

# FLASHWAVE® 6100 SERIES ONTs

Triple-Play  
Service CPE

## Cost-Effective ONT Solutions

In today's broadband access markets, service providers face intense competition to provide triple-play services. Meeting this competitive challenge requires an access infrastructure capable of supporting a new generation of rich, interactive, and personalized voice, video and data services. Gigabit Passive Optical Networking (GPON) technology provides advancements that overcome many of the limitations of legacy Fiber-to-the-Home (FTTH) solutions. GPON technology yields dramatically higher performance and lower overall network costs.

Fujitsu offers an entire series of FLASHWAVE® Optical Network Termination (ONT) devices to meet performance, cost and deployment requirements for Fiber-to-the-Premises (FTTP) residential and business applications. Full compliance with industry G.984 standards ensures compatibility and interoperability among GPON Optical Line Terminals (OLTs).

## Triple-Play Multimedia Applications

The FLASHWAVE 6100 series ONTs integrate several features to efficiently support the delivery of multimedia services, including:

- Integrated Internet Group Management Protocol (IGMP) Proxy/Snooping
- 802.1x authentication and filtering
- In-band (IPTV) or Out of Band (RF) overlay video
- Integrated Multimedia over Coax Alliance (MoCA) interface
- H.248 and Session Initiation Protocol (SIP) voice

One of the most challenging areas of any FTTP deployment is in-home distribution of the broadband services. Fujitsu GPON ONTs meet the challenge with integrated MoCA interfaces. MoCA interfaces use existing home coax to provide a broadband distribution network.

## FLASHWAVE 6102 – Single Family Unit ONT

FLASHWAVE 6102 ONTs terminate the GPON optical layer signal and provide client-side voice, video and data services over traditional POTS, coax and 10/100/1000 Ethernet interfaces. An integrated MoCA interface ensures cost-effective in-home distribution of video and data services, without requiring technicians to rewire the home.

The FLASHWAVE 6102 ONT is available with and without RF video to support both out-of-band (RF overlay) and in-band (IPTV) video options.

## FLASHWAVE 6104 – Indoor ONT

For high rise apartments, town homes, and multi-dwelling units, an indoor ONT is the ideal way to provide triple-play services. Optical fiber to each unit terminates on the indoor ONT. Attractively packaged in a small indoor housing, the FLASHWAVE 6104 indoor ONT provides all of the same features, functions and client interfaces as the outdoor ONT.

## FLASHWAVE 6108 – Multi-dwelling ONT

Many apartment or multi-dwelling buildings have a single, common termination point for utility services, including phone, video and data services. From this single network termination point, the services are distributed over traditional copper phone lines, Ethernet cables and coax to each unit.

The FLASHWAVE 6108 multi-dwelling ONTs provide connections for up to 24 POTS lines, 12 Ethernet ports or 12 VDSL2 ports and RF coax for video.

## FLASHWAVE 6112 – Business ONT

For small to medium business applications, the FLASHWAVE 6112 business ONT provides up to 4 DS1s, 24 POTS lines, 8 Ethernet ports, and optional RF video.

DS1s can be provisioned for traditional circuit switched format (DS1 VT) or a Circuit Emulated Service (DS1 CES). These options allow seamless interconnection with either an existing SONET network or with an Ethernet packet network. This feature is flexibly provisioned through software on a per-customer or per-service basis.

## Power Supply and Battery Backup

All Fujitsu ONTs provide an industry standard power supply/battery backup unit along with the ONT. This feature ensures uninterrupted operation, even in the event of loss of electrical utility power. The power supply/battery backup provides the +12 V power to the ONT and alarm monitoring to alert both the network operator and homeowner of any maintenance requirements.

## Simple Management and Administration

End-to-end network management and operations is provided by our NETSMART® 1500 Element Management System (EMS). The NETSMART 1500 software lowers costs by consolidating and automating operations, such as provisioning, alarm monitoring, visibility, control, remote software upgrades and database backups.



- Voice, Video and Data
- Wide Array of ONT Options
- Integrated IGMP v3
- 802.1 Filtering
- MoCA Interface

**FLASHWAVE®**

**FUJITSU**

THE POSSIBILITIES ARE INFINITE

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## Features and Specifications

### GPON Optical Specifications

- ITU G.984.2 Class B+
- Line Rate
  - Downstream 2.488 Gbps
  - Upstream 1.244 Gbps
- Power
  - Tx (min) +1.5 dBm
  - Rx (min) -27 dBm
- Wavelengths
  - Downstream 1490 nm
  - Upstream 1310 nm
  - RF Option 1550 nm
- Connector SC/UPC
- Optical distance 20 km
- FEC upstream & downstream

### Ethernet & Data Functions

- IEEE 802.1q VLAN
- IEEE 802.1p
- Jumbo frame support
- IGMP v3 multicast, proxy and snooping
- Integrated QoS – Class A, B, C, D

### Service Security Features

- 802.1x Filtering

### Standards Compliance

- ITU FSAN G.983.3, G.984.1, G.984.2, G.984.3
- GR-49
- GR-63
- GR-909
- GR-1089
- FCC Part 15
- UL 60950

### Management

- OLT to ONT communications via G.984.4 ONT Management & Control Interface (OMCI)
- TL1 over IP LAN port on OLT
- NETSMART 500 Graphical User Interface (GUI)
- NETSMART 1500 EMS

### FLASHWAVE 6102 ONT

- Single Family Unit (SFU)
  - (2) POTS lines
  - (1) 10/100/1000Base-T Ethernet port
  - MoCA port
  - RF video coax (optional)
- Voice – H.248 & SIP
- Environmentally hardened
- Temperature -40 to +60° C
- Size (H x W x D) 13 x 10 x 3.5"
- Power <19 W

### FLASHWAVE 6104 ONT

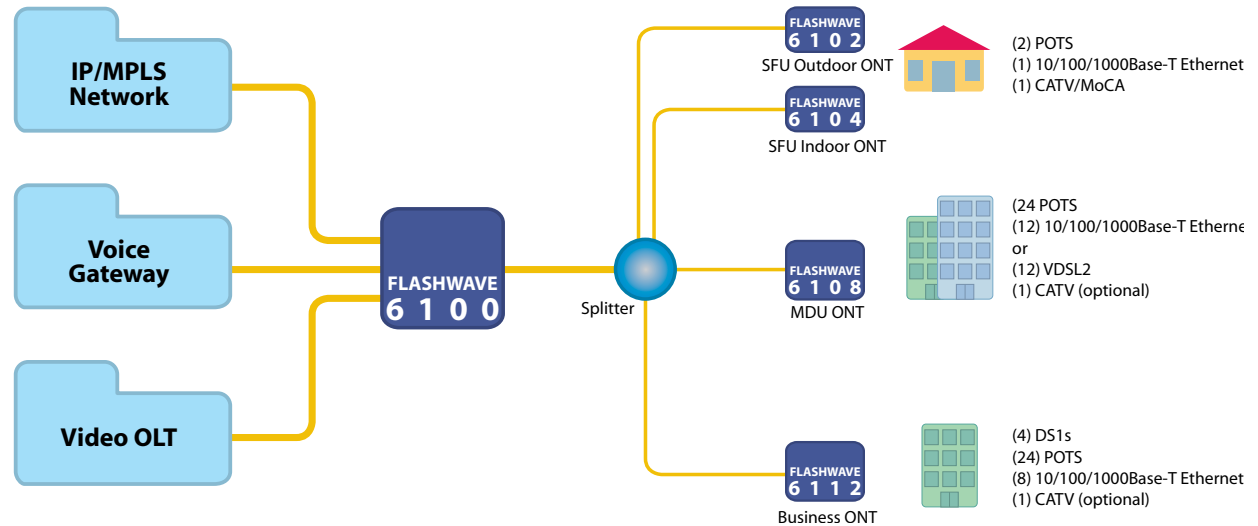
- Indoor Single Family Unit (SFU-I)
  - (2) POTS lines
  - (1) 10/100/1000Base-T Ethernet port
  - MoCA port
  - RF video coax (optional)
- Voice – H.248 & SIP
- Indoor package
- Temperature 5 to 40° C

### FLASHWAVE 6108 ONT

- Multiple dwelling Unit (MDU)
  - (24) POTS lines
  - (12) 10/100/1000Base-T Ethernet ports or (12) VDSL2 data lines
  - RF video coax (optional)
- Voice – H.248 & SIP

### FLASHWAVE 6112 ONT

- Business Multi-tenant Unit (MTU)
  - (4) DS1 Interfaces
  - (24) POTS lines
  - (8) 10/100/1000Base-T Ethernet ports
  - (12) VDSL2 data lines
  - RF video coax (optional)
- DS1 VT mapping option
- DS1 CES mapping option (MEF-8)
- Voice – H.248 & SIP



Contact your Fujitsu sales representative for more information on how to order this product.

### Fujitsu Network Communications Inc.

2801 Telecom Parkway, Richardson, TX 75082

Tel: 800.777.FAST (3278) Fax: 972.479.6900

us.fujitsu.com/telecom

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