



AUGUSTO PEREIRA

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## PDA MULTI TESTE TELECOM

Ref: 01101ST327GHXIQ

### Senter ST327 Telecom Test PDA

#### Overview

ST327 is a handheld intelligent PDA which is especially designed for the telecommunication field engineer's operation and maintenance. It adopts mainstream Android operation system, which combine industrial smart phone, telecom test functions.

WIFI 5G Android 5.1 OS Smart Phone - Barcode Scan - ADSL2+ - VDSL2 - Optical Power Meter - VFL - Cable Tracing - DMM Test - Landline Telephone - ONU - IPTV Test - Field Strength Meter - 1 Gbps Download Speed.



## Summary:

1. System Platform: Android 5.1 operating system, Telecom operators can install any application program or software.
2. Reliable and durable: Industrial grade design, economical and durable.
3. Outstanding Value: It can improve the installation and maintenance efficiency and control efforts; effectively integrate and explore the human resource value; improve the image of telecommunication installation and maintenance as well as the subscriber's perception. (Work Force Management System)
4. Value added service: It can realize the assets management by bar code scanning and at the meantime realizes the dual management of people and goods.

## Features:

1. 11.2GHZ CPU and fast processor
2. Strong protection for bad environment
3. Visible 5-inch LCD in the sunlight
4. The storage capacity is big and extensible
5. Advanced battery installation design and strong endurance
6. Support Google Play
7. Support DMM,VLAN,HLOG,QLN
8. Can install Work Force Management System
9. Mobile phone + Telecom test function
10. CE certificate
11. Gigabit Ethernet port
12. Support VLC to view IPTV channel
13. Support 1 Gbps download speed
14. Support WIFI 5G
15. Support Vectoring



Top view



Bottom view



Side view  
right and left



## Main Specification:

### GENERAL SPECIFICATION

Display Screen	720x1280TFT, true colour 5-inch capacitance touch screen
Operation System	Built-in Android 5.1 (Lollipop)
System	CPU is MSM8929 1,2GHZ 8 core
	RAM 2G bytes
	Flash 16G bytes - Supports TF memory card (64G max.)
Bluetooth	Support 4.0
Wifi	Support IEEE 802.11b/g/n/ac
4G	GSM B3/5/8 – CDMA: 1X/EVDO BC0 – WCDMA: 1/5/8 – TD-SCDMA: B34/B39 – LTE:
	1/3/5/38/40/41
Power Supply	Rechargeable 3.8V 8200mAh polymer battery. Max power 3W
Camera	8 million pixels post position camera and support autofocus and flash function.
Dimention	181mm*87mm*45mm

### XDSL INDEX

XDSL test main functions	Physical Layer Info
	PPPoP Dial
	FTP Client, Fixative IP
	Network Layer Test
	Modem Emulation
	PING
	Support VLAN, HLOG, QLN, Vectoring
	Error Code Statistics
	Bit Graph Display
	BPT / SNR Data
	Modem Parameter Setting (VPI/VCI)

### ADSL INDEX

Standards	ITU G.994.1 (G.hs), ITU G.992.5, ITU G.992.5 Annex L. The max distance which can be connected is 6.5 km. Be compatible with ADSL, ADSL2 and RADSL.
Atenuation	0 ~ 63.5dB
Noise margin	0 ~ 32dB
Upstream Chanel Rate (interweaved / fast mode)	0 ~ 1.2Mbps
Downstream Chanel Rate (interweaved / fast mode)	0 ~ 24Mbps
Modulating bits in the DMT sub-channel	0 ~ 15 and each sub channels' frequency points
The number of error codes	CRC, HEC, FEC, NCD, OCD
Other Parameters	The output power of DSL.
	It can display every condition of DSL line: lost signal and shutdown of link

## VDSL2 INDEX

Standards	ITU G.993.2(VDSL2). Be compatible with ADSL2+, ADSL standard.
Upstream Channel Rate (interweaved / fast mode)	0 – 100M
Downstream Channel Rate (interweaved / fast mode)	0 – 100M
The modulating bits in the DMT sub-channel	0 ~ 15 and each sub channels' frequency points
The number of error codes	CRC, HEC, FEC, NCD, OCD
Other Parameters	The output power of DSL
	It can display every condition of the DSL line: lost signal and shutdown of link
	DSLAM information
	Error seconds
	INP pulse protection
	SNR channel figure Channel noise margin figure

## DMM TEST INDEX

DC Voltage	-400 to 400 V; Resolution: 0.1V
AC Voltage	0 to 290 V
Capacitance	0 to 1000nF; Accuracy: 0-10nF: $\pm 2\text{nF}$ , 10nF-1000nF: $\pm 2\% \pm 2\text{nF}$
Loop Resistance	0 to 20K $\Omega$ ; Accuracy: 0-100: $\pm 3\% \pm 4\Omega$ , 100-500: $\pm 3\%$ , 500-20 K $\Omega$ : $\pm 2\%$
Insulation Resistance	0 to 50M $\Omega$ ; Accuracy: 0-1.0M: $\pm 0.1\text{ M}\Omega$ , 1.0-30M: $\pm 10\% \pm 0.5\text{ M}\Omega$

## OPTICAL POWER INDEX

Wavelength range (nm)	800 ~1700
Photosensing material	InGaAs
Power test range (dBm)	-70~+10 or -50~+26
Error range	$\pm 5\%$
Display distinguishability	Linear display: 0.1%, logarithmic display: 0.01 dBm
Adapters	FC, ST, SC

## VFL INDEX

VFL	FP-LD
Wavelength	650nm $\pm 20\text{nm}$
Output power	1mw/3mw/5mw/10mw (optional)
Connector	2.5mm universal adapter (SC, FC, ST)
Working mode	CW or 2Hz modulation
Applicable fiber	SM / MM

## LANDLINE TELEPHONE INDEX

Function	Connector with telephone line, can be used as landline
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**FIELD STRENGTH METER INDEX (TV SIGNAL LEVEL METER)**

Frequency Index	Frequency Range: 5MHz ~1000MHz Accuracy: $\pm 50 \times 10^{-6}$ (20°C $\pm$ 5°C) Resolution: 10KHz0 – 100M Receive Bandwidth: 280KHz
Digital TV measurement	Power Level Range: 30dB $\mu$ V~120dB $\mu$ V Accuracy: $\pm 1.5$ dB Resolving Ratio: 0.1dB Standard Modulation Format: DVB-C/ITU-T 64/256QAM Power support: QAM, QPSK, COFDM Symbol Ratio: 4MS/S ~ 7MS/S Receive Bandwidth: 8MHz (can set) MER: 22dB~39dB ( $\pm 2$ dB)
Simulate TV Test	Level Range: 30dB $\mu$ V~120dB $\mu$ V Accuracy: $\pm 1.5$ dB Resolving Ratio: 0.1dB Input impedance: 75 $\Omega$ Channel Scan
Other Test	Slop Test Main line voltage test (0-100VAC/DC $\pm$ 2V)

**CABLE TRACKING INDEX**

Test cable type	Network cable, twisted pair cable, telephone line, USB cable, coaxial cable.
Line status test	Determine open or short circuit
Voltage polarity detection	Positive and negative of DC voltage
Distance of signal transmission	No less than 3km
DC Voltage	No more than 48V

**IPTV TEST****TRANSMIT QUALITY**

Curt rate (kbps)	Transfer rate of IPTV service packages
IP num(is)	Statistics of IP package gathered in the sampling period
Lost num	Data statistics of RTP package loss number gathered in the sampling period
IP Jitter	Reflect levels of IP packet transmission quality

**NET CONFIGURATION (Support any net encapsulation format, include TS, TCP, UDP, RTP, RTSP, PPPoE etc.)**

MDI DF	Delay in MDI test regulated by RFC4445
MDI MLR	Media package loss number in MDI test regulated by RFC4445 Source MAC: IPTV sender MAC
Dst Mac	STB MAC address
Tos TTL	IP protocol information
Source IP	IPTV sender IP
Dst Port	STB IP
Source Port	IPTV sender port
Dest Port	STB port
Rtp type	RTP protocol information

## IPTV TEST (CONT.)

### STATISTICS

MLR-15	Statistical value of MLR in 15 minutes
Lost total	RTP packet loss total number in test cycle
Rate	Current test cycle rate, including maximum, minimum and average statistics

## 1 Gbps DOWNLOAD SPEED

Function	Support Static IP, DHCP, PPPOE network configuration Can setup download the number of threads Can setup test time Can setup speed test address
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## ONU (Support ZET Equipment)

### ONU TEST

	EPON	GPON
Registration State	none	O5 Operation
Authentication State	Registered, authenticated	Success
Output Power	+0.5~-5dbm	
Input Power	-27 dbm~-8dbm	
Supply Voltage	3100~3500mVChannel Scan	
Bias Current	0~90mA	

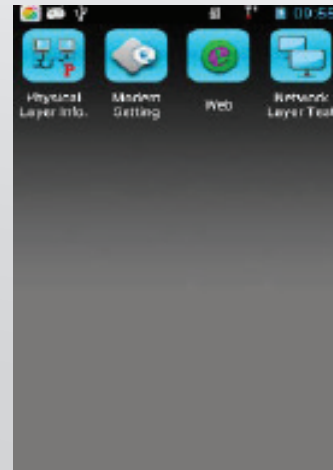
### ONU (ONT) Emulation

To emulate user's ONU (ONT) to exclude the faulty of user's ONU (ONT)
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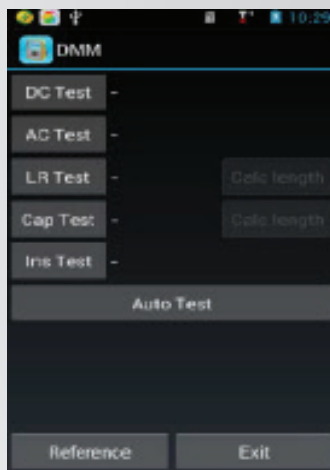
## Screens:



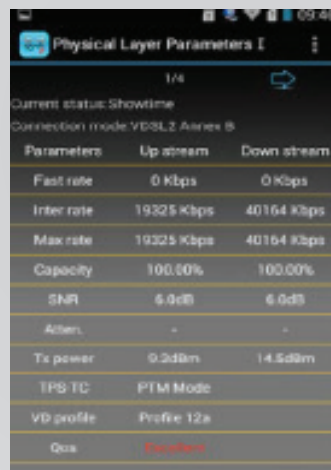
Test Interface



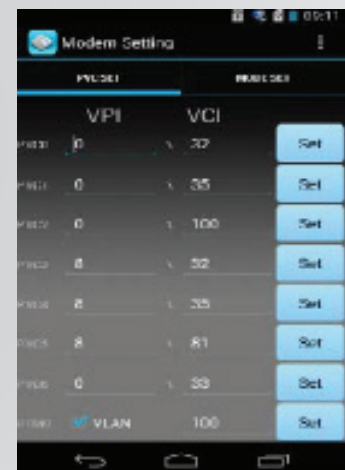
xDSL Test



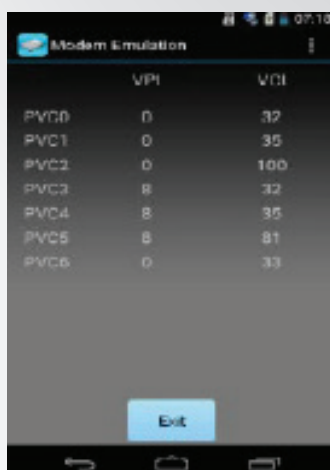
DMM Test



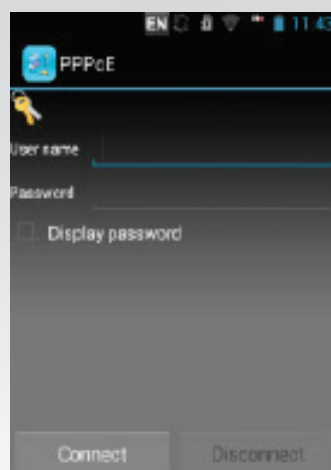
Physical Layer



VLAN Setting



Modem Emulation



PPPoE Dial



IPTV

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ONU



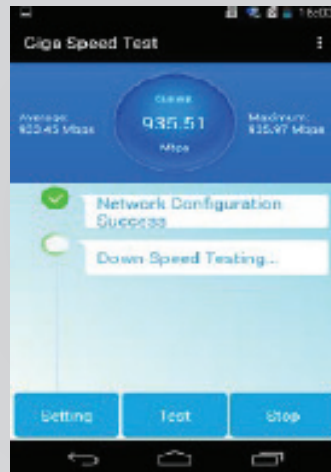
Optical Power Meter



Speed Test



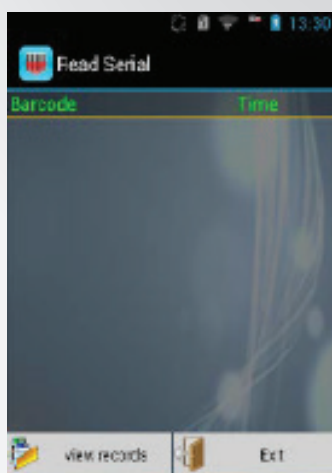
VFL



1 Gbps Speed Test



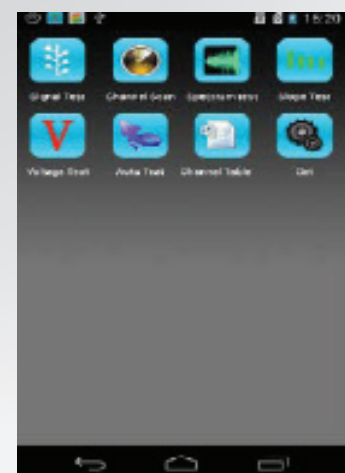
Landline Telephone



Barcode Scan



Cable Tracking



Field Strength Meter

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