

## Portable Traffic Analyzer Quick Reference Guide

## Models: QTT NC-100™ Portable Traffic Analyzer and QTT NC-200™ Portable Traffic Analyzer

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### INTRODUCTION

Thank you for your purchase of the QTT NC-100™ Portable Traffic Analyzer or QTT NC-200™ Portable Traffic Analyzer. The models QTT NC-100™ Portable Traffic Analyzer and QTT NC-200™ Portable Traffic Analyzer are self-contained traffic analyzers that require no external sensors. The analyzers are installed under a protective cover, securely affixed in the center of each traffic lane to be monitored. The devices use magnetic sensors and do not require contact by a motor vehicle. The ideal placement has the center of each motor vehicle passing directly over the analyzer. The QTT NC-100™ Portable Traffic Analyzer provides the count of each vehicle. The QTT NC-200™ Portable Traffic Analyzer counts and measures each vehicle's speed and length, and provides the roadway temperature. A personal computer (PC) running the Highway Data Management (HDM) software is used to communicate with the unit. Using the CD provided, install the software on a personal computer that you will use to program the analyzers for a traffic study and then, define, view, manage, and print the results of your traffic studies.

### BATTERY INFORMATION

The QTT NC-100™ Portable Traffic Analyzer and the QTT NC-200™ Portable Traffic Analyzer use a rechargeable lithium ion battery. The maximum time that the unit can count traffic during a study is dependent on the charge of the battery. The unit conserves power whenever possible so in areas where there are low volumes of motor vehicles, the total number of hours that the unit will operate on a single charge will be increased. At locations with high volumes of motor vehicles, the unit's internal processor will be active a higher percentage of the time, draining the battery more rapidly. **Assure the battery is fully charged prior to each use.**

### **CAUTION: USE ONLY THE CHARGER SUPPLIED WITH THE QTT NC-100/200™ PORTABLE TRAFFIC ANALYZER WHEN CHARGING THE UNIT. THE CHARGING CIRCUITRY IS DIFFERENT AND INCOMPATIBLE WITH ALL OTHER MODELS.**

To charge the battery, **FIRST** insert the charging plug into the pins located on the front side of the unit. **NEXT**, insert the outlet plug into a wall outlet. **The unit will then begin charging. NEVER plug the charger into the wall outlet prior to inserting the charging plug into the unit and ALWAYS disconnect from the wall outlet prior to removing the charging plug from the unit.** The green LED on the battery charging table will turn on when the unit is fully charged. Allow for 8 - 12 hours of charging prior to programming a unit and always ensure that the unit is fully charged before programming.

### PLANNING YOUR STUDIES

You will need an analyzer placed in each lane of travel you will be monitoring. Gather the necessary number of units, make sure they are sufficiently charged and you have protective covers and installation materials. You will normally want all the units to begin and end the study at the same time, so determine the start date, end date, city, state, route and lane information. When determining the study start time, remember you must give yourself sufficient time to place the units on the road prior to having them begin the study. The software assumes a minimum of (30) THIRTY MINUTES is required for travel to study location and installation.

### CONNECTING THE DEVICE

An Interface Cable is provided for communications to the unit. Launch the HDM software and connect the cables to the computer. If you have more than one serial communications port on your computer be sure to notice into which port you are connecting the cable. COMM1 and COMM2 are normal identifiers for serial ports. You will need to set the software to the serial port you are using.

### PROGRAMMING

Read the section of the HDM User Manual that discusses programming before you attempt to program the QTT NC-100/200™ Portable Traffic Analyzer. There are numerous changes from earlier versions of HDM. Remember to completely identify the location information of the study and make yourself a note which lists which QTT NC-100/200™ Portable Traffic Analyzer by serial number will be placed in each location. Keep this note until the study is complete, the units are picked up, and the units have been read successfully by HDM.

**IMPORTANT:** Remove the connector from the unit when prompted. Otherwise, the unit will soon detect that you are still connected and **ASSUME YOU WANT TO ABORT THE PROGRAMMED STUDY. DO NOT LEAVE THE UNIT ATTACHED AFTER BEING INSTRUCTED TO DISCONNECT IT.**

When complete, transport the units, protective covers, installation equipment, and **SAFETY ATTIRE** (Reflective Vest, Hardhat, Flasher...etc.) to the study location.

### INSTALLING ON THE ROADWAY

When using power tools to perform the installation, be sure to read and understand the operations and safety recommendations of the manufacturer. The QTT Portable Traffic Analyzer should be installed in the center of the traffic lane with the arrow on the counter pointing in the direction of traffic flow. If the Unit is mounted in the reverse direction it may count traffic but all other data will not be accurate. In free flowing traffic areas, the counter may be installed at any desired location where traffic is channeled to pass over the counter. Try not to mount the counter near curves or on wide traffic lanes where vehicles may miss the counter. Metal bridges should be avoided, as the counter may not be able to neutralize the magnetic effect from the metal construction. If bridge measurements are necessary, place the Unit before or after the bridge. On some bridges, ramps, and overpasses the effect may be negligible. Only a trial test can positively determine an acceptable location. Always try to position the Unit where vehicles are moving freely for best accuracy and results. A reusable natural rubber Protective Cover is screwed (never nailed) to the roadway surface over the Unit to hold the unit in place. The Unit can also be installed on gravel and unimproved roads, but 8 screws are recommended.

Customers may procure their own hardware (washers, self tapping masonry screws, masonry drill bit and nut driver) or purchase Asphalt installation kits or Concrete installation kits from Nu-Metrics. The Asphalt installation kit [NMI Part# 7002031] consists of:

- 500 flat washers, that fit the fastener holes of the cover
- 500 ¼" x 3 ¼" hex washer head self tapping masonry screws
- 5 3/16" x 6" masonry hammer drill bits
- 1 3/8" magnetic nut driver with ¼" shank

The Concrete installation kit [NMI Part# 7002030] consists of:

- 500 flat washers, that fit the fastener holes of the cover
- 500 ¼" x 1 ¾" hex washer head self tapping masonry screws
- 5 3/16" x 6" masonry hammer drill bits
- 1 3/8" magnetic nut driver with ¼" shank

The customer can use a hammer drill equipped with a standard Jacob chuck to install the cover with either kit. The customer may also opt to use the recommended Hilti hammer drill with its drill/screw setting facilities. (See screw install below).

**IMPORTANT:** When installing or retrieving any QTT portable traffic analyzers, be sure to wear proper safety attire; reflective vests, safety goggles, hard hats, etc. - Place the analyzer in the center of the traffic flow lane. Select a location that is level and smooth. Position the Protective Cover over the unit so that the bottom of both cover and unit are flush with the road surface.

### **SCREW INSTALL**

Place 1 new washer on each of the 4 new screws to be used. If installed in high traffic volume area, or if the aggregate is soft, use 8 washers and screws. Pre-drill the holes where the screws will be placed. (Drill a minimum of 1/2" deeper than the length of the screw). Insert the screws into the pre-drilled holes and tighten (do no over-tighten). Hilti Screw Hammer/Driver with adapter is recommended (Nu-Metrics Part No. HI 3070) for fast and easy installation. Use the recommended screw sizes for Asphalt. For removal, reverse the drill or hammer/drill and remove screws. Take care to ensure that the installation process does not disturb the alignment of the unit. Poor alignment may have a major impact on the study results such that a second study may need to be run.

### **RETRIEVING THE UNITS**

When the end date and time for the study has passed, you will retrieve the units from the study location. Transport the required equipment and SAFETY ATTIRE to the study location. (Reflective Vest, Hardhat, Flasher...etc.) Remove the units from the road surface by un-screwing the fasteners.

### **READING THE TRAFFIC STUDIES**

Launch the Nu-Metrics' HDM Software. Open a study catalog(s), where you will store your studies. The HDM software will have a menu item that has the word "Hi-star", select that menu item and then select the "Read" sub-menu item. When prompted, connect the first unit to be downloaded to the interface adapter. When prompted, disconnect the first unit and then attach each subsequent unit. Once the units are read, you can use the viewing/reporting and management functions of the software to review the results of your traffic studies.

### **SERVICE OF YOUR EQUIPMENT**

If your equipment should ever need servicing, you must directly contact Nu-Metric's Service department to acquire an RMA (Return Merchandise Acceptance) number to be included with your shipment. Send it (freight prepaid) to:

QTT Service Center • 518 University Drive • Uniontown, PA 15401

### **WARRANTIES AND LIABILITIES**

QTT warrants the disk(s) or CD(s) on which the software is recorded to be free from defects in materials or faulty workmanship under normal use for a period of ninety (90) days from the date of invoice as evidenced by a copy of the sales invoice. QTT will, at its option, replace or repair any defective disk(s) or CD(s) at no charge to you, provided you return the faulty disk(s) or CD(s) with a copy of the original sales invoice to your authorized distributor or to QTT. QTT or any distributor, dealer, agent, or employee shall have no responsibility to replace or refund the purchase price of a disk(s) or CD(s) damaged by accident, abuse, or misapplication. **Except for the limited warranty contained herein, all software (but not software covered by other manufacturers warranty) is provided "as is" without warranty of any kind, and QTT expressly disclaims all implied warranties, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.** QTT does not warrant, guarantee, or make any representations regarding the use or the results of the use of the software or any accompanying written or electronic materials in terms of their correctness, accuracy, reliability, or otherwise. The user assumes the entire risk as to the results and performance of the software and written or electronic material. QTT does not warrant that the software will work correctly in a multi-user or network environment. If the software is defective, the user, and not QTT or its dealers, distributors, agents, or employees, assumes the entire cost of all necessary servicing, repair, or correction. Some states do not allow the exclusion of implied warranties, so the above exclusion may not apply. In no event will QTT or its developers, directors, officers, distributors, dealers, representative, employees or affiliates be liable to the user for any consequential, incidental or indirect damages (including damages for loss of business profits, business interruption, loss of business information, and the like) arising out of the use of or inability to use the equipment, software, hardware or accompanying written or electronic materials, even if QTT or an authorized QTT representative has been advised of the possibility of such damages. Because some states do not allow the exclusion or limitation of incidental or consequential damages, the above limitations may not apply to you. Copyright 2005 © QTT, Inc. - A Quixote Company: This document contains or refers to information that is protected by copyright or patents. Copying or other reproduction or duplication of this document and associated software, for sale or other distribution, is prohibited and unlawful without the prior written permission of QTT.

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