

# Tellabs® 1000 Multiservice Access Platform (MSAP) ADSL2+ 6+0B Plug-in Card with bonding

## Overview

The ADSL2+ 6+0B is a high-performance line card that supports high-speed data and video applications in your Tellabs® 1000 Multiservice Access Platform (MSAP). The low-power card delivers broadband service over a single copper pair, or via two adjacent bonded copper pairs.

ITU G.998.1, an industry-standard technology, doubles downstream service rates and increases upstream service, making it ideal for small and home business applications. This improved delivery enhances revenue from your embedded base of Tellabs 1000 MSAP equipment.

The ADSL2+ 6+0B card provides bit rates up to 24 Mbps downstream and over 1.4 Mbps upstream on a single copper pair. By bonding two adjacent ports, you can achieve 48 Mbps downstream and over 2.8 Mbps upstream. These higher bit rates help you keep up with the growing broadband demands of IPTV, VoD, HSI and Over-the-Top services.

You can configure the Tellabs 1000 channel bank with ADSL2+ 6+0B cards to provide 120 lines per shelf. The card is hardened for remote cabinet and harsh environment deployments. Reach Extended and Cabinet Mode options extend broadband service deeper into your network.

This ADSL2+ 6+0B card is ideal for DSL overlay and naked DSL deployments. Its rich feature-set and power-saving options provide you with optimum capital and operating savings.

## Features and Benefits

- Six integrated ports of ADSL2+ (with bonding capability) and POTS
- Up to 20 cards per Tellabs 1000 MSAP shelf
- Dual-memory for minimal, service-affecting upgrades
- Compatible with both CPU-2 and CPU-3
- High performance provides higher bit rate and broader reach
- Low power/heat dissipation for increased capacity
- Supports G.998.1, G.992.5, G.992.3, G.992.2, G.992.1 and T1.413-1998 standards
- Supports G.992.3 and G.992.5 Annex M standards for doubled up-stream rate
- Supports ADSL2 Reach Extended (RE) option for longer reach
- Provides ADSL2 power saving states
- Supports the Cabinet Mode for CO and RT deployments to single service areas
- Up to 48 VCCs per card
- Supports Unspecified Bit Rate (UBR), Constant Bit Rate (CBR) and Variable Bit Rate, Real Time (VBRrt)
- Receives and responds to F5 Operations and Maintenance (OAM) loopback cells



Figure 1. Tellabs® 1000 MSAP ADSL2+ 6+0B plug-in card with bonding

## Applications

- DSL Overlay and Naked DSL deployments
  - ADSL2+ bonded copper pairs
  - Start marketing IPTV and VoD services on existing embedded systems
  - Increase high-speed Internet rate packages and increase associated revenue
  - Broadband stimulus *proactive* strategy by delivering greater than 3 Mbps HSI services
  - Broadband stimulus *protective* strategy by delivering greater than 3 Mbps HSI services on existing Tellabs 1000 MSAP embedded systems
- Annex M
  - Small business services
  - Home office services

## Specifications

- ADSL2+ Data Rate (theoretical rate and reach based on ideal conditions)
- Downstream: Rate adaptive up to 24 Mbps in 32 kbps increments
- Downstream (2 bonded pairs): Rate adaptive up to 48 Mbps in 32 kbps increments
- Upstream: Rate adaptive up to 1.4 Mbps in 32 kbps increments
- Upstream (2 bonded pairs): Rate adaptive up to 2.8 Mbps in 32 kbps increments
- Upstream (Annex M): Rate adaptive up to 3.3 Mbps in 32 kbps increments

### Input Impedance

- 100  $\Omega$  @ 30 kHz to 2.2 MHz

### Environmental

- Operating temperature: -40°C to +65°C (-40°F to +149°F)
- Relative humidity: 5%–95% non-condensing
- Power consumption: 9.77 W (@ 100% DSL)

### Dimensions

- Height: 13.018 cm (5.125 in)
- Width: 1.429 cm (0.563 in)
- Depth: 26.67 cm (10.5 in)
- Weight: 0.23 kg (0.5 lbs)

### Compliance

- TR-TSY-000057
- GR-TSY-000303
- GR-63-CORE
- GR-1089-CORE
- ANSI T1.413-1998
- ITU-T G.992.1
- ITU-T G.992.2
- ITU-T G.992.3
- ITU-T G.992.3 (Annex M, A and L)
- ITU-T G.992.5
- ITU-T G.992.5 (Annex M, A and L)
- ITU-T G.994.1
- ITU-T G.998.1 ATM-based multi-pair bonding
- NEBS 3

The above list is provided as a sample, non-exhaustive, list of industry standards followed

### LED indicates the following conditions:

- Red, non-blinking FAIL — plug-in card failure or card is unable to communicate with the CPU
- Red, blinking FAIL — one or more ADSL circuits are receiving illegal signaling
- Green, non-blinking BUSY — one or more ADSL circuits are active
- Green, non-blinking SYNC — one or more ADSL circuits are enabled and trained up with the CPE

### Software

- Supported in Tellabs 1000 MSAP Feature Package (FP) FP15.0

## Ordering Information

ADSL2+ 6+0B 3RD GEN ANSI (0110-0271)

For more information, please contact your Tellabs sales representative or local Tellabs sales office at the phone numbers provided below or visit [www.tellabs.com](http://www.tellabs.com).

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