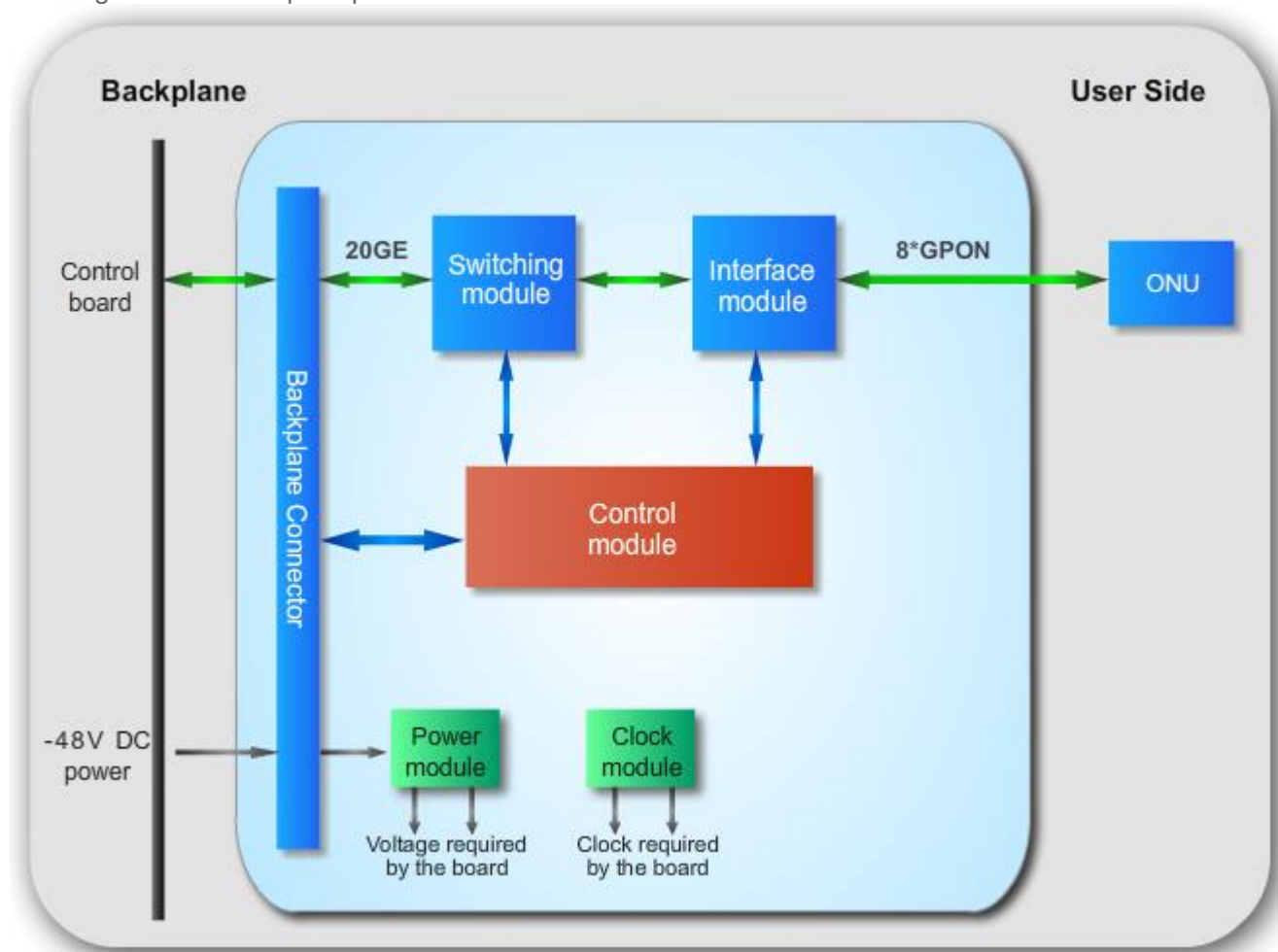# GPBD Board Description

The GPBD is an 8-port GPON OLT interface board. It works together with the optical network unit (ONU) to provide GPON access services.

## Working Principle

Working principle of the H802GPBD board



The basic working principle of the H802GPBD board is as follows:

- The control module loads the board software, controls the running of the board, and manages the entire board.

- The switching module aggregates the signals from eight GPON ports.

- The interface module performs conversion between GPON optical signals and Ethernet packets.

- The power module supplies power to each functional module of the board.

- The clock module provides clock signals for each functional module of the board.

## Front Panel Port



GPON port

Connected to
the ONU
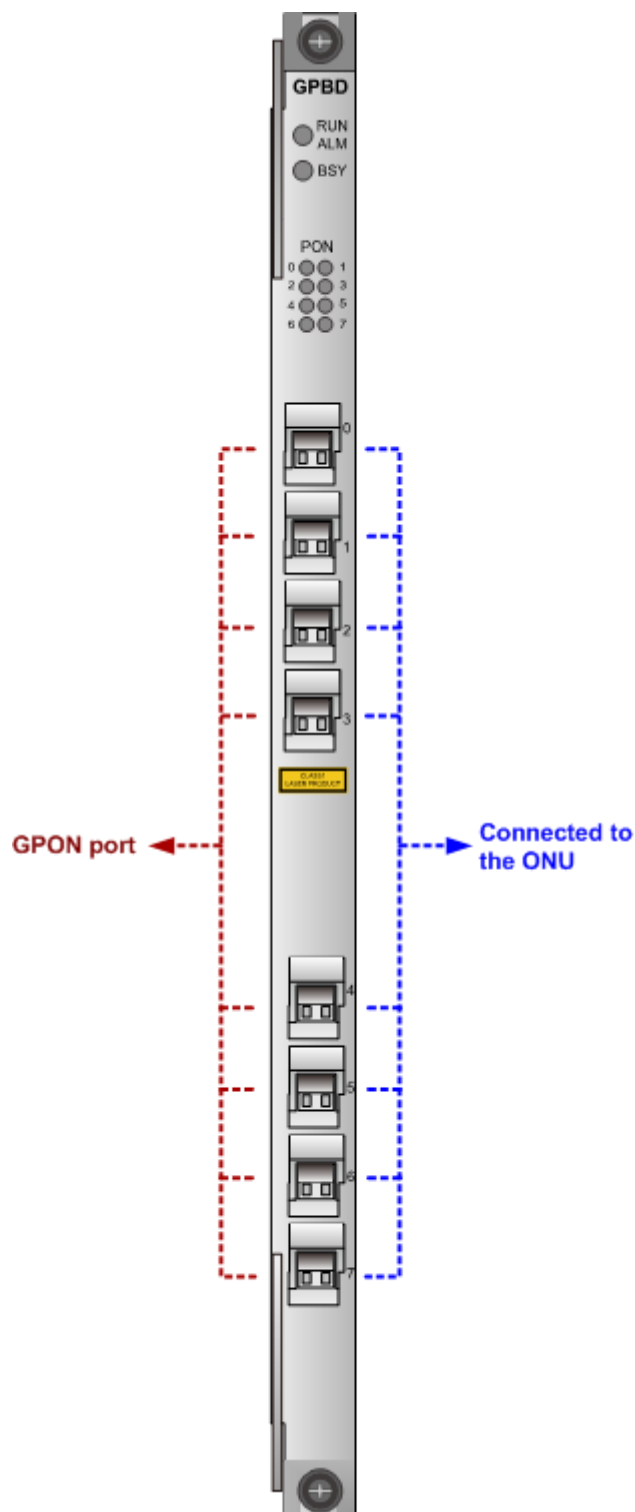
## Indicator

| Indicator | Name | Color | Status | Meaning |
|-----------|------|-------|--------|---------|
| RUN ALM | Running status indicator | Red | Blinking | The board enters the APP start phase during the board startup |
| | | Green | Blinking quickly (on for 0.25 s and off for 0.25 s repeatedly) | The board enters the phase of communication with the control board during its startup |
| | | Green | Blinking slowly (on for 1 s and off for 1 s repeatedly) | The board works in the normal state |
| | | Orange | Blinking | A high-temperature alarm is generated |
| | | Red | On | The board is faulty |
| BSY | Port status indicator | Green | Blinking | The board carries services |
| | | - | Off | The board carries no service |
| 0, 1, 2 ... | PON port indicator | Green | On | The ONT of the related PON port is online |
| | | Green | Blinking | The optical module does not take effect |
| | | - | Off | The ONT of the related PON port is offline |

## Specifications lists of GPON service board

| Specification | H801GP BC | H802GP BD | H805GP BD | H802GPFD/H805 GPFD | H806GPBH/H807 GPBH | H801GP MD |
|---------------|-----------|-----------|-----------|--------------------|--------------------|-----------|
| Port quantity | 4 | 8 | 8 | 16 | 8 | 8 |
| MAX Split ratio (Class B+) | 1: 64 | 1: 64 | 1: 64 | 1: 64 | 1: 64 | 1: 64 |
| MAX Split ratio | Not | 1: 128 | 1: 128 | 1: 128 | 1: 128 | 1: 128 |

| Specification | H801GPBC | H802GPBD | H805GPBD | H802GPFD/H805GPFD | H806GPBH/H807GPBH | H801GPMD |
|---|---|---|---|---|---|---|
| **(Class C+/Class C++)** | support | | | | | |
| **D-CMTS** | No | No | No | No | No | Yes |
| **ONU-based shaping** | No | No | Yes | Yes | Yes | Yes |
| **Optical performance monitor** | Yes (querying Rx optical power is not supported) | Yes | Yes | Yes | Yes | Yes |
| **Controlled optical signal transmission of the optical module** | No | Yes | Yes | Yes | Yes | Yes |
| **ONU-based rate limitation** | × | √ | √ | √ | √ | √ |
| **CAR group** | × | √ | √ | √ | √ | √ |
| **Temperature query and high temperature alarm** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Automatic power shutdown in case of a high temperature** | No | Yes | Yes | Yes | Yes | Yes |

| Specification | H801GPBC | H802GPBD | H805GPBD | H802GPFD/H805GPFD | H806GPBH/H807GPBH | H801GPMD |
|---|---|---|---|---|---|---|
| Maximum differential fiber distance (km) | 20 | 20 | 20 | 40 | 40 | 40 |
| Maximum Number of Service Flows Supported by the Board | 8184 | 8184 | 8184 | 16368 | 8184 | 6144 |
| Maximum Number of MAC address Supported by the Board | 4096 | 8192 | 8192 | 16384 | 16384 | 16384 |
| Available DBA bandwidth (based on single port) (kbit/s) | 1238400 | 1238784 | 1238784 | 1238784 | 1238784 | 1238784 |
| Number of T-CONT supported by each GPON port | 256 | 1024 | 1024 | 1024 | 1024 | 1024 |
| Board supporting downstream FEC | Yes | Yes | Yes | Yes | Yes | Yes |
| Board supporting upstream FEC | No | Yes | Yes | Yes | Yes | Yes |

| Specification | H801GP BC | H802GP BD | H805GP BD | H802GPFD/H805 GPFD | H806GPBH/H807 GPBH | H801GP MD |
|---|---|---|---|---|---|---|
| **Rogue ONT detection** | No | Yes | Yes | Yes | Yes | Yes |
| **Number of ONUs supported by a GPON port** | 64 | 128 | 128 | 128 | 128 | 128 |
| **Number of GEM ports supported by each board** | 8192 | 8192 | 8192 | 16384 | 8192 | 8192 |
| **Number of GEM ports supported by each GPON port** | 3872 | 3872 | 3872 | 3872 | 3872 | 3872 |
| **Number of service ports supported by each GEM port** | 8 | 8 | 8184 | 8184 | 8184 | 7168 |
| **HQoS (four levels)** | × | × | × | • H802GPFD: ×<br>• H805GPFD: √ | • H806GPBH: ×<br>• H807GPBH: √ | × |
| **9216-byte Jumbo frames** | × | × | × | • H802GPFD: ×<br>• H805GPFD: √ | • H806GPBH: ×<br>• H807GPBH: √ | × |
| **1588v2** | × | × | √ | √ | √ | × |
| **Power budget supported by a** | Class B+ (28.5 dB, | • Class B+ (28.5 dB, mostly used),<br>• Class C+ (32 dB long reach transmission)<br>• Class C++: 35 dB | | | | |

| Specification | H801GP BC | H802GP BD | H805GP BD | H802GPFD/H805 GPFD | H806GPBH/H807 GPBH | H801GP MD |
|---|---|---|---|---|---|---|
| **GPON port** | mostly used) | | | | | |
| **Minimum bandwidth supported by a T-CONT** | 512kbps | • 1 Mbit/s (in the minimum delay mode) • 128 kbit/s (in the maximum bandwidth usage mode) | | | | |

Power:

Static: 45 W

Maximum: 51 W