



"Results You Can Count On"

**Model 800-1-212-TP100 Series
Gfast Single-Channel Local Loop Simulators
Performance Testing Solution**



**Very Low
Noise Floor**

**For
Realistic Testing**

World's First Passive Gfast Local Loop Simulators for Testing Profile 106 & 212

The Model 800-1-212-TP100 Series offers the world's first passive local loop simulators designed for testing Gfast. This test solution provides a variety of loop lengths and increments that are perfect for repeatable and configurable Gfast performance testing. The 800-1-212-TP100 series of products integrate with Telebyte's Gfast Physical Layer Testing Solution (see separate datasheets).

Features Include:

- Simulation of TP100 as defined by BBF WT-285 issue 2 (Attenuation, Impedance, and Group Delay)
- Maximum Attenuation up to 70dB
- Bandwidth DC to 240 MHz
- Low Noise Floor of < -167 dBm/Hz
- Upgrade Program Available
- Support for Testing of Reverse Power Feeding
- Repeatable, configurable, realistic
- Efficient Automation / Repeatable Testing
- Ethernet Control (CLI or GUI)
- Variety of versions, including several models designed specifically for testing BBF's WT-380 Gfast Performance Test Plan and a version supporting BBF IR-337 Issue 2 Single-Line test cases.



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Cable Simulation

The cable simulated is based upon TP100 which is defined in the Broadband Forum’s WT-285, Issue 2, Revision 6, Annex E, August 2018. This product simulates attenuation, impedance, and group delay.

Reverse Power Feed

One important feature of Gfast is the requirement for Reverse Power Feeding for the remote device from the customer’s residential gateway. The 800-1-212-TP100 has been designed to support testing of 60 VDC Short Range Reverse Powering per ETSI TS 101 548.

Very Low Noise Floor

Low noise levels are extremely important when the goal is maximum capacity of the local loop. Service Providers have measured background noise levels in their networks as low as -155 dBm/Hz. An active design of a local loop simulator is incapable of achieving such a low level. Conversely, Telebyte’s passive design (with a noise floor of less than -167 dBm/Hz) is ideal for Rate-Reach performance testing of Gfast.

Available Versions

- **Model 800-1-212-TP100-200-25***
 - TP100: 25 to 200m in 25m increments
 - Entry Level
- **Model 800-1-212-TP100-400-25***
 - TP100: 25 to 400m in 25m increments
- **Model 800-1-212-TP100-600-25***
 - TP100: 25 to 600m in 25m increments
- **Model 800-1-212-TP100-424-1T**
 - TP100 for WT-380: 25-424m in 1m steps
 - TP100 for TR-114 i3: Simulation of TP100 as defined by ETSI TS 101 270-1 (Attenuation, Impedance) Lengths: 150m, 300m, 450m, 600m, 900m, 1050m, 1200m, 1500m, 2000m, 2500m, 3000m
- **Model 800-1-212-TP100-400-25T***
 - TP100: 25-400m in 25m steps
 - TP100 for TR-114 i3: Simulation of TP100 as defined by ETSI TS 101 270-1 (Attenuation, Impedance) Lengths: 150m, 300m, 450m, 600m, 900m, 1050m, 1200m, 1500m, 2000m, 2500m, 3000m
- **Model 800-1-212-TP100-224-1***
 - TP100: 25 to 224m in 1m increments
- **Model 800-1-212-TP100-424-1**
 - TP100: 25 to 424m in 1m increments
 - Designed for testing BBF’s WT-380 Gfast Performance Test Plan
- **Model 800-1-212-TP100-624-1**
 - TP100: 25 to 624m in 1m increments
 - Designed for testing BBF’s WT-380 Gfast Performance Test Plan
- **Model 800-1-212-TP100-624-1C**
 - TP100: 25-624m in 1m steps
 - CAD55: 20m, 50m, 100m, 200m, 300m, 400m
 - Designed for testing BBF’s WT-380 Gfast Performance Test Plan & IR-337 Issue 2 Single-Line test cases.

*This version does not support WT-380



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Specifications

Local Loop Simulation Specification	
Simulation	<ul style="list-style-type: none"> • TP100 <ul style="list-style-type: none"> ○ Simulates TP100 as defined in Broadband Forum’s WT-285, Issue 2, Revision 5, Annex E, June 2018 ○ Simulates attenuation, impedance, and group delay • CAD55 <ul style="list-style-type: none"> ○ Simulates CAD55 as defined in Broadband Forum’s WT-285, Issue 2, Revision 5, Annex A, June 2018 ○ Simulates attenuation, impedance, and group delay
Bandwidth	DC to 240 MHz
Average Noise Floor	< -167 dBm/Hz
Attenuation (Insertion Loss)	MAE < 1.0dB (2MHz to 212MHz) Maximum Attenuation up to 70dB
Impedance	Complex, varies over frequency with length
Group Delay	Better than 5%
System Specifications	
DC Rating	± 60 V between Tip and Ring and 350mA
DPU/Modem Connection	1 CAT6A RJ45 Connector CO side of loop 1 CAT6A RJ45 Connector CPE side of loop
Control	802.3 Ethernet, including high-level command set for remote control, OR a web-based Graphic User Interface (GUI)
Power Supply	88 to 264 VAC, 50 or 60 Hz
Dimensions	[4U] W 19 in x H 7 in x D 25 in (W 482 mm x H 178 mm x D 635 mm)
Mounting options	Mountable in 19” rack

Specifications are subject to change without notice. Made in USA.



Model 800-1-212-TP100 Series
Gfast Single-Channel Local Loop Simulators
 Continued

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Ordering Options

Model Number	Description
800-1-212-TP100-200-25*	Entry Level Gfast Single-Channel Local Loop Simulator Line Lengths: 25m to 200m in 25m increments
800-1-212-TP100-400-25*	Gfast Single-Channel Local Loop Simulator Line Lengths: 25m to 400m in 25m increments
800-1-212-TP100-400-25T*	Single-Channel Local Loop Simulator: TP100 for testing G.fast: 25m to 400m in 25m increments TP100 for testing TR-114i3 (150m, 300m, 450m, 600m, 900m, 1050m, 1200m, 1500m, 2000m, 2500m, 3000m)
800-1-212-TP100-600-25*	Gfast Single-Channel Local Loop Simulator Line Lengths: 25m to 600m in 25m increments
800-1-212-TP100-224-1*	Gfast Single-Channel Local Loop Simulator Line Lengths: 25m to 224m in 1m increments
800-1-212-TP100-424-1	Gfast Single-Channel Local Loop Simulator Line Lengths: 25m to 424m in 1m increments Supports WT-380 Performance Testing
800-1-212-TP100-424-1T	Dual-Standard Gfast Single-Channel Local Loop Simulator: WT-380 (424m in 1m increments) and TR-114i3 (150m, 300m, 450m, 600m, 900m, 1050m, 1200m, 1500m, 2000m, 2500m, 3000m)
800-1-212-TP100-624-1	Gfast Single-Channel Local Loop Simulator Line Lengths: 25m to 624m in 1m increments Supports WT-380 Performance Testing
800-1-212-TP100-624-1C	Multi-Wire Type Gfast Single-Channel Local Loop Simulator: TP100 (25-624m in 1m increments) and CAD55 (20m, 50m, 100m, 200m, 300m, 400m) Supports WT-380 Performance Testing Supports IR-337 Issue 2 Single-Line Testing

*NOTE: This model does not support WT-380

Upgrade Program

Telebyte has a factory upgrade program for several of these models.
Please contact Telebyte sales for further details.

For more information

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