WIRELESS DATA LOGGING MULTIMETER WITH DOT MATRIX LCD PLUS NCVD/NCCD

USER'S MANUAL

(laptop not included)

(includes RD330 Remote Display with Memory)

GT320

Please read this manual carefully and thoroughly before using this product.

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INTRODUCTION

Thank you for purchasing General Tools & Instruments' GT320 Wireless Data Logging Multimeter with Dot Matrix LCD plus NCVD/NCCD. Please read this manual carefully and thoroughly before using the instrument.

The GT320 can measure—with better than 1% accuracy, in most cases—the six electrical parameters (DC voltage, AC voltage, DC current, AC current, resistance and capacitance) that most professional-grade multimeters measure. Like other multimeters, it can also be used to verify the integrity of a diode and to check for continuity within a circuit. However, the GT320 has two safety and convenience features—NCVD/NCCD and wireless device-to-device communication—that many comparably priced multimeters lack.

NCVD and NCCD—non-contact voltage and current detection—empower the electrician in several valuable ways. For example, the meter's integrated NCVD sensor can quickly determine which wire in a group is "live" without the user having to "tap" all the lines. It is so sensitive it can pinpoint the location of a 30VAC line inside PVC conduit behind a wooden wall. The NCCD sensor in the GT320 is equally impressive. It can detect as little as 500 mA of current flowing behind a concrete or plaster wall, under a floor, above a ceiling, in an overhead line, or in a buried underground cable. The NCCD sensor can also detect RF signals (such as from a walkie-talkie) and magnetic fields.

Wireless communication offers an additional level of safety and convenience. Being able to read the meter's measurements from up to 33 ft. (10m) away (on a PC, on a second multimeter in the GT Series, or on the included RD330 Remote Display with Memory) lets the electrician observe the effect of throwing a switch or changing a setting on a piece of equipment without having to be near it. If a system or piece of equipment operates at high voltages, remote display makes troubleshooting it safer. If multiple changes to another system or piece of equipment are needed to troubleshoot a problem, remote display may save an electrician considerable time by allowing him or her to immediately see the results of each step taken without having to shuttle between two areas.

The GT320 can be part of three different kinds of wireless communication schemes.

1. The meter includes a small USB receiver—called a dongle—that enables any PC to display all the information shown on the unit's display. The "Going Wireless" section of this user's manual provides instructions for downloading the software needed to activate this connection. The advantage of using a PC's monitor to display the meter's measurements is readability: readings sent to the screen of a laptop or desktop computer are several inches high—large enough to be visible across a room.
2. With two GT320s or one GT320 and one GT310 (essentially, a GT320 with a dual 7-segment display instead of a dot matrix display), each meter can be configured to display its own measurements on its upper readout, and receive and display the other meter's measurements on its lower readout. Both models include the wireless transceiver module needed to "share" readings remotely—improving safety in the process—in this way.
3. For even greater remote display versatility, use the GT320 with the included RD330 Remote Display with Memory. The standalone 4 in. x 4 in. unit, which uses the same wireless transceiver module as the GT320 and GT310, can not only display the readings of two multimeters simultaneously on its own dual LCD with 0.67 in. (17mm) high digits; it can also memorize up to 99 readings or pairs of readings. In addition to its memory, the advantages of using the RD330 as a remote GT320 display are compactness and portability.

Another key feature of the GT320 is its pair of double-insulated fused test leads. Like NCVD/NCCD and wireless device-to-device communication, the fuse in the red test lead offers the electrician safety and convenience. It not only prevents excessive currents from flowing through the meter, potentially injuring the user and damaging the meter. In addition, the position of the fuse makes changing it fast and easy. In many other multimeters, changing a blown fuse requires the user to open up the instrument.

The red lead has a unique square plug. The meter's use of a square (+) jack prevents potentially damaging use of industry-standard round, non-fused leads.

KEY FEATURES & SPECS

- 12 functions, 33 ranges
- Measures AC/DC voltage (up to 750VAC/1000VDC), AC/DC current (up to 400mA), resistance (up to 40mΩ) and capacitance (up to 100 uF)
- Verifies integrity of diodes and checks circuits for continuity
- Includes double-insulated test leads; red lead has fast-acting ceramic fuse rated at 500mA/500V and unique square plug. Corresponding square jack on meter prevents potentially damaging use of round, non-fused leads.
- Includes non-contact AC voltage and current detection (NCVD and NCCD) sensors with beeper
- CAT III 1000V, CAT IV 500V ETL certified
- Wirelessly interfaces to PC at 2.4 GHz from up to 33 ft. (10m) away via included USB dongle
- Includes transceiver module for wirelessly interfacing to second GT320 or GT310 (functionally identical model with 7-segment display) or included RD330 Remote Display with Memory
- Choice of 10 channels for each wireless link
- Flexible, 3-3/4 digit (4000 count), dot matrix LCD with 0.67 in. (17mm) high digits
- Auto ranging or manual ranging
- Data hold and zero adjust buttons
- Fifteen-minute Auto Power Off function
- Low battery indicator
- Ergonomic design with rugged rubber housing

WHAT'S IN THE BOX

The GT320 comes in a black soft pouch with a belt loop inside a box. Also inside the pouch are:

- A pair of fused test leads (General Part No. TL300)
- A USB dongle (General Part No. GTSF05) for wireless viewing of the meter's display on a PC. Software for enabling the dongle to display the GT310's readings on a PC is downloadable from the GT320 page of General's website (www.generaltools.com).
- An RD330 Remote Display with Memory with its own user's manual
- A "9V" battery
- This user's manual

SAFETY INSTRUCTIONS

⚠WARNING

To avoid possible electric shock or personal injury, and to avoid damaging the meter or the equipment under test:

- Do not use the meter in any way not detailed in this manual or the meter's safety features may be compromised.
- Before using the meter, inspect the case. Do not use the meter if it is damaged. Look for cracks or missing plastic. Pay particular attention to the insulation around the connectors.
- ⚠**WARNING** Inspect the test leads for damaged insulation or exposed metal. Check the test leads for continuity. Replace damaged test leads before using the meter.
- For safety reasons, you cannot switch to using unfused test leads to make measurements. **YOU MUST USE FUSED TEST LEADS** fitted with a fast blow fuse rated at 500mA/500V. Using unfused test leads also voids the limited warranty.
- Verify the meter's operation by measuring a known voltage. Do not use the meter if it operates abnormally. Protection may be impaired. When in doubt, have the meter serviced.
- ⚠**WARNING** Do not apply more than the rated voltage, as marked on the meter, between the terminals or between any terminal and ground.

- ⚠**WARNING** Do not measure voltages above 600V in CAT III installations.
- ⚠**WARNING** Do not measure voltage with the rotary dial pointing to the resistance (ohms), current, capacitance or NCVD or NCCD positions. Never measure current with the dial pointing to the resistance (ohms), capacitance or NCVD or NCCD positions.
- Use caution when working with voltages above 42V ACrms, or 60V DC. These voltages pose a shock hazard.
- Use the proper terminals, function, and range for all measurements.
- ⚠**WARNING** Do not operate the meter around explosive gas, vapor, or dust.
- ⚠**WARNING** When using the probes, keep your fingers behind the finger guards. Do not touch the metal probes of the test leads when making a measurement.
- When making connections, connect the black (–) test lead before connecting the red (+) test lead; when disconnecting, disconnect the red (+) test lead before disconnecting the black (–) test lead.
- Disconnect circuit power and discharge all high-voltage capacitors before measuring/testing resistance, continuity, diodes, or capacitance.
- For all DC functions in both auto ranging and manual ranging modes, to avoid the risk of shock due to possible improper reading verify the presence of any AC voltages by first using the AC voltage measurement function. Then select a DC voltage range equal to or greater than the AC range.
- Before measuring current, turn off power to the circuit before connecting the meter.
- Do not operate the meter with the case (or part of the case) removed.
- Replace the battery as soon as the low battery indicator "⊟+" appears. Operated with a weak battery, the meter might produce false readings that could lead to electric shock and personal injury.
- Remove the test leads from the meter before opening the meter case or battery compartment.

PRODUCT OVERVIEW

Fig. 1 shows the labels and positions of the controls, indicators and connectors on the front and top of the GT320. Familiarize yourself with their functions, as explained below, before moving on to the Setup Instructions and Operating Instructions.

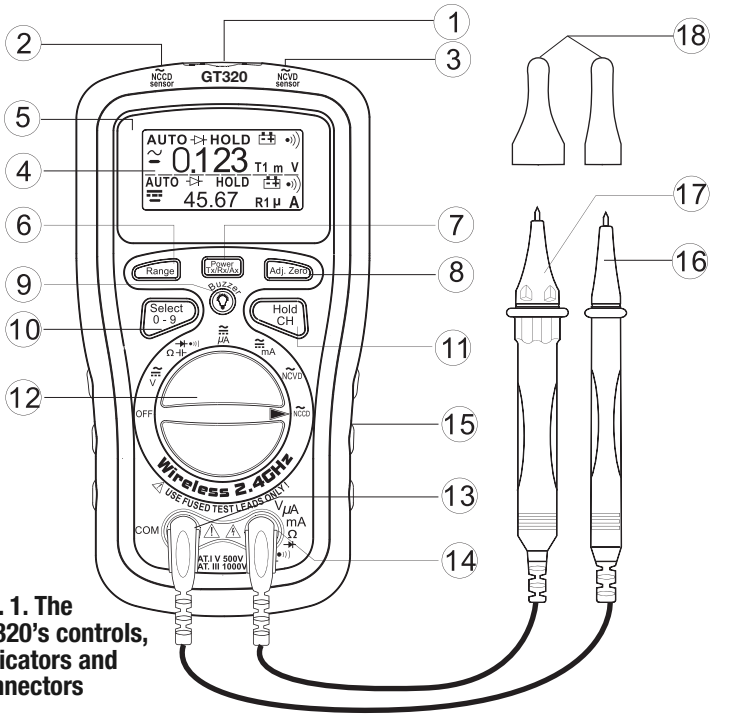


Fig. 1. The GT320's controls, indicators and connectors

1. **Replaceable 2.4GHz transceiver module** (on top of unit)
2. **NCCD sensor** (on top of unit)
3. **NCVD sensor** (on top of unit)
4. **Dot matrix LCD**
5. **Backlight**

6. Two-function Range button:

a) In all measurement modes, **press briefly to exit Auto ranging mode (default) and enter Manual Ranging mode**. With two exceptions (the highest voltage ranges), each subsequent brief press of the button decreases the measurement sensitivity (increases the full-scale measurement range) by a factor of 10 (one decimal place)

b) In all measurement modes, **press and hold for >3 seconds to exit Manual Ranging mode and enable Auto ranging**

7. Multi-function Power/Tx/Rx/Ax button:

a) **Press briefly to enable transmission mode; Tx** appears on display

b) **Press briefly a second time to enable reception** mode; **Rx** appears on display

c) **Press briefly a third time to enable transmission and reception** mode: **Tx** and **Rx** both appear on display

d) **Press briefly a fourth time to disable transmission and reception** (**Tx** and **Rx** both disappear)

e) With rotary dial in any position but **OFF, press and hold for >3 seconds to power meter on or off**.

8. Adj. Zero button (press briefly to reset readout)

9. Two-function Buzzer button:

a) **Press briefly to turn backlight on/off**

b) **Press and hold for 3> seconds to turn beeper on/off** (•)) appears/disappears at right of display)

10. Multi-function Select/0-9 button:

a) **In voltage and current measurement modes, press briefly to switch** from DC measurement (default) to AC measurement

b) **With rotary dial set to Ω ⊣⊢ →⊢ position, press briefly to switch** from resistance measurement mode (the default) to diode integrity check mode. Press briefly again to switch to continuity check mode. Press briefly again to switch to capacitance measurement mode. Press briefly again to return to resistance measurement mode

c) **In channel entry mode (with channel number flashing in top or bottom readout), press briefly to increment** channel number. Pressing the button briefly with the display showing **CH-9** resets readout to **CH-0**

11. Two-function Hold/CH button:

a) **Press briefly to hold (freeze) reading(s)**. Press briefly again to release hold.

b) **Press and hold for >3 seconds to enter Hi channel entry mode**. In Hi channel entry mode, press briefly to enter Lo channel entry mode. In both modes, if no entry is made within 10 seconds, readout(s) revert to showing real-time measurements.

12. Rotary dial

13. COM jack for black (negative) test lead

14. Jack for red (positive) test lead

15. Battery compartment (on back of unit)

16. Black (negative) test lead

17. Red (positive) test lead. Contains fast-acting ceramic fuse rated at 500mA/500V

18. Protective caps for test leads

The table below explains the symbols and abbreviations used on the meter and in this manual.

Electrical Symbols Used On the Meter and In This Manual

Ⓐ	Adjust reading to zero
Tx (where X = 0-9)	Wireless transmit mode
Rx (where X = 0-9)	Wireless receive mode
~	Alternating voltage / current
⎓	Direct voltage / current
⬬	Negative
HOLD	Freeze / Hold reading

⊣◀	Diode
AUTO	Auto ranging
− +	Low battery
CAT III	Overvoltage Category 3
CAT IV	Overvoltage Category 4
⏚	Ground
•))	Beeper
NCV/NC$\widetilde{V}$D	Non-Contact Voltage (AC) Detection
NCC/NC$\widetilde{C}$D	Non-Contact Current (AC) Detection

SETUP INSTRUCTIONS

INSTALL BATTERY

The battery of your GT320 may or may not already be installed. If the display remains dark after you turn the rotary dial to any position other than **OFF**:

- Return the rotary dial to the **OFF** position.
- Flip the meter over and lift the bottom of the yellow foldaway stand on the back with your fingertip or a flat-blade screwdriver.
- Loosen and remove the two Phillips-head screws securing the rectangular yellow plastic battery compartment cover. Set the cover aside.
- Install a fresh “9V” battery in the compartment, with the (+) terminal (anode) on the right (with the back of the meter facing you)..
- Replace the battery compartment cover and resecure it with the two screws.

INSERT TEST LEADS

Plug the red (fused) test lead into the right (red) socket on the front of the meter and plug the black lead into the black socket. Remove the clear plastic caps from the tips of the leads.

OPERATING INSTRUCTIONS

GENERAL INSTRUCTIONS

- To hold (freeze) a reading, briefly press the **Hold/CH** button.
- To turn the beeper on or off, briefly press the **Buzzer** button.
- To turn the backlight on or off, press and hold the **Buzzer** button for >3 seconds.
- The meter is equipped with an Auto Power Off (APO) function that is triggered by 15 minutes with no input. It cannot be disabled. To "wake up" the meter in the same measurement state (but not transmission/reception state) it was in when the APO function activated, briefly press the **Power/Tx/Rx/Ax button** (Callout 7 of Fig. 1). You need not turn the rotary dial to power the meter on again.
- Each time you finish using the meter, turn the rotary dial to the **OFF** position.
- To ensure the accuracy of measurements, make sure that the points touched by the test probes are free from dirt, oil, lacquer, and similar substances.
- Until you enable wireless transmission and/or reception, the meter will function in "normal" operating mode with a display that looks like this:

MEASURING DC OR AC VOLTAGE

⚠ Do not exceed maximum ratings. Do not contact circuits or parts of circuits in which voltages with amplitudes greater than 25V ACrms or 35VDC may be present.

Turn the rotary dial to the **V** position. The unit **mV** will appear at the right of the display. The symbol ⎓ will appear at the top left of the display, below the word **AUTO**, indicating that the meter is ready to measure DC voltage in Auto ranging mode.

To measure AC voltage, briefly press the **Select/0-9** button to change the ⎓ symbol to ~.

Touch the test leads to two points in a circuit at different electric potential. A minus sign (–) at the left of the reading indicates a negative voltage.

To switch to Manual Ranging mode, press the **Range** button briefly once to remove the **AUTO** indication from the top left of the display. With two exceptions (the highest ranges), each subsequent brief press of the button decreases the measurement sensitivity (increases the full-scale measurement range) by a factor of 10 (one decimal place). If the measured voltage is greater than the full-scale range, the readout will be **OL**. To return to Auto ranging mode, press and hold the **Range** button.

In AC or DC voltage measurement mode, the meter presents an input impedance of >10MΩ to the circuit under test.

MEASURING RESISTANCE OR CAPACITANCE

Before measuring resistance or capacitance, be sure to remove power from the circuit under test and to discharge any high-voltage capacitors in it.

Turn the rotary dial to the Ω position. The unit **M**Ω will appear at the right of the display. The word **AUTO** will appear at the top left, indicating that the meter is in Autoranging mode.

To measure the resistance between two points of a circuit, touch the test leads to those two points.

To measure the capacitance between two points of a circuit, press the **Select/0-9** button briefly three times to change the **M**Ω symbol to the letter **F**. Then touch the test leads to the two points of interest.

To switch to Manual Ranging mode, press the **Range** button briefly once to remove the **AUTO** indication from the top left of the display. Each subsequent brief press of the button decreases the measurement sensitivity (increases the full-scale measurement range) by a factor of 10 (one decimal place).

CHECKING THE INTEGRITY OF A DIODE OR THE CONTINUITY OF A CIRCUIT

Before checking a diode or checking for continuity, be sure to remove power from the circuit under test.

Turn the rotary dial to the Ω position. With the symbol **M**Ω at the right of the display, briefly press the **Select/0-9** button once to call up the diode symbol ⇻ .

Connect the red test lead to the anode (positive terminal) of the diode to be tested, and the black test lead to its cathode (negative terminal). Read the forward bias voltage value on the display. A typical silicon diode has a forward bias voltage between 0.7 and 0.99V. A typical germanium diode has a forward bias voltage between 0.3 and 0.36V.

A **0V** reading in both directions indicates a shorted diode. An **OL** reading indicates an open diode. In either case, the diode is defective and should be replaced. An **OL** reading also may indicate that the polarity of the test leads is reversed. This test can be used to distinguish the anode and cathode of a diode.

To enter Continuity Check mode, briefly press the **Select/0-9** button once with the diode symbol ⇻ showing on the display. This will change the diode symbol to the Ω unit. If the •)) icon is not visible at the right of the display, activate the beeper by pressing the **Buzzer** button.

In Continuity Check mode, the initial reading will be **OL**. Touch the test leads to any two points in the circuit. If the resistance between the points is <30Ω, the meter will produce a long beep.

MEASURING DC OR AC CURRENT

⚠⚠ The circuit to be tested may not carry a voltage in excess of 1000VDC or 750VAC. Applying a current of >500 mA will blow the fuse in the red test lead. To remove the fuse, unscrew the top of the red lead. Replace the blown fuse with a fast-acting ceramic fuse with a rating of 500mA/500V.

Turn the rotary dial to the **uA** or **mA** position, depending on the expected amplitude. The unit **uA** or **mA** will appear at the right of the display. The word **AUTO** will appear at the top left, indicating that the meter is in Auto ranging mode.

The default mode is DC current measurement (indicated by the ⎓ symbol near the top left of the display). To measure AC current, press the **Select/0-9** button to change the ⎓ symbol to ∼.

Touch the test leads to two points in the circuit and read the displayed value. A minus sign (-) at the left of the reading indicates a negative value.

If applying current produces a reading of **OL** in uA Measurement mode, switch to mA Measurement mode.

To switch to Manual Ranging mode, briefly press the **Range** button once to remove the **AUTO** indication from the top left of the display. Each subsequent press of the **Range** button decreases the measurement sensitivity (increases the full-scale measurement range) by a factor of 10 (one decimal place). If the measured current amplitude is greater than the full-scale range, the display will show **OL**. To return to Auto ranging mode, press and hold the **Range** button.

NON-CONTACT AC VOLTAGE/CURRENT DETECTION (NCVD/NCCD)

Turn the rotary dial to the **NCVD** or **NCCD** position. Move the meter at least several feet away from all wiring and briefly press the **Adj. Zero** button. This maximizes the sensitivity of the NCVD or NCCD sensor.

Holding the meter in your hand, slowly move its top toward the known or suspected source of voltage or current. As the meter approaches the potential source of AC voltage or current, the display reading will increase and the beeper will increase its speed. The display reading is a relative value with no units. When the reading peaks, briefly press the **Hold** button to freeze it.

To use the meter to distinguish a true “live” wire from a “ghost” live wire, turn the rotary dial to the **NCVD** position, move the meter away from all wiring, and press the **Adj. Zero** button. Plug the red test lead into the red front-panel socket. Touch the tip of the lead to the suspected live wire and note the display reading. Also touch other suspected sources. The true live wire will produce the highest reading.

GOING WIRELESS

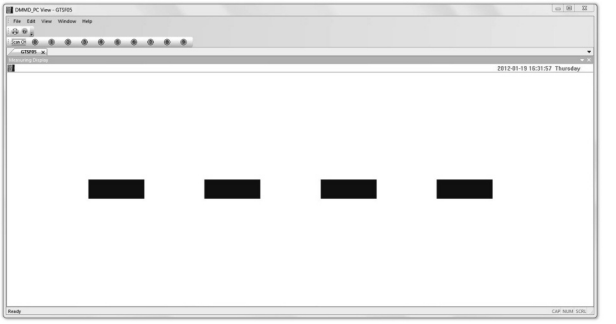
Transmitting Data to a PC

Use the following procedure to enable your GT320 to display its readings on a PC monitor using digits that are several inches high—large enough to be visible across a room.

You will first download and install the software that enables your GT320 to communicate with the GTSF05 wireless USB receiver (dongle) supplied with the meter. The final few steps of the procedure explain how to match the software's receiving channel to the transmitting channel of the GT320.

1. Go to www.generaltools.com and enter GT320 in the **SEARCH** box.
2. On the GT320 page, click the "Download General Tools Product Software" button.
3. Save <GTSF05_Setup.zip> to your desktop.
4. Click the **Open** button on the icon.
5. Highlight <GTSF05_Setup.msi>
6. Use a utility like WinRAR to extract <GTSF05_Setup.msi> to your desktop.
7. Double-click <GTSF05_Setup.msi>; doing so opens a window titled "Welcome to the DMMD_PCViewSetupWizard". Click **Next**.
8. Click **Next** to install <DMMD_PCView> on your computer in a folder named <C:\ProgramFiles(x86)\DMMD_PCView\>. To install the program elsewhere, click **Browse** and choose an alternate location.
9. The next window confirms the installation. Click **Next** to continue.
10. The next window is titled <Installing DMMD_PCView>. Installation typically takes less than 1 minute.
11. Click **Close** to exit.
12. Note that a **GTSF05.exe** icon has been added to your PC's desktop and **Start** button.
13. Double-click the icon to open the program.
14. A "Tips" window will appear asking you to "Please insert GTSF05 dongle!"

15. Plug the dongle into any open USB port on your computer. Doing so will cause the following screen to appear.



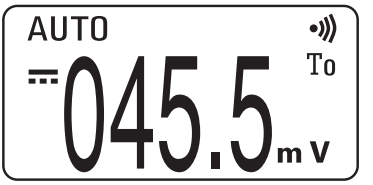
16. On the meter, press the **Power/Tx/Rx/Ax** button once. **T0** (the default transmitting channel) will appear at the right of the display. You will next change the transmitting channel number to 1. To do so, press and hold the **Hold/CH** button. The display will show **T = 0** (with the "**0**" flashing) over **R = 0**. Quickly (within 10 seconds) press the **Select/0-9** button once to advance the channel counter to "1". Quickly save the setting by pressing and holding the **Hold/CH** button.
17. On the "DMMD_PCView GTSF05" screen, click the **Scan CH** button. The program will begin scanning Channels 0 through 9. Scanning will stop when the GT320's transmission on Channel 1 is detected, causing the ① button to turn green.
18. Click again on the green ① button to produce a display like the following:
19. The reading on the DMMD_PCView screen will continue to duplicate the contents of the GT320's readout.

Receiving and Displaying Data from a Second GT320 or a GT310

To configure your GT320 to receive display measurements and indications from another GT320 or a GT310 wireless multimeter, use the **Power/Tx/Rx/Ax** button.

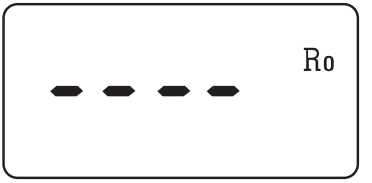
When the meter is powered on, the default setting is no communication.

To enable transmission, briefly press the Power/Tx/Rx/Ax button once. The term **T0** will appear and the display will look like this:

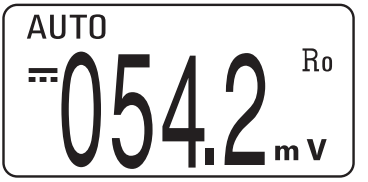


To enable reception, briefly press the Power/Tx/Rx/Ax button a second time. The term **T0** will be replaced by the term **R0**. In "receive only" mode, your GT320 will not display any of its own measurements; it will only display measurements from a second wireless multimeter.

Immediately after you enable receive mode, your GT320 will operate in "standby receive mode" until you synchronize its receiving channel with the transmitting channel of the other meter. Before you synchronize the two meters, the display will look like this:



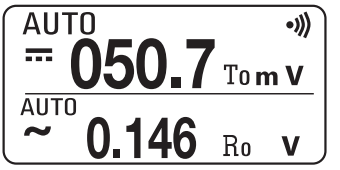
After you synchronize the two multimeters, the new display will duplicate the data shown on the second meter and look like this:



To match the receiving channel of your GT320 to the transmitting channel of the second multimeter, press and hold the Hold/CH button, and then press it briefly to cause the lower readout to show **R = 0**. Quickly (within 10 seconds), press the **Select/0-9** button as many times as needed until the receiving channel number of your GT320 matches the transmitting channel number of the second multimeter.

To enable transmission and reception, briefly press the Power/Tx/Rx/Ax button a third time. This will cause both terms (Tx and Rx) to appear at the right of the display. The upper reading will

represent data from your GT320 and the lower reading will represent data from the second multimeter. The composite display will look like this:



SPECIFICATIONS

GENERAL SPECIFICATIONS

- Maximum Voltage between Terminal and Ground: 1000V/CAT III; 500V/CAT IV
- Test Leads Characteristics: Double sheath, soft PVC wire fitted with 500mA/500V fast-acting ceramic fuse measuring 6mm across x 32mm long. Red lead also has unique square plug compatible with (+) jack on meter.
- Display Type: Flexible, 3-3/4 digit (4000 count), dot matrix LCD with 0.67 in. (17mm) high digits
- Sampling Rate: 3 times 1 sec.
- Maximum Voltage Measurement: DC 1kV , AC 750V
- Input Impedance in Voltage Measurement Mode: >10MΩ
- Maximum AC/DC Current Measurement: 400mA
- Maximum Resistance Measurement: 40MΩ
- Maximum Capacitance measurement: 100uF
- Diode Integrity Test Voltage: 1.5V
- Continuity Check Threshold: <30Ω with beeper
- Non-contact AC Voltage Detection Range: 50V to 1 kV or higher; 100 to 250V in “Live or Ghost” mode
- Non-contact AC Current Detection Range: 100mA to 1000A or higher
- Transmission/Reception: Half-duplex; Ten channels centered on 2.4GHz
- Communication Range: >33 ft. (10m)
- Auto Power Off Interval: 15 minutes
- Backlight Fadeout Interval: 90 seconds
- Power Source: (1) “9V” battery

- Power Consumption: <3mA (standby mode); <20mA (normal operating mode); <25mA (transmitting mode); <60mA (receiving mode); <80mA (transmit + receive mode)
- Dimensions (Excluding Test Leads): 7.1 x 3.7 x 2.1 in. (180 x 95 x 54mm)
- Weight (Excluding Battery): 1 lb. (450g)

MEASUREMENT RANGES, RESOLUTIONS & ACCURACIES

AC Voltage (Manual Range)

Range	Resolution	Accuracy
0-400mV	0.1mV	±0.6% of reading ±3 digits
0-4V	0.001V	±0.6% of reading ±3 digits
0-40V	0.01V	±0.6% of reading ±3 digits
0-400V	0.1V	±0.6% of reading ±3 digits
0-750V	1V	±1.0% of reading ±5 digits

DC Voltage (Manual Range)

Range	Resolution	Accuracy
0-400mV	0.1mV	±0.6% of reading ±2 digits
0-4V	0.001V	±0.6% of reading ±2 digits
0-40V	0.01V	±0.6% of reading ±2 digits
0-400V	0.1V	±0.6% of reading ±2 digits
0-1000V	1V	±0.8% of reading ±2 digits

AC Current (uA Setting, Manual Range)

Range	Resolution	Accuracy
0-400uA	0.1uA	±0.15% of reading ±5 digits
0-4mA	1uA	±0.15% of reading ±5 digits

DC Current (uA Setting, Manual Range)

Range	Resolution	Accuracy
0-400uA	0.1uA	±0.12% of reading ±3 digits
0-4000uA	1uA	±0.12% of reading ±3 digits

AC Current (mA Setting, Manual Range

Range	Resolution	Accuracy
0-40mA	0.01mA	±0.15% of reading ±5 digits
0-400mA	0.1mA	±0.15% of reading ±5 digits

DC Current (mA Setting, Manual Range)

Range	Resolution	Accuracy
0-40mA	0.01mA	±0.15% of reading ±5 digits
0-400mA	0.1mA	±0.15% of reading ±5 digits

Resistance (Manual Range)

Range	Resolution	Accuracy
0-400Ω	0.1Ω	±0.7% of reading ±5 digits
0-4kΩ	0.001kΩ	±0.6% of reading ±2 digits
0-40kΩ	0.01kΩ	±0.6% of reading ±2 digits
0-400kΩ	0.1kΩ	±0.7% of reading ±2 digits
0-4MΩ	0.001MΩ	±1.5% of reading ±5 digits
0-40MΩ	0.01MΩ	±2.0% of reading ±6 digits

Capacitance (Manual Range)

Range	Resolution	Accuracy
0-52nF	0.01nF	±3% of reading ±7 digits
0-520nF	0.1nF	±3% of reading ±5 digits
0-5.2uF	0.001uF	±3% of reading ±5 digits
0-52uF	0.1uF	±10% of reading ±10 digits
0-100uF	0.1uF	±10% of reading ±10 digits

Diode Integrity Check

Range	Resolution	Accuracy
1.5V Open	0.001V	±10% of reading ±5 digits

Continuity Check

Range	Resolution	Accuracy
400Ω (Display reading)	0.0Ω	±0.8% of reading ±6 digits
Beeper sounds when<30Ω	0.0Ω	±0.8% of reading ±6 digits

Non-Contact AC Voltage Detection

Range	Resolution
0000 (signal strength)	1 count
Buzzer speeds up and red backlight flashes when signal strength >0010	1 count

Non-Contact AC Current Detection

Range	Resolution
0000 (signal strength)	1 count
Buzzer speeds up and green backlight flashes when signal strength >0010	1 count

MAINTENANCE TIPS

The GT320 is not waterproof or water-resistant; avoid water, toxic environments and temperature extremes.

Do not turn on the meter immediately after it has been taken from a cold to a warm environment. The condensation that may result could destroy the unit. Leave the meter switched off and wait until it reaches room temperature.

Remove the battery when you do not expect to use the unit for a long period of time (several months).

Clean the display by wiping it with a damp soft cloth. Never use solvents or abrasives.

OPTIONAL ACCESSORIES AND REPLACEMENT PARTS

- Replacement GTSF05 Wireless USB Receiver (dongle)
- Replacement RD330 Remote Display with Memory
- Replacement TL300 Fused Test Leads

WARRANTY INFORMATION

General Tools & Instruments' (General's) GT320 Wireless Data Logging Multimeter with Dot Matrix LCD plus NCVD/NCCD is warranted to the original purchaser to be free from defects in material and workmanship for a period of one year. Subject to certain restrictions, General will repair or replace this product if, after examination, the company determines it to be defective in material or workmanship.

This warranty does not apply to damages that General determines to be from an attempted repair by non-authorized personnel or misuse, alterations, normal wear and tear, or accidental damage. The defective unit must be returned to General Tools & Instruments or to a General-authorized service center, freight prepaid and insured.

Acceptance of the exclusive repair and replacement remedies described herein is a condition of the contract for purchase of this product. In no event shall General be liable for any incidental, special, consequential or punitive damages, or for any cost, attorneys' fees, expenses, or losses alleged to be a consequence of any damage due to failure of, or defect in any product including, but not limited to, any claims for loss of profits.

RETURN FOR REPAIR POLICY

Every effort has been made to provide you with a reliable product of superior quality. However, in the event your instrument requires repair, please contact our Customer Service to obtain an RGA (Return Goods Authorization) number before forwarding the unit via prepaid freight to the attention of our Service Center at this address:

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GT320 User's Manual

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