

## AMN1220

**Triple Play GPON Fiber-to-the-Premises solution for single family residential and single small business applications**

The AMN1220 GST is a hardened Optical Network Terminal (ONT) designed to be deployed on the exterior of a home or business. The GST terminates a single fiber from the central office or headend, and supports multiple combinations of data, voice, and video services to the end user. A battery backup unit can be equipped to meet lifeline voice requirements.

The data port on the AMN1220 GST can operate as a 10BASE-T, 100BASE-TX, or as a 1000BASE-T port. The 10BASE-T/100BASE-TX rates are scaled for typical home use, where customer equipment does not usually support Gigabit Ethernet today. For small businesses, the Gigabit Ethernet capability provides robust bandwidth for large file transfers and multi-user applications. For residential applications, the Gigabit Ethernet rate offers future-proofing against increased demand for higher speeds for applications such as High Definition IPTV.

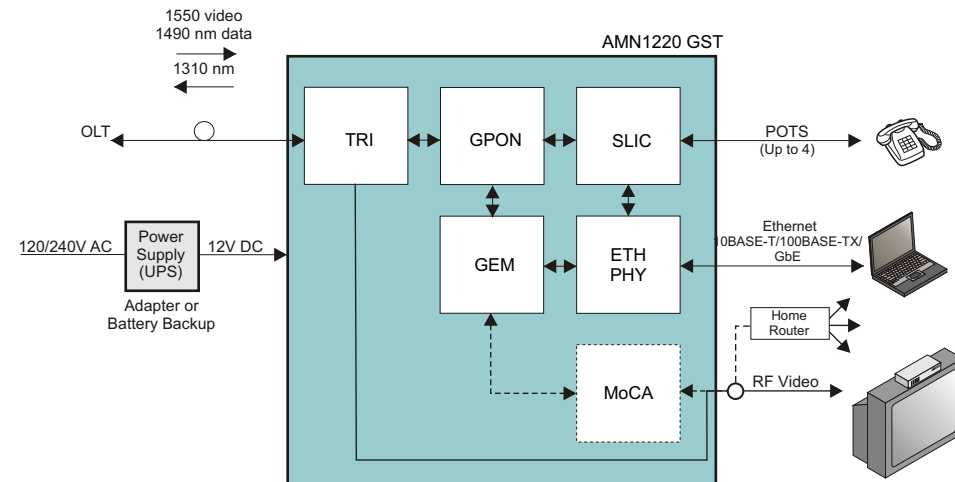


For applications in which RF video is to be provided - for example, when video services are being provided from a cable TV provider's headend, the AMN1220 GST supports "legacy" triple play, in which all services arrive at the residence via the single fiber network infrastructure, but are converted to their legacy delivery media at the residence. Thus, existing house wiring is used to provide video over coaxial cable, POTS (Plain Old Telephone Service) voice over Category 3 or lower twisted pair cabling and data over Category 5 cabling. Further leveraging existing in-home cabling, the AMN1220 is available with an optional MoCA (Multi-Media over Coax Alliance) interface. The GST can be provided without the RF video interface in applications in which only IP video is to be delivered.

**Highlights**

- Interfaces to support triple play services
  - POTS voice: up to 4 ports
  - Data: 1 port (10 BASE-T /100BASE-TX/1000BASE-T)
  - RF Video (54-870MHz) 1 port (optional)
  - Supports IP video through data port (IP video set top box or gateway required)
  - MoCA data interface (Ethernet over coax) (optional)
- Gigabit Ethernet interface at GST to support small business data services

## AMN1220 GST Block Diagram



## AMN1220 GST Interface Options

The following interface combinations are available on the AMN1220 GST, providing flexibility in either residential or business deployments.

Option	POTS	10/100/1000	RF Video	MoCA
1 <sup>1</sup>	4	1	1	0
2 <sup>1</sup>	4	1	0	0
3 <sup>1</sup>	2	1	1	1
4 <sup>1</sup>	2	1	0	1
5 <sup>1</sup>	6	2	1	1
6 <sup>1</sup>	6	2	0	1
7 <sup>2</sup>	2	1	1	1
8 <sup>2</sup>	2	1	0	1
9 <sup>2</sup>	2	1	0	0

Notes: <sup>1</sup> – Hardened GST  
<sup>2</sup> – Indoor GST

Note: Some interfaces will be available in future AMN1220 releases. Contact Hitachi for availability details.

## AMN1220 GST Specifications

Item	Specification	
Optical interface (between OLT and remote ONT)	Transmission method	FSAN Standard GPON (ITU-T G.984.1, G.984.2, G.984.3, G.984.4)
	Optical Line Rate (max.)	Downstream: 2.488Gbps Upstream: 1.244Gbps
	Logical speed (per user)	10/100/1000Mbps
	Bandwidth Management	Bandwidth can be set in 64K increments across the PON interface
	Wavelength	Downstream: 1490nm + optional 1550nm RF video overlay Upstream: 1310nm
	Connection cable	Single mode optical fiber
	Connector	SC-APC or Optifit
	Transmission distance	20 km max.
	Transmit/Receive characteristics, Class B optics	Tx launch power: -2dBm min; +3dBm max Rx min. sensitivity: -21dBm; min overload -1dBm
Transmit/Receive characteristics, Class B+ optics	Tx launch power: +0.5dBm min; +5dBm max Rx min. sensitivity: -27dBm; min overload -8dBm	
Voice	No. of POTS Interfaces	2 - 6
	Physical Interface	2-wire, tip and ring with loop start signaling and balanced ringing
	Connector	RJ-11/IDC
	VoIP Support	G.711/G.729 CODECs, SIP signaling, H.248 media gateway protocol
Ethernet 10/100/1000 BASE-T	No. of Interfaces	1 - 2
	Physical Interface	10BASE-T/100BASE-TX/1000BASE-T
	Connector	RJ-45
RF Video (optional)	No. of Interfaces	1
	Frequency range	54-870MHz
	Connector	F-type Coaxial
Power	Power Supply	12VDC via external AC power supply, 100-240VAC, 50-60Hz
	Battery Backup	Optional
	Power Consumption	14.4W max
Physical	External Dimensions (W x D x H)	12.57 in. x 16.14 in. x 4.97 in. (319.2mm x 410mm x 126.2mm)
	Mounting	Wall mount
	Weight	7.7 lb (3.5 kg) max.
Environmental	Operating temperature range	-40° F to +114° F (-40°C to 46°C)
	Humidity	5 to 85% RH, no condensation
Compliance	UL, FCC, NEBS	