158.4.6 PMD global transmit disable function

PMDs compliant with this clause shall include the ~~The~~ PMD_global_transmit_disable function which allows the optical transmitter to be disabled.~~is optional.~~

When asserted, this function shall turn off the optical transmitter so that it meets the requirements of the average launch power of OFF t~~T~~ransmitter in Table 1585~~2–7y, Table 52–12, or Table 52–16~~.

If a PMD_transmit_fault ~~(optional)~~ is detected, then the PMD may set the PMD_global_transmit_disable ~~function~~ variable ~~should also be asserted~~ to one, turning off the optical transmitter.

For higher level behavior associated with this variable please see 157.x.

Editor's Note: if a variable mapping table is included in Clause 158 the following statement should be removed under editorial license.

If the MDIO interface is implemented, then this function shall map to the PMD_global_transmit_disable bit as specified in 45.2.1.8.7.

~~NOTE—PMD Transmit Disable 0 is not used for serial PMDs.~~

159.5.6 PMD global transmit disable function ~~(optional)~~

PMDs compliant with this clause shall include the~~The~~ PMD global transmit disable function ~~is optional and~~which allows the optical transmitter to be disabled.

When the PMD_global_transmit_disable variable is set to one, this function shall turn off the optical transmitter so that it meets the requirement of the average launch power of the OFF transmitter in Table 159–6.

If PMD_fault is detected, then the PMD may set the PMD_global_transmit_disable variable to one, turning off the optical transmitter.

For higher level behavior associated with this variable please see 157.x.

160.5.6 PMD global transmit disable function ~~(optional)~~

PMDs compliant with this clause shall include the~~The~~ PMD global transmit disable function ~~is optional and~~which allows the optical transmitter to be disabled.

When the PMD_global_transmit_disable variable is set to one, this function shall turn off the optical transmitter so that it meets the requirements of the average launch power of the OFF transmitter in Table 160–6.

If a PMD_fault is detected, then the PMD may set the PMD_global_transmit_disable variable to one, turning off the optical transmitter.

For higher level behavior associated with this variable please see 157.x.