

BigTao-P Product Manual

| We make network testing easier



ABOUT XINERTEL

Beijing Xinertel Technology Co., Ltd. is a leading provider of test solutions for network infrastructure and performance. With a strong commitment to innovation and quality, we offer high-quality IP network test products and test solutions designed to meet the evolving needs of the networking industry.

Established in 2007, adhering to technological innovation and focusing on product quality are the driving forces for the continuous development of Xinertel. With solid technological accumulation and strong R&D capabilities, Xinertel has launched a fully automated communication production test solution for product line, which has earned high recognition from customers.

Xinertel always abides by the tenet of "focus, innovation, cooperation, service" and the concept of customer first, adhere to providing customers with cost-effective products and satisfactory services. Xinertel provides appropriate network testing products and solutions based on every customer's needs. We also offer customized products and solutions. Customer satisfaction is our top priority!

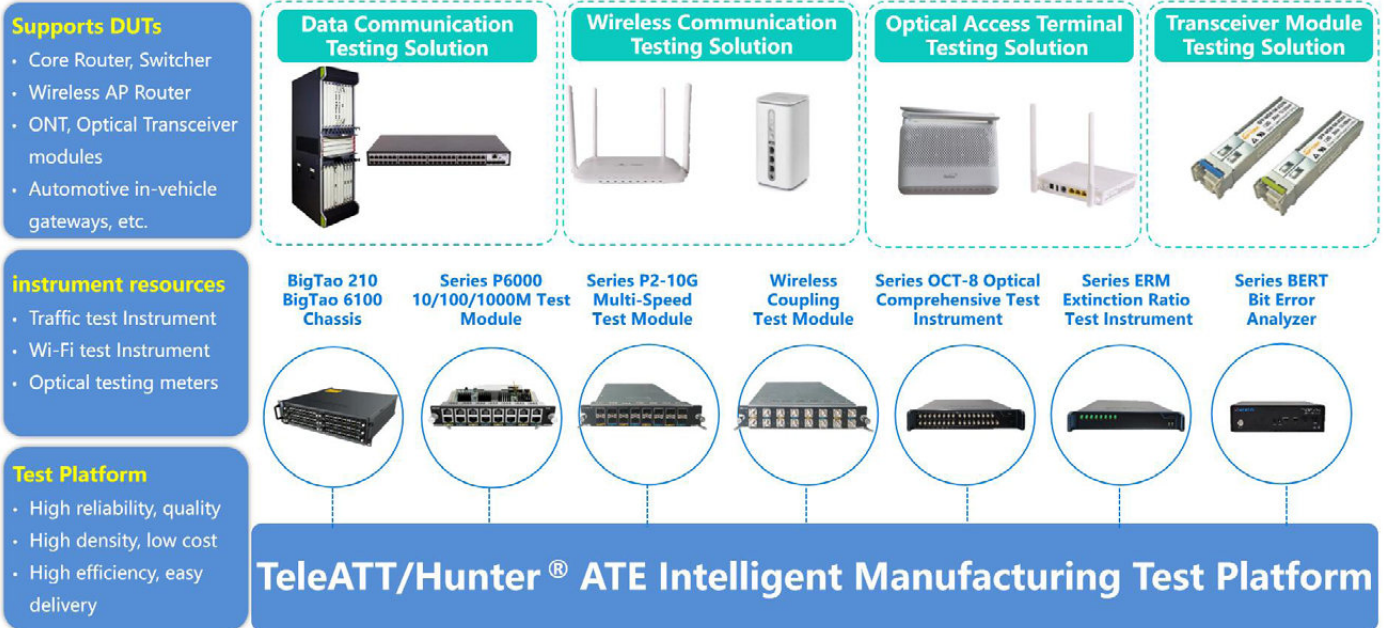
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Product Overview

Xinertel delivers comprehensive intelligence manufacturing test solutions for the data communication and optical product manufacturers. This solution includes software platform, hardware platform, testing modules, and integrated solutions. which support manufacturers in enhancing their production testing competitiveness across the entire process, from chip testing to board testing, system testing, and reliability testing. Xinertel is committed to making manufacturing capabilities become the core competitiveness of customer products, and assisting clients in achieving commercial success.

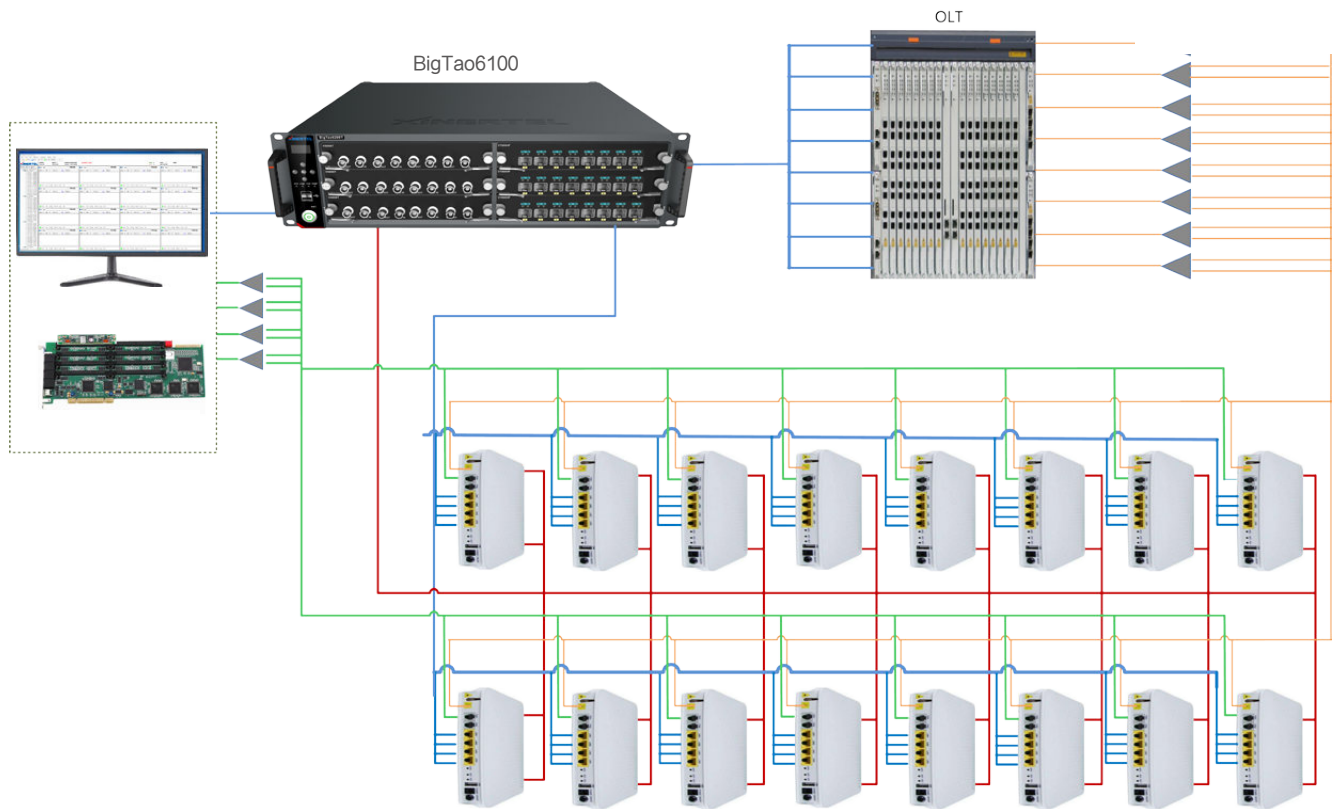
Empowers ICT equipment manufacturers to make manufacturing a core competitiveness



BigTao Chassis : deliver rack and portable chassis. The BigTao6100 chassis supports 6 slots, and achieve up to 96 ethernet test ports with 10/5/2.5/1GE speed when fully configured, making it the highest port density test product in the industry's production testing scenario, greatly achieving full capacity

- **P6000 1G Test Module**: supports testing capabilities for ethernet interfaces ranging from 10M to 1000M. Connector type include copper RJ45 and Fiberoptical
- **P8000 10G Test Module**: supports testing capabilities for 10G fiber optical ethernet interfaces.
- **P2-10G Test Module**: supports testing capabilities for ethernet interfaces upto 10G, include 10G/5G/2.5G/1G/100M. Connector type support copper RJ45 and Fiber optical
- **P2-100G Test Module**: supports testing capabilities for ethernet interfaces upto 100G, include 100G/50G/40G/25G/10G.
- **P2-400G Test Module**: supports testing capabilities for ethernet interfaces upto 400G, include 400G/200G/100G.
- **Wireless Test Module**: supports Wi-Fi coupled or traffic testing, providing comprehensive coverage of Tx and Rx quality.
- **BOB Optical Test Module**: Supports integrated calibration&verification for GPON/EPON/XGPON/ XGSPON, FTTR, optical transceiver module, and other functional tests.
- **HunterATE/TeleATT Intelligent Manufacturing Test Platform**: supports graphics configuration and provides a rich testcase library, and quickly adapts for new DUT models. Meet the low-cost and efficient testing requirements in the field of network equipment manufacturing.

An ONT manufacturing testing application case



Functional highlights

- Supports a maximum of 6 test modules and a maximum of 96 10G/5G/2.5G/1GE/100M ports
- Supports up to 16 DUTs, parallel, and automated manufacturing testing
- One-stop integration test: include dozens of test cases such as Telnet functional testcase, VOIP interface testcase, traffic testcase, Wi-Fi coupling testcase. Thereby reducing manufacture procedure and saving costs.
- Support MES system integration and automatically uploads test-logs, and provides precise control of manufacture procedure.



BigTao210

BigTao210 portable chassis is a new generation of manufacturing test chassis. It uses Modular design, provides two slots, supports any combination of test modules from 10M to 400G speed.

BigTao210 is small and portable, the side of the special increase in portable handle, greatly meet the needs of field testing. At the same time using professional noise reduction technology, It can be placed in the office for testing. Using energy-saving technology and green environmental protection, can effectively reduce the cost of long-term network testing.

BigTao210 can implement L2-3 traffic test for network equipment and network system with the TeleATT and the Series P wired traffic testing modules, wireless coupling power testing module, and Wi-Fi traffic testing module, which are the large-scale automation test software of Xinertel product line, to meeting the low-cost and high-efficiency testing requirements in the network equipment manufacturing field. By providing customized services such as factory MES system integration and secondary development base on API interface, it can further enhance the quality control and efficiency improvement of network communication products during the manufacturing phase.

Key Features

- Support two 10M~400G ethernet traffic testing modules
- Support wireless coupling and Wi-Fi testing modules
- Portable chassis with low power consumption and low noise
- Support dozens of regular test cases based on flexible and configurable testing modules
- Support multi-product automatic synchronous and asynchronous testing
- Support automatic and manual testing modes
- Support MES integration and automatic upload of test logs
- Support secondary development based on API interface



Specifications

Slot	2 Slots
Dimensions	340mm x 400mm x 95mm
Weight	Empty chassis (with panel) : about 6.6kg With full slots and cards : about 9.2kg
Switch / display	<ul style="list-style-type: none"> • Rear AC power switch • Power, Fan, Temp, Link LED Indicator light , OLED display screen • Chassis Reset Button • Chassis OLED control button
IO interface	<ul style="list-style-type: none"> • 1 DB15 display interface • 1 RJ45 10/100/1000M BaseT Management interface • 1 RJ45 10/100/1000M 1588 Clock input interface • 1 RJ45 RS232 Serial port • 1 SYNC-OUT、1 SYNC-IN Chassis cascade interface • 1 DB9 GPS RS232 Serial port • 1 1PPS、1 10MHz input BNC • 1 IRIG-B DC TTL input BNC • 2 USB Type A interfaces
Temperature	Operating: 0° C to 35° C Storage: -40° C to 70° C
Humidity	Work: 20% to 85% Relative humidity, no condensation Store: 20% to 85% Relative humidity
Power supply	1 route 110VAC / 220VAC 50 / 60HZ@3A single-phase power input
Noise	Full-load noise of the whole machine ≤ 65dba
Operating system	CentOS6.7 and above, 64bit
Network management	<ul style="list-style-type: none"> • Compatible with IPV4 and IPV6 Management Network • Support Panel keys to modify Ip Address and Query Status • Support Telnet / SSH Terminal to Modify Ip and Query Status • Support external display and keyboard to modify Ip and Query Status • Support web page download client, modify Ip, Query Status • Support License management and Hardware Management by client software
Supported software	TeleATT: Automatic Network Flow Testing Software for manufactory
Minimum PC requirements	OS: Microsoft Windows XP/ Windows 7 and above CPU: Intel Atom N2600 @1.60GHZ and above Memory: 2 GB and above
Supported test modules	<ul style="list-style-type: none"> • P6000 1G test modules (10M/100M/1000M) • P8000 10G test modules (10G) • P2-10G/P2-2.5G multi-speed test modules (100M/1G/2.5G/5G/10G) • P2-100G multi-speed test modules (10G/25G/40G/50G/100G) • P2-400G multi-speed test modules (100G/200G/400G) • P6216W/P6008W Wi-Fi test modules



BigTao6100

BigTao6100 rackmount chassis is a next generation testing chassis. It uses a modular design, providing 6 slots that support various rates of wired traffic testing modules ranging from 10M to 100G in any combination. It also supports wireless coupling test module and Wi-Fi traffic test module.

BigTao6100 chassis has high-efficiency hardware architecture, unique fan/noise control and energy-saving technology, while providing high-efficiency operation, can effectively reduce noise and power consumption, for enterprises to save costs. The BigTao6100 chassis will not only run all the existing the series P2 test modules, but also all the previous the series P test modules, and will also be compatible with the 400G test modules to provide maximum capability protection to customers' assets.

BigTao6100 can implement Layer2-3 traffic test for network equipment and network system with the TeleATT and the series P wired traffic testing modules, wireless coupling power testing modules, and Wi-Fi traffic testing modules, which are the large-scale automation test software of Xinertel product line, to meeting the low-cost and high-efficiency testing requirements in the network equipment manufacturing field. By providing customized services such as factory MES system integration and secondary development base on API interface, it can further enhance the quality control and efficiency improvement of network communication products during the manufacturing phase.

Key Features

- Support six 10M~400G Ethernet traffic test modules
- Support wireless coupling and Wi-Fi test modules
- High port density, saving investment
- Support dozens of regular test cases based on flexible and configurable testing modules
- Support multi- product automatic synchronous and asynchronous testing
- Support automatic and manual test modes
- Support MES integration and automatic upload of test logs
- Support secondary development based on API interface

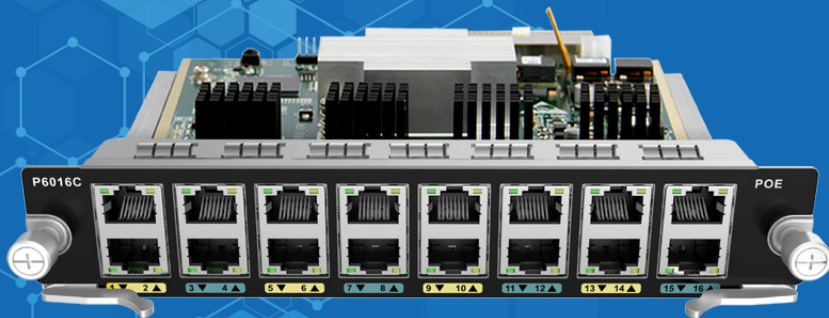


High port density

Specifications

Slot	6 Slots
Dimensions	446mm x 413mm x 132mm
Weight	Empty chassis (with panel) : about 12.5kg With full slots and cards : about 20kg
Switch / display	<ul style="list-style-type: none"> • Rear AC power switch • Power, Fan, Temp, Link LED Indicator light , OLED display screen • Chassis Reset Button • Chassis OLED control button
IO interface	<ul style="list-style-type: none"> • 1 DB15 display interface • 1 RJ45 10/100/1000M BaseT Management interface • 1 RJ45 10/100/1000M 1588 Clock input interface • 1 RJ45 RS232 Serial port • 1 SYNC-OUT、1 SYNC-IN Chassis cascade interface • 1 DB9 GPS RS232 Serial port • 1 1PPS、1 10MHz input BNC • 1 IRIG-B DC TTL input BNC • 2 USB Type A interfaces
Temperature	Operating: 0° C to 35° C Storage: -40° C to 70° C
humidity	Work: 20% to 85% Relative humidity, no condensation Store: 20% to 85% Relative humidity
Power supply	1 route 110VAC / 220VAC 50 / 60HZ@3A single-phase power input
Noise	Full-load noise of the whole machine ≤ 65dba
Operating system	CentOS6.7 and above, 64bit
Network management	<ul style="list-style-type: none"> • Compatible with IPV4 and IPV6 Management Network • Support Panel keys to modify Ip Address and Query Status • Support Telnet / SSH Terminal to Modify Ip and Query Status • Support external display and keyboard to modify Ip and Query Status • Support web page download client, modify Ip, Query Status • Support License management and Hardware Management by client software
Supported software	TeleATT: Automatic Network Flow Testing Software for manufactory
Minimum PC requirements	OS: Microsoft Windows XP/ Windows 7 and above CPU: Intel Atom N2600 @1.60GHZ and above Memory: 2 GB and above
Supported test modules	<ul style="list-style-type: none"> • Series P6000 1G Test Modules (10M/100M/1000M) • Series P8000 10G Test Modules (10G) • Series P2-10G/P2-2.5G multi-speed Test Modules (100M/1G/2.5G/5G/10G) • Series P2-100G multi-speed Test Modules (10G/25G/40G/50G/100G) • P2-400G multi-speed Test Modules (100G/200G/400G) • P6216W/P6008W Wi-Fi test modules

BigTao P6000



The Series P6000 test module support up to 16 gigabit interfaces, including optical(SFP) and electrical(RJ45) media, and is suitable for BigTao210 and BigTao6100. With the special automatic test software: TeleATT, it can support more than 30 kinds of testcases, such as aggregation, interaction, loop back, as well as various package configurations and frame length templates, and support batch synchronous and asynchronous testing on the production line to achieve full automation of the test process to ensure a comprehensive, efficient and automated.

Key Features

- 10/100/1000M Copper RJ45 interface
- 100/1000M Fiber SFP interface
- Support ethernet L2-3 traffic test
- Line-speed packet generation, analyzation, and capture functions based on hardware
- Support routing forwarding between testing service ports and chassis control ports
- Support multi-product automatic synchronous and asynchronous testing
- Support MES integration and automatic upload of test logs
- Support secondary development based on API interface

Modules



P6016C
16-Port RJ45 1G Test Module



P6016F
16-Port SFP 1G Test Module



P6016D
12-Port RJ45 and 4-Port SFP
1G Test Module

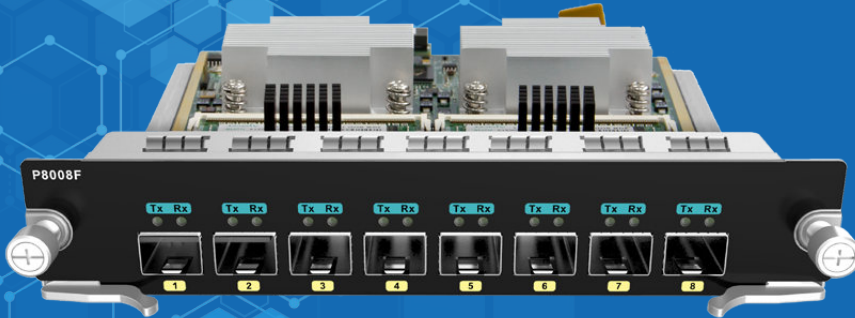


P6016E
8-Port RJ45 and 8-Port SFP 1G
Test Module

Specifications

Hardware and Electrical characteristics	
Port type	Copper RJ45 : 10M/100M/1000M; Fiber SFP : 100M/1000M
Port density	Maximum 16 ports per module
Interface standard	1000BASE-SX; 1000BASE-LX; 10/100/1000BASE-T; 100BASE-FX
User reservation	per one port
Speed switching mode	Auto negotiation (RJ45) or Forced rate mode (RJ45, Fiber)
Weight	1.1 kg
Dimension(W*H *D)	196mm x 35.5mm x 271mm
Temperature	0° C to 35° C
Humidity	20% to 85%
Power consumption	≤ 29W
Traffic Generation	
Maximum tx streams	64 per port
Frame size (without CRC)	64-16000(RJ45 interface, SFP gigabit interface); 64-9216(100M SFP optical interface)
Frame size type	Fixed, Increment, Random
Variable field per stream	Support source MAC increment
Traffic schedule modes	Continuous, Packet burst, and Time burst per port
Load profile type	Rate per port, Rate per stream
Frame timestamp resolution	8 ns
User-defined data	Support 128 bytes user defined data
Flow control	Full duplex flow control, Half duplex back pressure
Error Insertion frame	oversize frame
Packet Analyzer	
Maximum rx streams	256 per port
Statistical item(port)	Tx/Rx frame counts and rates, Rx error frame counts
Statistical item(stream)	Tx/Rx stream frame counts and rates, Rx error frame counts, Rx out of sequence errors
Packet Capture	
Capture buffer size	16K bytes per port
Capture mode	1) capture received packets at the data and control plane 2) capture transmitted/received packets at control plane 3) Control plane Error packets
Protocol Emulation	
Protocol	ARP/RARP、ICMPv4、Telnet、DHCPv4
NAT	routing forwarding between testing service ports and chassis control ports (ICMPv4、TCP/UDP over IPv4) , support various DUT control protocols such as Telnet, Http, SSH, etc.
Software Platform	
Test Software	TeleATT: Automatic Network Flow Testing Software for manufactory HunterATE: Hunter Automated Test Equipment Software Platform
API interface	TeleAPI (C / C#) , HTTP
Language	Simplified Chinese, English
Hardware Platform	
Chassis	BigTao210, BigTao6100

BigTao P8000



The Series P8000 test modules support up to 8 ports 10-Gigabit interfaces, suitable for the BigTao210/6100 chassis. With the special automatic test software: TeleATT, it can support more than 30 kinds of testcases such as aggregation, interaction, loopback, as well as various package configurations and frame length templates, and support batch synchronous and asynchronous testing on the production line to achieve full automation of the test process to ensure a comprehensive, efficient, and automated.

Key Features

- Support up to 8 10-Gigabit ports per module
- Support ethernet 2–3-layer flow test
- Wire-speed packet generation, statistics, and capture functions based on hardware
- Support routing forwarding between testing service ports and chassis control ports
- Support multi-product automatic synchronous and asynchronous testing
- Support MES integration and automatic upload of test logs
- Support secondary development based on API interface

Modules



P8004F
4-Port SFP+ 10G Test Module



P8008F
8-Port SFP+ 10G Test Module

Specifications

Hardware and Electrical characteristics	
Port type	Fiber SFP : 10G
Port density	Maximum 8 ports per module
Interface standard	10GBASE-SR/SW、10GBASE-LR/LW
User reservation	per one port
Speed switching mode	Forced: 10 G
Weight	1.2 kg
Dimensions (W*H *D)	196mm x 35.5mm x 271mm
Temperature	0° C to 35° C
Humidity	20% to 85%
Power consumption	≤ 29W
Traffic Generation	
Maximum tx streams	256 per port
Frame size (without CRC)	61-16000
Frame size type	Fixed, Increment, Random
Variable field per stream	Support source MAC increment
Traffic schedule modes	Continuous, Packet burst, and Time burst per port
Load profile type	Rate per port, Rate per stream
Frame timestamp resolution	8 ns
User-defined data	Support 128 bytes user defined data
Flow control	Full duplex flow control
Error Insertion frame	CRC error, undersize frame, oversize frame
Packet Analyzer	
Maximum rx streams	1024 per port
Statistical item(port)	Tx/Rx frame counts and rates, Rx error frame counts
Statistical item(stream)	Tx/Rx stream frame counts and rates, Rx error frame counts, Rx out of sequence errors
Packet Capture	
Capture buffer size	32K bytes per port
Capture mode	1) capture received packets at the data and control plane 2) capture transmitted/received packets at control plane 3) Control plane Error packets
Protocol Emulation	
Protocol	ARP/RARP、ICMPv4、Telnet、DHCPv4
NAT	routing forwarding between testing service ports and chassis control ports (ICMPv4、TCP/UDP over IPv4) , support various DUT control protocols such as Telnet, Http, SSH, etc.
Software Platform	
Test software	TeleATT, HunterATE
API interface	TeleAPI (C / C#) , HTTP
Language	Simplified Chinese, English
Hardware Platform	
Chassis	BigTao210, BigTao6100

BigTao P2-10G

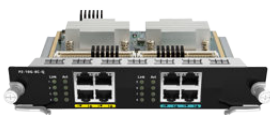


The series P2-10G modules support up to 16 multi-speed modes interfaces (10G / 5G / 2.5G / 1G / 100M). include optical and electric media, suitable for the BigTao series chassis. With the special automatic test software: TeleATT, it can support more than 30 kinds of testcases such as aggregation, interaction, loopback, as well as various package configurations and frame length templates, and support batch synchronous and asynchronous testing on the production line to achieve full automation of the test process to ensure a comprehensive, efficient, and automated.

Key Features

- Support up to 16 multi-speed modes ports per test module (10G/5G/2.5G/1G/100M)
- Support ethernet 2–3-layer flow test
- Wire-speed packet generation, statistics, and capture functions based on hardware
- Support routing forwarding between testing service ports and chassis control ports
- Support multi-product automatic synchronous and asynchronous testing
- Support MES integration and automatic upload of test logs
- Support secondary development based on API interface

Modules



P2-10G-8C-Q
8-Port RJ45 10G 5-Speed
Test Module



P2-10G-16F
16-Port SFP+ 10G 4-Speed
Test Module



P2-10G-8F
8-Port SFP+ 10G 4-Speed
Test Module



P2-10G-4F
4-Port SFP+ 10G 4-Speed
Test Module



P2-10G-16C
16-Port RJ45 10G 5-Speed
Test Module



P2-10G-8C
8-Port RJ45 10G 5-Speed
Test Module

Specifications

Hardware and Electrical characteristics	
Port type	P2-10G-16F/8F/4F: 10G/2.5G/1G(SFP+) ; 10G/5G/2.5G/1G/100M(RJ45) P2-10G-16C/8C/8C-Q: 10G/5G/2.5G/1G/100M
Port density	P2-10G-16*: 16 ports/card; P2-10G-8*: 8 ports/card; P2-10G-4*: 4 ports/card
Interface standard	100MBASE-T, 1000MBASE-T, 2.5GBASE-T, 5GBASE-T, 10GBASE-T, 1GBASE-R, 2.5GBASE-R, 10GBASE-R
User reservation	Per one port
Speed switching mode	Copper RJ45: Auto negotiation or Forced speed mode; Fiber SFP+: Manual switch ; RJ45-SFP+: Auto negotiation
Weight	1.1 kg
Dimensions (W*H*D)	196mm x 35.5mm x 271mm
Temperature	0° C to 35° C
Humidity	20% to 85%
Power consumption	16-port module: ≤ 60 W ; 8/4-port module: ≤ 35 W
Traffic Generation	
Maximum tx streams	P2-10G-Q: 256 P2-10G-16F/8F/4F/16C/8C: 128
Frame size (without CRC)	61-16000
Frame size type	Fixed, Increment, Random
Variable field per stream	Support source MAC increment
Traffic schedule modes	Continuous, Packet burst, and Time burst per port
Load profile type	Rate per port, Rate per stream
Frame timestamp resolution	8 ns
User-defined data	Support 128 bytes user defined data
Flow control	Full duplex flow control
Error Insertionframe	CRC error, undersize frame, oversize frame
Packet Analyzer	
Maximum rx streams	P2-10G-Q: 512 per port, P2-10G-16F/8F/4F/16C/8C: 256 per port
Statistical item(port)	Tx/Rx frame counts and rates, Rx error frame counts
Statistical item(stream)	Tx/Rx stream frame counts and rates, Rx error frame counts, Rx out of sequence errors
Packet Capture	
Capture buffer size	32K bytes per port
Capture mode	1) capture received packets at the data and control plane 2) capture transmitted/received packets at control plane 3) Control plane Error packets
Protocol Emulation	
Protocol	ARP/RARP、ICMPv4、Telnet、DHCPv4
NAT	routing forwarding between testing service ports and chassis control ports (ICMPv4、TCP/UDP over IPv4) , support various DUT control protocols such as Telnet, Http, SSH, etc.
Software Platform	
Test software	TeleATT, HunterATE
API interface	TeleAPI (C / C#) , HTTP
Language	Simplified Chinese, English
Hardware Platform	
Chassis	BigTao210, BigTao6100

BigTao P2-100G



The series P2-100G modules can support up to 4 100G-interfaces and can be compatible or split into 4*100G/ 4*50G/4*40G/16*25G/16*10G multiple interface configurations. suitable for the BigTao series chassis. With the special automatic test software: TeleATT, it can support more than 30 kinds of testcases such as aggregation, interaction, loopback, as well as various package configurations and frame length templates, and support batch synchronous and asynchronous testing on the production line to achieve full automation of the test process to ensure a comprehensive, efficient, and automated.

Key Features

- Support QSFP28 100G NRZ interface
- Compatible with 40G/50G interface
- Split support for 10G/25G interface
- Support ethernet 2–3-layer flow test
- Wire-speed packet generation, statistics, and capture functions based on hardware
- Support multi-product automatic synchronous and asynchronous testing
- Support MES integration and automatic upload of test logs
- Support secondary development based on API interface

Modules



P2-100G-4QSFP28-X
4-Port 5-Speed
100G/50G/40G/25G/10G Test
Module



P2-100G-2QSFP28-X
2-Port 5-Speed
100G/50G/40G/25G/10G
Test Module



P2-100G-4QSFP28-Q
4-Port 4-Speed
100G/40G/25G/10G Test
Module



P2-100G-2QSFP28-Q
2-Port 4-Speed
100G/40G/25G/10G Test
Module



P2-100G-4QSFP28-T
4-Port 3-Speed 100G/40G/10G Test
Module



P2-100G-2QSFP28-T
2-Port 3-Speed 100G/40G/10G Test
Module



P2-100G-4QSFP28-D
4-Port 2-Speed 100G/25G Test
Module



P2-100G-2QSFP28-D
2-Port 2-Speed 100G/25G Test
Module



P2-100G-4QSFP28-S
4-Port 100G Test Module



P2-100G-2QSFP28-S
2-Port 100G Test Module

Specifications

Hardware and Electrical characteristics	
Port type	QSFP28: 100G/50G/40G/25G/10G
Port density	4/2 ports per card (Max)
Interface standard	100G : 100GBASE-SR4, 100GBASE-LR4 50G : 50GBASSE-LR1 40G : 40GBASE-SR4, 40GBASE-LR4 25G : 802.3by 25GBASE-SR 10G : 10GBASE-SR 100G FEC : 100GBase-SR4 RS-FEC91 50G FEC : 50GBASSE-LR1 BASE-KR FEC&RS-FEC (528,514) or Soft FEC RS (544 , 514) 25G FEC : 25GBase-SR RS-FEC108、25GBase-SR FEC CL74、 25GBase-SR RS-FEC CL91
User reservation	Per one port
Speed switching mode	Forced
Weight	1.2 kg
Dimensions (W*H *D)	196mm x 35.5mm x 271mm
Temperature	0° C to 35° C
Humidity	20% to 85%
Power consumption (W)	≤ 45 W
Traffic Generation	
Maximum tx streams	100G/50G/40G: 1024; 25G/10G: 256 per port
Frame size (without CRC)	64-16000
Frame size type	Fixed, Increment, Random
Variable field per stream	Support source MAC increment
Traffic schedule modes	Continuous, Packet burst, and Time burst per port
Load profile type	Rate per port, Rate per stream
Frame timestamp resolution	8 ns
User-defined data	Support 128-byte user defined field
Flow control	Full duplex flow control
Error Insertion frame	oversize frame
Packet Analyzer	
Maximum rx streams	100G/50G/40G: 2048; 25G/10G: 512 per port
Statistical item(port)	Tx/Rx frame counts and rates, Rx error frame counts
Statistical item(stream)	Tx/Rx stream frame counts and rates, Rx error frame counts, Rx out of sequence errors
Packet Capture	
Capture buffer size	32K bytes per port
Capture mode	1) capture received packets at the data and control plane 2) capture transmitted/received packets at control plane 3) Control plane Error packets
Protocol Emulation	
Protocol	ARP/RARP、ICMPv4、Telnet、DHCPv4
Software Platform	
Test software	TeleATT
API interface	TeleAPI (C / C#) , HTTP
Language	Simplified Chinese, English
Hardware Platform	
Chassis	BigTao210, BigTao6100

BigTao P2-400G



The P2-400G modules can support up to 2 400G QSFP-DD interfaces and can be compatible 2*100G/ 2*200G. and suitable for the BigTao series chassis. With the special automatic test software: TeleATT, it can support more than 30 kinds of testcases such as aggregation, interaction, loopback, as well as various package configurations and frame length templates, and support batch synchronous and asynchronous testing on the production line to achieve full automation of the test process to ensure a comprehensive, efficient, and automated.

Key Features

- Support 400G QSFP-DD interface
- Compatible with 200G/100G interface
- Support ethernet 2–3-layer flow test
- Wire-speed packet generation, statistics, and capture functions based on hardware
- Support multi-product automatic synchronous and asynchronous testing
- Support MES integration and automatic upload of test logs
- Support secondary development based on API interface

Modules



P2-400G-2QDD-Q
2-Port 100G/200G/400G
Test Module

Specifications

Hardware and Electrical characteristics	
Port type	QSFP-DD: 100G/200G/400G
Port density	2 ports per card
Interface standard	400G : 400GAUI-8 (PAM4) 400G FEC : 802.3-2018 CL119
User reservation	Per one port
Speed switching mode	Forced
Weight	1.1 kg
Dimensions (W*H *D)	196mm x 71mm x 271mm
Temperature	0° C to 35° C
Humidity	20% to 85%
Power consumption (W)	≤ 45 W
Traffic Generation	
Maximum tx streams	400G: 256 ; 200G : 256 ; 100G : 64 (per port)
Frame size (without CRC)	64-16000
Frame size type	Fixed, Increment, Random
Variable field per stream	Support source MAC increment
Traffic schedule modes	Continuous, Packet burst, and Time burst per port
Load profile type	Rate per port, Rate per stream
Frame timestamp resolution	2.5ns
User-defined data	Support 128-byte user defined field
Flow control	Full duplex flow control
Error Insertion frame	oversize frame
Packet Analyzer	
Maximum rx streams	400G : 256 ; 200G : 256 ; 100G : 64 (per port)
Statistical item(port)	Tx/Rx frame counts and rates, Rx error frame counts, Rx FCS error counts etc.
Statistical item(stream)	Tx/Rx stream frame counts and rates, Rx error frame counts, Rx out of sequence errors etc.
Packet Capture	
Capture buffer size	32K bytes per port
Capture mode	capture received packets at the data and control plane capture transmitted/received packets at control plane Control plane Error packets
Protocol Emulation	
Protocol	ARP/RARP、ICMPv4、Telnet、DHCPv4
Software Platform	
Test software	TeleATT
API interface	TeleAPI (C / C#) , HTTP
Language	Simplified Chinese, English
Hardware Platform	
Chassis	BigTao210, BigTao6100

P6008W Wi-Fi Traffic Test Module



The P6008W Wi-Fi Traffic Test Module support 8 group Radio interface,two SMA one group; suitable for BigTao210 and BigTao6100 chassis. and supports Wi-Fi6/Wi-Fi5 protocols and testcases such as device's Tx transmission power, Rx packet loss rate, and wireless throughput without shielded box. and is primarily used for Wi-Fi traffic testing of wireless routers, PON terminals, and other similar products When combined with wired traffic test module. and support batch synchronous and asynchronous testing to achieve full automation of the manufacturing test process to ensure a comprehensive, efficient, and automated.

Key Features

- Support Wi-Fi6 (compatible with Wi-Fi5, Wi-Fi4, etc.) protocols
- Support checking Wi-Fi connection protocol type, channel, bandwidth, signal quality, power, etc.
- Support statistics of sent/received packet count in traffic testing
- Support automated synchronous and asynchronous testing
- Support MES integration and automatic upload of test logs
- Support secondary development based on API interface

Specifications

Hardware and electrical characteristics	
Port Type	SMA Female
Port density	16 (2 ports 1 group)
User reservation	Per one group
Weight (kg)	1.3
Dimensions (W*H *D)	196mm x 35.5mm x 271mm
Temperature	0° C to 35° C
Humidity	20% to 85%
Power consumption (W)	≈ 20 W
RF metrics	
Frequency range	300M-6G
Power range	-30 ~ +15dBm
Power precision	<0.5dB
Port isolation	60dBm
EVM (dB)	<-46dB (when power is -10dBm)

Traffic Statistics	
Wi-Fi protocols	Wi-Fi6、 Wi-Fi5
Authentication protocols	open, WPA
access SSID performance	3 second
2.4G input power	-25 ~ -5 dBm
5.8G input power	-35 ~ -15dBm
Check Items	Wi-Fi protocol type, Channel, bandwidth, signal quality, power
Statistical item(port)	Tx/Rx stream frame counts
Software Platform	
Test software	TeleATT: Automatic Network Flow Testing Software for manufactory
API interface	TeleAPI (C / C#) , HTTP
Language	Simplified Chinese, English
Hardware Platform	
Chassis	BigTao210, BigTao6100

P6216W Coupling Test Module

The P6216W Coupling Test Module provides 16 SMA ports and supports the testing of the Tx power metrics. Through expansion, it can meet the testing requirements of next-generation wireless products and is suitable for BigTao210 and BigTao6100 chassis. It is primarily used for production testing of similar products such as wireless routers and PON terminals. With the HunterATE/TeleATT software platform, supports automated one-station integration system-test, and greatly improving manufacturing test efficiency.



Key Features

- Testing frequency range: 400M~6G, supporting Wi-Fi4, Wi-Fi5, Wi-Fi6, Wi-Fi6e, and more.
- 16 independent testing channels, supporting parallel testing of 16 DUTs.
- Support integration with BigTao210/6100 chassis.
- Support integrated testing with wired traffic
- Support MES integration, automatic upload of test logs
- Support secondary development based on API interfaces

Specifications

Hardware and electrical characteristics	
Port Type	SMA Female
Port density	16
User reservation	Per one port
Weight	1.2kg
Dimensions (W*H *D)	196mm x 35.5mm x 271mm
Temperature	0° C to 35° C
Humidity	20% to 85%
Power consumption	≈ 10 W
RF metrics	
Frequency range	400M-6000MHZ
Frequency resolution	1HZ
Power range	-50 ~ +5dBm
Power Precision	±0.5dB
Standing Wave Ratio (SWR)	Typ.1.20/Max.1.5 (0.5-3GHZ) Typ.1.30/Max.1.7 (3-6GHZ)
Signal sample period	≤ 0.2 second
Software Platform	
Test software	TeleATT, HunterATE
API interface	TeleAPI (C / C#), HTTP
Language	Simplified Chinese, English
Hardware Platform	
Chassis	BigTao210, BigTao6100

Hunter CW6000 Coupled Tester



Hunter CW6000 Coupled Test Instrument provides 16 independent testing channels, supporting parallel testing of 16 DUTs, and is a high-performance multi-channel RF power meter designed for measuring various complex waveforms. It is specifically designed for testing digital communication signals such as Wi-Fi, BT, LTE, etc., effectively solving the measurement issues of power and amplitude for complex waveforms. It is suitable for measurement and maintenance in various wireless communication industries.

Key Features

- Testing frequency range: 400M~6G, supporting Wi-Fi 4, Wi-Fi 5, Wi-Fi 6, Wi-Fi 6e, and more
- 16 independent testing channels, supporting parallel testing of 16 DUTs
- Support integrated with traffic test modules for one-stating system tests
- Support MES integration, automatic upload of test logs
- Support secondary development based on API interfaces

Specifications

Hardware and electrical characteristics

Port Type	SMA Female
Port density	16
User reservation	Per one port
Weight	4 kg
Dimensions (W*H*D)	350mm*440mm*110mm
Temperature	-0° C to +35° C
Humidity	20% to 85%
Power consumption	50W
Management interface	RJ45

RF metrics

Frequency range	400MHZ---6000MHZ
Frequency resolution	1HZ
Power range	-50dBm---+5dBm
Power Precision	±0.5dBm
Signal sample period	≤ 0.2 second
Standing Wave Ratio (SWR)	Typ.1.20/Max.1.5 (0.5-3GHZ)
	Typ.1.30/Max.1.7 (3-6GHZ)

Software Platform

Test software	TeleATT, HunterATE
Language	Simplified Chinese, English

Hunter BERT-10G-4F



Hunter BERT-10G-4F is a multi-channel, multi rate, high-performance, and high-quality bit error rate tester. It includes a pattern generator, clock generation and recovery circuit, and error code analyzer; Provide an integrated computer graphical interface interface for controlling error codes and API software interfaces for users to program and control; Lower power consumption and compact size make building a testing environment simpler.

Key Features

- Support 4 independent PRBS generators and 4 independent PRBS analyzers, with external SFP optical interfaces
- Support rates: 155M, 622M, 1.25G, 2.125G, 2.488G, 2.5G, 2.67G, 3.125G, 4.25G, 6.144G, 6.25G, 8.5G, 9.95G, 10.3G, 10.71G, 11.1G, 11.3G, 12.5G, 14G, 15G
- Support code types: PRBS 2^7-1 , PRBS 2^9-1 , PRBS $2^{15}-1$, PRBS $2^{23}-1$, PRBS $2^{31}-1$
- Equipped with a display screen, supporting button control and PC graphical interface control
- Provide DLL software interface and support secondary development
- Supports 1 differential clock output, SMA interface

Specifications

Hardware and electrical characteristics	
Power	220V AC
Dimension(W*H*D)	340mm*115mm*240mm
Weight	4kg
Power consumption	30W
Communication interface	USB, supports programmable control
Operating temperature	-10~55° C
Storage temperature	-40~85° C
Humidity	15%~85%
Error bit interface indicators	
Port number	4
Port type	SFP/SFP+ Optical interface
Rate	155M, 622M, 1.25G, 2.125G, 2.488G, 2.5G, 2.67G, 3.125G, 4.25G, 6.144G, 6.25G, 8.5G, 9.95G, 10.3G, 10.71G, 11.1G, 11.3G, 12.5G, 14G and 15G, Generator&detector support data inversion
PRBS code type	PRBS 2^7-1 , PRBS 2^9-1 , PRBS $2^{15}-1$, PRBS $2^{23}-1$, PRBS $2^{31}-1$
Frequency accuracy	50ppm
Clock interface indicators	
Port number	1 pair of differential clocks
Port type	2*SMA
Frequency	77.76M~3.8G 1/4 clock for speeds of 7.4Gbps and above, and 1/2 clock for speeds of 7.4Gbps and below
Software Platform	
Test software	HunterATE-BOB
Language	Simplified Chinese, English

Hunter OCT-8 Tester



Hunter OCT-8 BOB comprehensive test instrument is specifically designed for the calibration and verification PON interface of EPON/GPON/XGPON/XGSPON/FTTR . and provides 8 independent BOB test optical paths in a compact 1U standard chassis. and enables the connection, switching, and power monitoring between the ONU and all instruments. and greatly simplifying the BOB test optical path connections and saving space. It offers high testing efficiency, good precision, simple operation, and excellent cost performance ratio.

Key Features

- Support testing EPON/GPON/XGPON/XGSPON/FTTR
- Support connection, switching, and power monitoring between ONUs, OLT, BERT, ERM, and eye pattern instrument
- Support up to 16 DUTs, allowing for parallel testing 8 DUTs with 8 DUTs for waiting, or 16 parallel verifications
- Support power monitoring in the upstream direction for 8 channels
- Support attenuation adjustment and output power monitoring in the downstream direction for 8 channels
- Support extinction ratio optical path with in the upstream direction, connected to an ERM for 8 channels
- Support business testing in the upstream direction for 8 channels, with connections to BERT or OLT
- Support 8-to-1 eye pattern testing in the upstream direction, allowing for comprehensive analysis
- Provide a graphical configuration and calibration tool, with control commands for programmable testing
- Support integration with MES and automatic upload testing log

Specifications

Hardware and electrical characteristics	
Dimensions(W*H*D)	56mm × 440mm × 435mm
Weight	≈ 5KG
Power supply	220V AC
Power consumption	15W
Management interface	USB or RJ45
Operating temperature	20~35° C
Storage temperature	0~45° C
Humidity	15%~85%
Flange type	FC UPC,33PCS

Hunter OCT-8A Optical metrics

Channels	8
Insertion loss(upstream)	BOB-EXT: <8dB BOB-DSA: <7dB BOB-OLT: 15~20dB
Insertion loss(downstream)	OLT-BOB: <4dB
Optical isolation	60dB
VOA Spec	Wave length: 1310/1490/1550nm Loss Range: 0~40dB (excluding inherent insertion loss) Loss Resolution: 0.01dB Loss Accuracy: 0.2dB Repeatability: 0.1dB
OPM spec	Wave Length: 1270/1310/1490/1550/1577 Power Range: 10~-50dBm Linearity: 0.1dB(10~-30dBm); 0.2dB(-30~-50dBm) Total Uncertainty: 0.5dB

Hunter OCT-8B Optical metrics

Channels	16
Insertion loss(upstream)	BOB-EXT: <8dB BOB-DSA: <7dB BOB-OLT: 15~20dB
Insertion loss(downstream)	OLT-BOB: <4dB
Optical isolation	60dB
VOA Spec	Wave Length: 1310/1490/1550nm Power Range: 0~40dB (excluding inherent insertion loss) Loss Resolution: 0.01dB Loss Accuracy: 0.2dB Repeatability: 0.1dB
OPM spec	Wave Length: 1270/1310/1490/1550/1577 Power Range: 10~-50dBm Linearity: 0.1dB(10~-30dBm);0.2dB(-30~-50dBm) Total Uncertainty: 0.5dB

Hunter OCT-8A+ Optical metrics

Channels	8, compatible with ONU, FTTR testing
Insertion loss(upstream)	BOB-EXT: <10dB BOB-DSA: <5dB BOB-BERT 15~20dB
Insertion loss(downstream)	BERT-BOB: <4dB
Optical isolation	60dB
VOA Spec	Wave Length: 1310/1490/1550nm Loss Range: 0~40dB (excluding inherent insertion loss) Loss Resolution: 0.01dB Loss Accuracy: 0.2dB Repeatability: 0.1dB
OPM spec	Wave Length: 1270/1310/1490/1550/1577 Power Range: 10~-50dBm Linearity: 0.1dB(10~-30dBm);0.2dB(-30~-50dBm) Total Uncertainty: 0.5dB

Software Platform

Test software	HunterATE-BOB
Language	Simplified Chinese, English

Note: The accuracy of the power monitoring of refers to the accuracy of the entire test system after calibration with a standard power meter.

Hunter ERM-2500-8



Hunter ERM-2500-8 is a 1.25G/2.5G extinction ratio test instrument ,and provides 8 independent testing channels in a compact 1U standard chassis, supporting the measurement of extinction ratio and input optical power of input signals. It features high precision, fast speed, low power consumption, and small size. It can be widely used for BOB testing of EPON/GPON/XGPON/XGSPON, etc.

Key Features

- Support testing EPON/GPON/XGPON
- Support 8-channel 1.25G~2.5G extinction ratio testing
- Support 8-channel input optical power monitoring
- Support calibrating extinction ratio online
- Support MES integration, automatic upload of test logs
- Support graphical interface control
- Support secondary development based on API interfaces

Specifications

Hardware and electrical characteristics	
Port type	FC UPC
Port density	8
Power supply	220V AC
Power consumption	15W
Management interface	USB+API
Operating temperature	20~35° C
Storage temperature	0~45° C
Humidity	15%~85%
Extinction Ratio metrics	
Speed	1.25G/2.5G
Input Optical Power	5~-10dBm
ER-Range	6~18dB
ER-Precision	0.5dB(6~12dB) 0.8dB(12~16dB) 1.0dB(16~18dB)
OPM-Range	-33dBm~+27dBm
OPM-Precision	0.2dB
Software Platform	
Test software	HunterATE-BOB
Language	Simplified Chinese, English

Note: The precision of both Extinction Ratio and Optical Power Monitor refer to the precision after calibration using standard instruments.

Hunter ERM-10G

Hunter ERM-10G is a 1.25G/2.5G/10G extinction ratio test instrument, and provides 8 independent testing channels in a compact 1U standard chassis, supporting the measurement of extinction ratio and input optical power of input signals. It features high precision, fast speed, low power consumption, and small size. It can be widely used for BOB testing of EPON/GPON/XGPON/XGSPON/FTTR, etc.



Key Features

- Support testing EPON/GPON/XGPON/ XGSPON
- Support 8-channel 1.25G~10G extinction ratio testing
- Support 8-channel input optical power monitoring
- Support calibrating extinction ratio online
- Support MES integration, automatic upload of test logs
- Support graphical interface control
- Support secondary development based on API interfaces

Specifications

Hardware and electrical characteristics

Port type	FC UPC
Port density	8
Power supply	220V AC
Power consumption	15W
Management interface	RJ45+API
Operating temperature	20~35° C
Storage temperature	0~45° C
Humidity	15%~85%

Extinction Ratio metrics

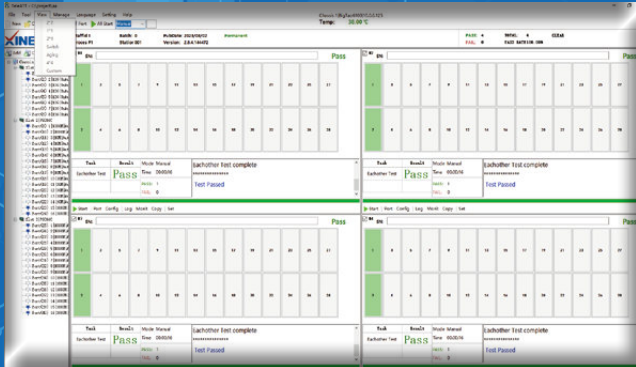
Speed	1.25G/2.5G/10G
Input Optical Power	-15 ~ 5dBm
OPM-Range	-30 ~ 7dB
ER-Range	4~19dB
ER-Precision	0.5dB (6~15dB) 0.7dB (4~6dB、 15~19dB)
Sample Period	< 100ms

Software Platform

Test software	HunterATE-BOB: Hunter Automated Test Equipment Software for BOB calibration and verification
Language	Simplified Chinese, English

Note: The precision of both Extinction Ratio and Optical Power Monitor refer to the precision after calibration using standard instruments.

TeleATT

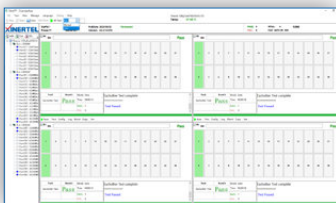


TeleATT is automatic network flow testing software for manufactory. delivers more than 30 kinds of testcases such as aggregation, interaction, loopback, as well as various package configurations and frame length templates with BigTao chassis and series P test modules. and supports batch synchronous and asynchronous testing on the production line to achieve full automation of the test process to ensure a comprehensive, efficient, and automated.

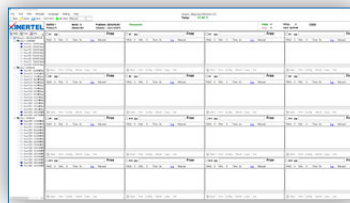
Key Features

- Support upto 16 devices test
- Support multi-product automatic synchronous and asynchronous testing
- Support MES integration and automatic upload of test logs
- Support secondary development based on API interface
- Delivers more than 30 kinds of testcases (convergence test, routing test, wireless coupling, telnet function test, etc.)

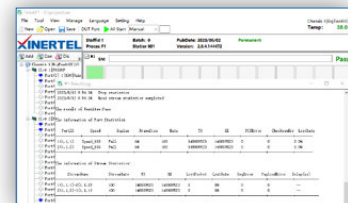
GUI overview



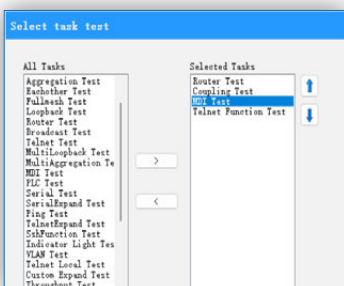
One click automatic test



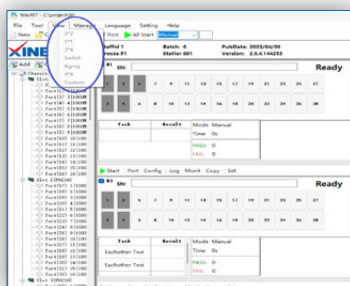
Multi window parallel testing



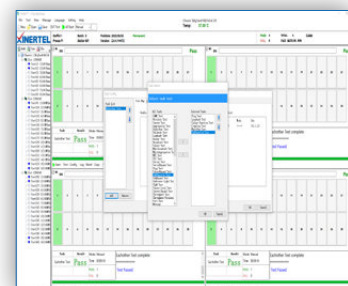
Quick view of test log



Preset a variety of test tasks



Flexible switching of multi view

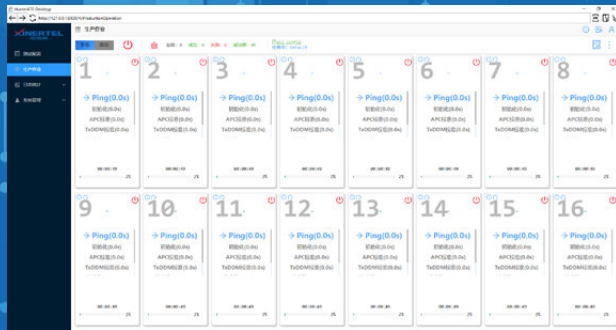


Support integrated function test

Specifications

Chassis management	
Chassis	BigTao 210、BigTao 6100
Management	Add, remove, connect, and disconnect
Operation	Restart, close, upgrade software
License management	Upload, download, clean up, merge, and delete license
Testcase	
Test cases	Aggregation Test, Fullmesh Test, Loopback Test, Router Test, Broadcast Test, Throughput Test, VLAN Test, MultiWan Test, MDI Test, Ping Test, Telnet Function Test, SSH Function Test, Coupling Test, Wireless traffic Test, Web Check, Port Test, Custom Expand Test, etc.
Software interface	
Secondary development	String command base on telnet, python, XML script
GUI language	English, Simplified Chinese

HunterATE Test Platform

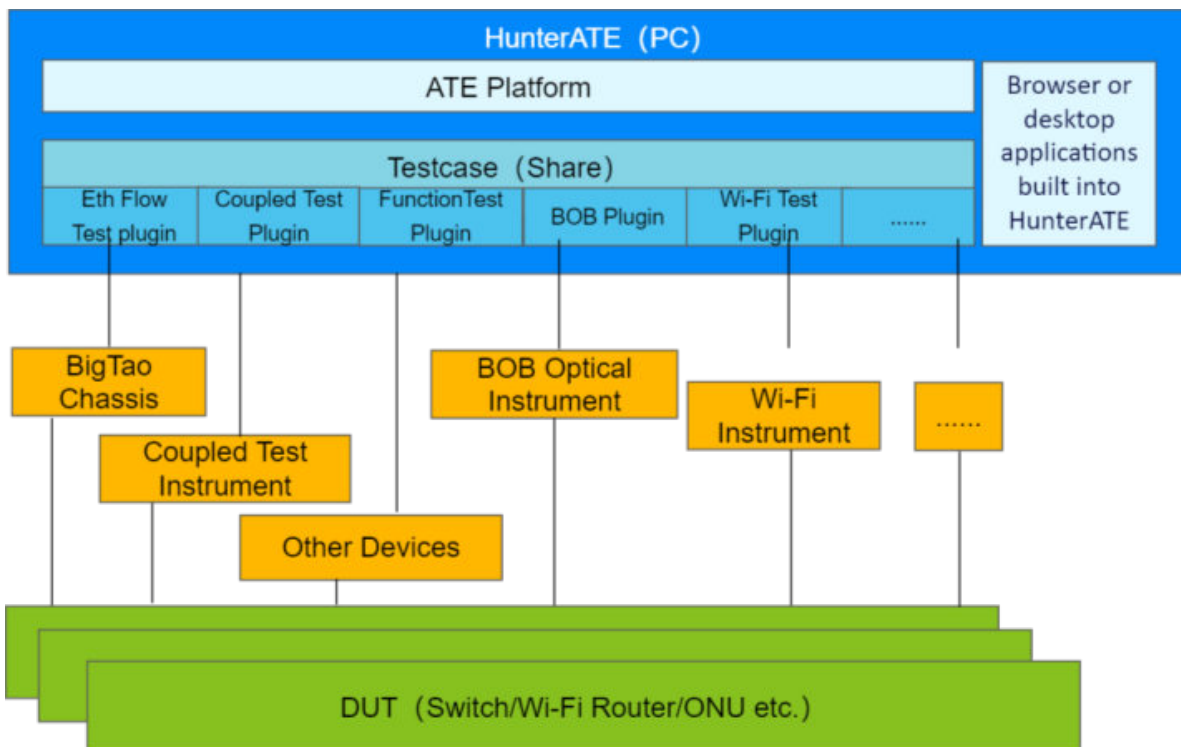


HunterATE test platform is a new Browser/Server architecture automated testing system developed by XINERTEL, which can be used for automated testing of network products, terminal products, etc. It supports testing software development, debugging, production automation release, data collection, data analysis and statistics, and other full process testing support. By adopting visual configuration, the difficulty of software development is reduced. With rich instrument library support, it can quickly complete testing software development and production environment deployment, helping enterprise users easily cope with the rapid growth of testing business and future business development.

Architecture

HunterATE is a BS architecture testing system that runs on Windows and can be accessed through browsers or built-in desktop applications. The plug-in architecture ensures weak coupling between various functions, making it easy to maintain and develop.

Unlike other production test platforms where each fixture has a set of configurations, which are configured by copying between different configurations, HunterATE uses shared test items and simple key value mapping to maintain the correlation between testing equipment (ports, channels, etc.) and different fixtures.



Advantages and Features



Highly Integrated, Fully Test items

- Supports over 30 functional test-items, including traffic testing, LED indicator recognition, VOIP voice testing, coupling testing, Bluetooth testing, BOB debugging, etc.
- Supports test group combined of any test-items, allowing for the construction of various complex scenarios to meet customers' diverse testing needs;
- Supports test groups to meet various combination and control requirements (conditional execution, conditional looping, continuation after failure);
- Supports multiple barcode formats (single code/multiple single codes/multiple codes/1D/2D, manual/automatic), fulfilling various testing trigger scenarios;
- Supports for connecting DUT in multiple ways: series P test module port, BigTao chassis NAT, PC network port, PC network port VLAN, IP converter;
- Provides independent script testing items for rapid customized development, combined with visual testing items to fulfill customers' urgent on-site needs.



Ease of Use, Fast Delivery

- Easy-to-use visual configuration, enabling to start testing with just three simple steps.
- Innovative design for testing item share, to be applied to multiple fixture configurations simultaneously, eliminating the need for manual copying between fixtures.;
- The one-click copy function easily completes configuration for 16 fixtures, after configuring a device under a single fixture;
- LED calibration with automatic color pickup and automatic Telnet lighting for visual operations, effectively reducing user configuration workload;
- LED indicator recognition supports any number of states, with support for any color and quantity of indicators per state;
- Visual data analysis and comparison functions instead of script parsing, quickly analyze the content of the text string;
- Supports both browser and desktop applications to open HunterATE, allowing multiple users to operate HunterATE through the web simultaneously;
- Dynamically generated HTTP MES plug-in, for rapid integrating the client's MES.



High Efficiency

- Industry-leading levels UPH and FTY, at least 30% improvement compared to version 1.0;
- Supports configuring line balance by any DUT numbers: 1~16 parallel units;
- Supports parallel testing items within DUTs, particularly suitable for scenarios with multiple devices tested in parallel, significantly improving testing efficiency;
- With support for statistical data analysis based on task orders, shifts, and more.



Highly Reliability

- Supports uploading test log to MES and local storage, ensuring traceability of the testing process;
- Supports role-based access management, ensuring consistency of testing configuration;
- Stable test 16 DUTs with 7*24-hour coverage, ensuring production progress.



Telephone: 010-82349338

Website: www.xinertel.com

Email: marketing@xinertel.com

Address: 2nd Floor, No. 6 Chuangye Road, Shangdi Information
Industry Base, Haidian District, Beijing, People's Republic of China.

