

# MaxTester 605

STRAIGHT-TO-THE-POINT COPPER TESTING



An entry-level solution for fast qualification, repair and maintenance of twisted-pair cables.

## KEY FEATURES

Automates closeout testing thanks to test script with configurable pass/fail indication

Fast access to key measurements from the copper main menu

Easy-to-use time-domain reflectometer (TDR) ensures any technician can locate copper faults accurately

Stresses the copper pair to determine if proper balance exists

Designed with an IEC IP54 rating to face the challenges of the outside plant environment

## APPLICATIONS

Qualification of twisted copper pairs for voice, ADSL2+, VDSL2 and G.fast deployments

Fault detection and location of shorts, opens and bridge taps

Test result upload and archiving to ensure compliance with work processes

## THE MaxTESTER SERIES



MaxTester 600 Series  
G.fast, Copper, VDSL2, Multiplay Test Solutions



MaxTester 700B  
OTDR Series



MaxTester 940  
Fiber Certifier OLTS



## THE MAXTESTER 605

The MaxTester 605 (MAX-605) is an entry-level copper test set that streamlines copper testing for repair and maintenance technicians to get the job done right the first time. Its small form factor, rugged design, easy-to-use interface and clear pass/fail test results help technicians in the field close jobs quickly and efficiently.

## COMPREHENSIVE METALLIC TESTING

Verification of copper quality is a snap with the measurement capabilities of the MAX-605. Thanks to its industry standard AC and DC voltage, resistance (shorts), capacitance (opens), power influence, and longitudinal balance measurements, technicians are able to obtain clear graphical results with simple pass/fail indications. A POTS dialer is conveniently integrated into key copper tests for activating quiet terminations or tone generators. The MAX-605 also features optional stressed balance testing to energize otherwise hard-to-detect faults that can create cable imbalance and an optional automatic TDR function for pinpointing the location of loop faults.



## AUTOMATED CONFIDENCE BOOST

The MAX-605 provides technicians of any experience level with the necessary tools to get all the metrics they need while driving compliance with company processes thanks to the integrated autotest function. With clear pass/fail indications, inexperienced technicians can quickly learn the characteristics of a good circuit from the measurements taken. Experienced technicians will like the fact that they don't need to drill down into the results if a pass is presented while still having access to the individual measurements if needed.



## MAXTESTER 605 TEST LOCATIONS

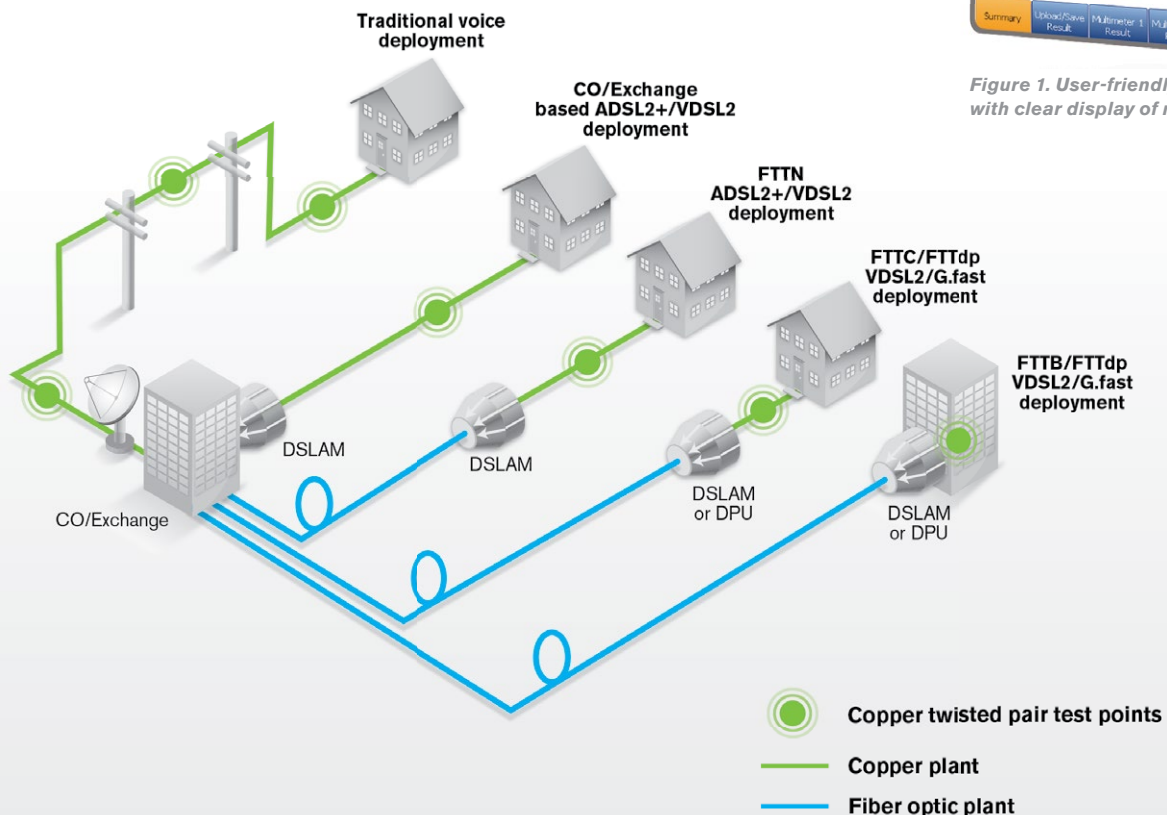
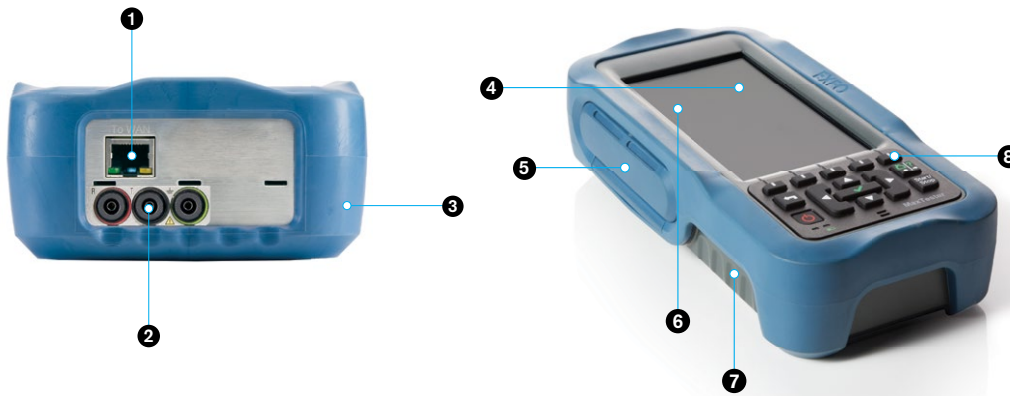


Figure 2. Network locations to use the MAX-605

Figure 1. User-friendly interface with clear display of results

## KEY CHARACTERISTICS



- 1 Ethernet connector sealed against the environment
- 2 Copper connectors sealed against the environment
- 3 All-round rubber bumper
- 4 Color LCD—daylight visible
- 5 Interface connections—water and dirt protected
- 6 Innovative and icon-driven user interface
- 7 Handgrip area
- 8 Simple keypad



EXFO Sync

## REAL-TIME COPPER TEST RESULTS UPLOAD—STRAIGHT FROM THE FIELD

**Working in the field with an Android device?**

**Download the EXFO Sync Application for Your Android\***

EXFO Sync is an Android application that operates together with EXFO's MAX-605 copper field test set. This application provides a fully automatic copper test script and Wi-Fi transfer of the results files to a phone or tablet for upload to the customer's server.

With the EXFO Sync application, your copper test results can be uploaded in real-time to a central location for access and further analysis to identify trouble patterns, assess technician performance or target customers for upsell to higher revenue services.

- › Copper test result are uploaded, live from the site
- › GPS tagging gives visibility of location of test for mapping of test history and network performance
- › Ensure compliance to service provider workflow process
- › Flexibility to upload test results to an FTP server
- › Secure, password-protected connection to upload and access results

\* Upload to Android devices is supported only over Wi-Fi and only for the copper autotest.



Download from  
Google play



COPPER SPECIFICATIONS <sup>a, b, c</sup>

Measurement	Range	Resolution	Uncertainty (Accuracy)	Termination Impedance
AC voltage	0 to 280 Vrms	0.1 VAC for range 0 to 99.9 VAC; otherwise 1 VAC	$\pm(1\% + 0.5 \text{ Vrms})$ at $\leq 60 \text{ Hz}$ $\pm(2\% + 0.5 \text{ Vrms})$ at $> 60 \text{ Hz}$	100 k $\Omega$ , 10 M $\Omega$
DC voltage	$\pm 400 \text{ VDC}$	0.1 VDC for 0 to 99.9 VDC 1 VDC for 100 VDC to 400 VDC	$\pm( 1\%  + 0.5 \text{ VDC})$	100 k $\Omega$ , 10 M $\Omega$
DC current <sup>d</sup>	0 to 110 mA	0.1 mA	$\pm( 2\%  + 1 \text{ mA})$	
AC current <sup>d</sup>	0 to 110 mA	0.1 mA	$\pm(2\% + 1 \text{ mA})$	
Resistance	0 to 100 M $\Omega$	3 significant digits	$\pm(1\% + 5 \Omega)$ for range 0 to 999 $\Omega$ $\pm 2\%$ for range 1 k $\Omega$ to 100 M $\Omega$	
Isolation resistance	0 to 1 G $\Omega$	3 significant digits	$\pm(3\% + 1 \text{ digit})$ for 1 k $\Omega$ to 99 M $\Omega$ , soak voltage 135 VDC $\pm(5\% + 1 \text{ digit})$ for 100 M $\Omega$ to 1 G $\Omega$ , soak voltage 135 VDC Soak voltage range: 50 VDC – 135 VDC (safety current limited to 2 mA) Soak timer: "1 s to 60 s	
Capacitance (opens)	0.1 nF to 2 $\mu\text{F}$	4 significant digits	$\pm(2\% + 50 \text{ pF})$	
Station ground	0 to 1 M $\Omega$	Up to 3 significant digits	$\pm(1\% + 3 \Omega)$ for 0 to 999 $\Omega$ $\pm(2\% + 1 \text{ digit})$ for 1 k $\Omega$ to 1 M $\Omega$	
Load coils	Maximum load coil count		4	
	Detection range		Up to 5500 m	
Tone receiver <sup>e</sup>	Frequency range		200 Hz to 20 kHz	
	Frequency resolution		0.1 Hz	
	Frequency uncertainty (accuracy)		$\pm(50 \text{ ppm} + 1 \text{ Hz})$	
	Signal level range		-90 dBm to 15 dBm	
	Signal level resolution		0.1 dB	
	Signal level uncertainty (accuracy)		$\pm 1 \text{ dB}$ for -50 dBm to 15 dBm, otherwise $\pm 2 \text{ dB}$	
Tone transmitter <sup>e</sup>	Transmit frequency		200 Hz to 20 kHz	
	Frequency resolution		1 Hz	
	Frequency uncertainty (accuracy)		$\pm(50 \text{ ppm} + 1 \text{ Hz})$	
	Transmit level		-10 dBm to 10 dBm	
	Transmit level resolution		0.1 dB	
	Transmit level uncertainty (accuracy)		$\pm 1 \text{ dB}$	
VF longitudinal balance <sup>e</sup>	Level range		0 to 100 dB	
	Level resolution		0.1 dB	
	Level uncertainty (accuracy)		$\pm 1 \text{ dB}$	
	Frequency		1004 Hz	
VF noise <sup>e</sup>	Bandwidth		200 Hz to 20 kHz	
	Signal level		-90 dBm to 15 dBm	
	Signal level resolution		0.1 dBm	
	Signal level uncertainty (accuracy)		$\pm 1 \text{ dB}$ for -50 dBm to 15 dBm, otherwise $\pm 2 \text{ dB}$	
Power influence (PI) <sup>e</sup>	Noise range		-60 dBm to 10 dBm	
	Noise uncertainty (accuracy)		$\pm 1 \text{ dB}$ for range -50 dBm to 10 dBm, otherwise $\pm 2 \text{ dB}$	
	Noise level resolution		0.1 dB	
	Frequency range (odd harmonics)		50 Hz to 4 kHz for ITU 60 Hz to 4 kHz for ANSI	
Stress balance	Level range		0 to 82 dBmC	
	Longitudinal excitation		135 VDC, Frequency: 1004 Hz	
	Reproducibility		$\pm 1 \text{ dB}$	
TDR <sup>f</sup>	Mode		Automatic	
	Range		0 to 4800 m (0 to 16 000 ft)	
	Pulse width		20 ns to 1.8 $\mu\text{s}$	
	Velocity of propagation (VOP)		0.4000 to 0.999	
	Distance uncertainty (accuracy) <sup>f</sup>		$\pm(0.5 \text{ m} + 1\% \times \text{distance})$	
POTS dialer	DTMF. Integrated into copper tests. Phonebook		0-9, #, * 25 entries	

## Notes

- Subject to change without notice.
- Typical, at 23 °C  $\pm 3$  °C, on batteries, with no type-B USB connection.
- Specifications based on 24 AWG (PE 0.5 mm) cabling.
- 430  $\Omega$  impedance.
- 600  $\Omega$  impedance.
- Qualified up to 300 m (1000 ft). Does not include uncertainty due to VOP.

## GENERAL SPECIFICATIONS

Display	Color TFT LCD with backlight 152 mm (6 in) diagonal 800 x 480 resolution, WVGA
Test connections	Three-color banana connector for T/A, R/B, G RJ45 for Ethernet 10/100 WAN
Results management	> 2 GB internal memory Single and bulk file export to USB memory devices FTP upload
Temperature range operating storage	0 °C to 40 °C (32 °F to 104 °F) -20 °C to 60 °C (-4 °F to 140 °F)
Humidity	5 % to 95 % relative, non-condensing
Shock	1 m (39 in) drop per GR-196-CORE
Altitude	3000 m (9842 ft)
Input power	9-24 VDC, 2 A, 18 W via 90-220 VAC adapter or 12 V vehicle adapter
Battery	Internal rechargeable lithium polymer, with battery-state and level indications, adjustable auto-power down
Safety	CE and CSA marked
Size (H x W x D)	254 mm x 124 mm x 62 mm (10 in x 4 <sup>7</sup> / <sub>8</sub> in x 2 <sup>7</sup> / <sub>16</sub> in)
Weight (with battery)	1.7 kg (3.7 lb)
Water/dust ingress	Designed to comply with IP54
Self-test	Routine on power-up
Connectivity	Two USB 2.0 client ports One USB type-B host port Optional Wi-Fi support
Languages	English, French, Spanish

## STANDARD ACCESSORIES

- Copper test cables: Three-color (black, red, green) 4-mm banana plugs terminated with telco clips (ACC-M3COLR), or  
Three-color (black, red, green) 4-mm banana plugs terminated with shrouded crocodile clips (ACC-M4MM)
- AC adapter (GP-2146)
- Soft carrying case (GP-10-061)

## OPTIONAL ACCESSORIES

RJ45 Ethernet cable (ACC-RJRJ-UTP)

USB host/client cable (GP-2053)

12 V vehicle charger (GP-2205)

Form fitting, protective soft glove with shoulder strap (ACC-GLOVE)

16 GB USB memory stick (GP-2144)

Wi-Fi pico adapter (GP-2223)

## ORDERING INFORMATION

### MAX-605-XX-XX

#### Model

MAX-605 = Copper test set

#### Platform Options

00 = Without software options

FTPUPLD = Result upload via FTP over Wi-Fi, Ethernet

#### Copper Software Options

00 = Without software options

SBAL = Stressed balance

TDR = Time-domain reflectometry

Example: MAX-605-FTPUPLD-SBAL-TDR

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