TriplePlay150

Introduction

The TriplePlay150 is a high-speed ADSL2+ WIFI VoIP router. The TriplePlay150 provides 1 x DSL interface (ADSL2+ Connection), 1 x WAN interface (Fibre Connection), 4 x Ethernet LAN interfaces, 1 x USB Host and a N150 WIFI interface. It also provides 2 x FXS ports for VOIP applications.

The Triplelay150 is an ideal mid-range broadband CPE solution for both home users who wish to share Internet access and small offices that wish to do business on the Internet. The TriplePlay150 offers an easy upgrade path for ISPs by offering ADSL2+ connectivity and providing an upgrade path to Fibre services via the WAN port along with phone services via the 2 x FXS Voice ports. The TriplePlay150 has been extensively tested in the New Zealand market on a Fibre and ADSL connection, and provides all that is required for an entry level CPE for this market.

Parameters and Specifications

Parameter	Specifications
System Specifications	
Chipset	BCM63283
SDRAM	64MB
Flash	16MB
Wi-Fi	BCM4313
Line Driver	BCM6301
VoIP	LE89316
External Connectors	
	Power jack
DSL	1 x RJ11 port for ADSL, shared with FXO interfaces(compatible FXO function)
LAN	4 x 10/100M Auto MDI/MDIX RJ45 ports
USB Host	1 x USB2.0 USB Host port
FXS	2 x FXS interfaces for regular phone connection
WAN	1x WAN interfaces for LAN upstream port
Wireless	802.11 b/g/n wireless LAN (1T1R only 20MHz)
Features and Technical Specifications	
Protocols	● RFC 2684 multiprotocol Encapsulation over ATM Adaptation Layer 5 ● RFC1483 Multiprotocol Encapsulation over ATM Adaptation Layer 5 ● RFC2364 PPP over ATM AAL5 (PPPoA) ● RFC2516 PPP Over Ethernet (PPPoE) ● RFC1662 PPP in HDLC-like Framing ● RFC1332 PPP Internet Protocol Control Protocol ● RFC1577/2225 Classical IP and ARP over ATM (IPoA) ● RFC1483R ● RFC894 A Standard for the Transmission of IP Datagrams over Ethernet Networks ● RFC1042 A standard for the Transmission of IP Datagrams over IEEE 802 Networks ● MER (a.k.a IP over Ethernet over AAL5) ● Application Level Gateway (ALG)
Bridging	● Support self-learning bridge (IEEE 802.1D Transparent Bridging) ● Support at least 64 learning MAC addresses
Routing	● RFC768 User Datagram Protocol (UDP) ● RFC791 Internet Protocol (IP) ● RFC792 Internet Control Message Protocol (ICMP) ● RFC793 Transmission Control Protocol (TCP) ● RFC826 An Ethernet Address Resolution Protocol (ARP) ● RFC862 Echo Protocol ● Support IP routing ● Support transparent bridging ● Support source and destination routing ● Support DHCP server/client/relay ● Support UPnP ● Support NAT and NAPT ● Support DMZ ● Support IP QoS ● Support built-in IPSec VPN connection service
ADSL Features	● T1.413i2, G.992.1 ● G.dmt, G.992.2, G.lite ● Annex A or Annex B ● G.992.3 (G.bis/ADSL2) ● G.992.5 (ADSL2+) ● Annex L (Reach Extended ADSL2) ● Support ATM forum UNI3.0, 3.1 and 4.0 permanent virtual circuits (PVCs)

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	● Support CBR, UBR, VBR-rt, VBR-nrt ● Support 16 PVCs ● Support ITU-T i.610F4/F5 OAM
Wireless Features	● Compatible with IEEE 802.11n, IEEE 802.11g and IEEE 802.11b ● Support channels for many countries. i.e. 13 channels (Europe, China), 11 channels (USA), 14 channels (Japan), etc ● Support auto channeling ● Support 64/128-bit WEP, 802.1x, WPA, and WPA2 for wireless security ● Support multiple SSIDs (four SSIDs) ● Support RTS/CTS, segment function ● Support STA mutual isolation ● Support SES, WDS ● Support hiding SSID ● Support MAC Access/Deny List ● Support WMM ● Widely wireless signal rates. MS0~MS7 for IEEE 802.11n,54, 48, 36, 24, 18, 12, 9, 6 Mbps for IEEE 802.11g; 11, 5.5, 2, 1 Mbps for IEEE 802.11b ● Wireless frequency range: 2400~2484.5 MHz ISM Band ● Radio and modulation type. IEEE 802.11b: DQPSK, DBPSK, DSSS, and CCK; IEEE 802.11g/n: BPSK, QPSK, 16QAM, 64QAM, OFDM ● Transmission distance. 100 meters outdoors, 60 meters indoors coverage area (limited in an environment) ● Antenna: 2dBi ● Transmission power. 802.11b: Typ. 18 dBm @Normal Temp Range; 802.11g: Typ. 15 dBm @ Normal Temp Range
VoIP Feature	● SIP (RFC3261)
Call Features	● Call Hold (Waiting) ● Call Transfer ● Conference Calling ● Call Forwarding ● Call Return ● Redial
DSP Algorithms	● G.711 – 64 kbps ● G.723.1 – 5.3/6.3 kbps ● G.726 – 32 kbps ● G.729A – 8 kbps ● G.168 Echo Cancellation ● ILBC – 13.33/15.2 kbps ● BroadVoice-16 kbps ● T.38 Fax Relay ● DTMF Tone Detection ● Call Progress Tone Generation ● Call Progress Tone Detection ● DTMF-based Caller ID Tx ● FSK-based Caller ID Tx ● FSK-based Caller ID Rx
Management Support	● Device configuration, management and update ● Web based GUI ● Embedded web server ● Download image via HTTP, TFTP client, TFTP server, and FTP server ● Command line interface via serial port, telnet, or ssh ● Menu-driven CLI via serial port or telnet ● Universal plug and play (UPnP) Internet gateway device (IGDv1.0) ● SNMP v1/v2c agent, SNMP MIBs: rfc2662 ADSL line MIB, rfc2515 ATM MIB, MIB-II ● PSI configuration file upload and download ● Date/time update from SNTP Internet Time Server ● TR-69 with TR-98, TR-104
Security Support	● Three-level login including local admin, local user, and remote technical support access ● Service access control based on incoming interface: WAN or LAN ● Service access control based on source IP addresses ● Protect DoS attacks from WAN/LAN: SYN flooding, IP smurfing, ping of

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	death, fraggle, UDP ECHO (port 7), teardrop, and land. ● PAP (RFC1334), CHAP (RFC1994), MSCHAP for PPP session. ● IP filter, parental control.
Environment Requirement	
Operating Temperature	0ºC—40ºC
Storage Temperature	-20ºC—70ºC
Operating Humidity	10%—95%, non-condensing
Storage Humidity	5%—95%, non-condensing
Power Supply	12 VDC, 1.5 A