MetroCount® 5600 *Series*

Vehicle Classifier System

Freeway SOUTH 2 ↑
5 Riverside Dr
53 City Centre
P EXIT LEFT LANE

MetroCount®
Vehicle Classifier System

The revolution in traffic surveying continues…

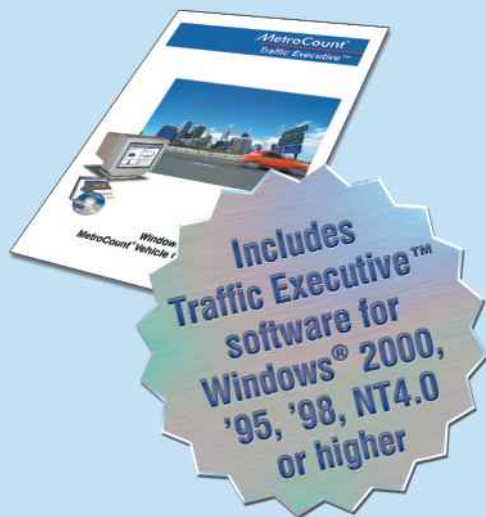# MetroCount® Vehicle Classifier System

Problem: You've just finished a speed survey, but now need vehicle classes. Can you afford another survey?

Problem: You need to remove traffic congestion from your data to give true 85th speed percentiles for all vehicles, then separately for only the motorcycles. How?

Problem: You've just finished surveying for a week, recording fifteen minute traffic volumes, but now need to know the speed of each heavy vehicle on Tuesday night. What can you do?

Do you ever wish you had an affordable roadside "Black Box" recorder that lets you examine the traffic – AFTER the event?

Solution: MetroCount gives you much more than just simple class, speed and volume reports, allowing you to search and zoom into the exact detail, right down to individual axles.

The MetroCount Vehicle Classifier System combines state-of-the-art traffic logging hardware with powerful, yet easy-to-use software. MetroCount provides you with a total solution to all your traffic monitoring issues, from routine statistics through to the most complex traffic management problems.

MetroCount – a revolutionary new approach to traffic surveys

Almost ten years ago we decided to completely overhaul the traffic data gathering process. We set out to improve every aspect, from axle sensors and logging hardware, through to traffic analysis software.

This effort resulted in a very simple, yet extremely effective new approach: store *every* axle and process them all later. We have continually refined this approach to bring you our latest, 6th generation, MetroCount Vehicle Classifier System.

MetroCount hardware and software

Comprising the all-new MetroCount 5600 *Series* Roadside Unit (the hardware) and our latest, world-leading Traffic Executive package (the software), **MetroCount will revolutionise the way you think about traffic data**.

Traffic Executive™ Windows software included

Our philosophy is to provide you with high quality software at no extra charge. That's why we include Traffic Executive with MetroCount, instead of being an expensive, after-sale option.

Every individual vehicle is retained in the data

The key to MetroCount's unbeatable flexibility is the way traffic data is collected. The MetroCount Roadside Unit precisely logs EVERY axle, no matter whether you're classifying vehicles or doing simple counts. You start a survey by simply entering site details, nothing more!

Unlike traditional classifiers and counters, MetroCount does not process traffic data at the roadside. The actual traffic analysis is done later, on your computer, with Traffic Executive.

You decide after the survey how to interpret your data, by selecting the report or data type you need. You can easily generate varied reports and graphs with speed statistics, volumes, classes, gap, and more. Traffic Executive makes these tasks easy and meaningful for you.

The MetroCount approach frees you from instructing field staff on your required traffic parameters, and lets you make intelligent choices in the review and audit of your data.

With memory options up to 2MB and efficiently storing up to 1,000,000 axles, MetroCount makes other systems that "bin" or summarise vehicle speeds obsolete.

The MetroCount Vehicle Classifier System includes:

- MetroCount Roadside Unit.
- MetroCount Traffic Executive software for Windows '95, '98, NT4.0, 2000 or higher.
- Comprehensive operating and reference manual, and other accessories.

The MetroCount Vehicle Classifier System combines hardware and software into a complete package for all traffic surveys.

Includes Traffic Executive™ software for Windows® 2000, '95, '98, NT4.0 or higher

To learn more about MetroCount software, please see the accompanying Traffic Executive software brochure.

MetroCount® 5600 *Series* Roadside Unit

To further improve the user-friendly features of the MetroCount® Vehicle Classifier System, we have developed the all-new, easy-to-use MetroCount 5600 *Series* Roadside Unit.

New design for high reliability

The MetroCount 5600's all-new, sophisticated, modular design, with advanced firmware provides extremely high reliability and serviceability. Now with a user-replaceable alkaline battery pack and advanced power-saving features, you can survey continuously for 290 days without replacing the batteries (even longer for less frequent use – see Table 2 on back cover). The Roadside Unit's firmware is designed to prevent premature flat batteries: it automatically powers down when the survey is finished, if the memory is full or if no data is logged for more than a week.

The MetroCount 5600 Series Roadside Unit has "Dual Level" protection. All electronic components are sealed in the internal PVC box. This, in turn, sits in its tray which slides into the outer stainless steel box.

To further protect against tampering, the Roadside Unit, when locked, clamps the road tubes without additional fittings.

Data collection

To collect traffic information, the MetroCount 5600 *Series* Roadside Unit uses two rubber pneumatic tube axle sensors. Unlike most other traffic survey systems, it operates in only one mode: storing every axle – you simply set the logger running. So, you don't need to worry about the traffic information you need before the survey – ALL data is available for subsequent analysis, anytime in the future.

User feedback features

With MetroCount, you have complete control over your survey activities. During site inspections, the Roadside Unit will give you critical feedback, via the software, about memory usage, battery condition or tube problems. Even if you don't have a notebook computer, the MetroCount 5600 *Series* Roadside Unit's LED indicators will assist you with operating and diagnostic functions.

MetroCount 5600 with LED status indicators for operating and diagnostic functions without a computer.

Adaptive auto-ranging axle sensors

Our adaptive auto-ranging axle sensors (or "air switches") will detect a huge variety of vehicles, from bicycles to heavy vehicles, without any user-adjustment. Say goodbye to end valves, routine calibrations, and other sensitivity adjustments forever.

Protection from the elements

Vital components have "Dual Level" protection: the outer stainless steel road case provides robust mechanical protection, while the electronics and axle sensors are sealed, totally weatherproof, in the Main System Unit's PVC enclosure.

To frustrate vandals, the unique "Drawer" arrangement secures the road tubes without additional fasteners. Virtually any padlock can be used to lock the Roadside Unit while still allowing data access without unlocking. Ergonomic design allows up to four units to be carried easily.

Why use pneumatic tubes?

Detecting axles with rubber pneumatic tube is easily the most cost-effective traffic sensing method, especially for short-term surveys. Pneumatic tubes are cheap, accurate and reliable, and operate effectively over a huge range of environmental conditions.

Throughout the world, all detailed vehicle class schemes are based on axles. Many systems have tried inductive, optical or magnetic methods. Only axle detectors, however, give precise speeds and wheel positions over the entire vehicle spectrum, from motorcycles through to heavy vehicles.

Surveys with traditional tube-based systems may be frequently plagued by tube bounce, vehicle speed and trajectory problems. The MetroCount Vehicle Classifier System, however, has revolutionised the tried-and-tested use of pneumatic tubes. With all axles retained, MetroCount deals with these factors very effectively.

Features of the MetroCount 5600 *Series* Roadside Unit:

- All-new, totally weatherproof, modular design for ultra-high reliability.
- Massive memory: 512kB to 2MB. Stores up to 1,000,000 individual axles.
- No classes, speed bins, or time steps required. With all axles retained, you decide later which classes, speeds, etc to report.
- User-replaceable alkaline battery pack, with advanced power saving features for long battery life – survey continuously for 290 days without replacing batteries (see Table 2 on back cover).
- Automatic shut-down when memory is full, the battery runs low, when not in use, or if no data logged for more than a week.
- Adaptive auto-ranging axle sensors detect bicycles through to heavy vehicles, eliminating sensitivity adjustments, end valves, bleed holes and any other periodic user calibration.
- Adjustable software debounce to eliminate bad tube data.
- Unit issues warnings via the software during site visits, advising of tube or battery problems.
- High intensity LED status indicators to check operation without a computer.
- Robust comms connector with screw-on dust-proof cap.
- Easy-to-carry, stainless steel road case with integral tube clamping to deter vandalism.

See the Traffic Executive brochure to learn more about MCSurvey, the software module for controlling the MetroCount 5600 Series Roadside Unit.

MetroCount®

Vehicle Classifier System

Specifications & Requirements for Traffic Executive™ Windows software

Pentium or compatible personal computer, 150MHz or faster, with at least 32MB memory and at least 10MB of hard disk space, running Microsoft Windows '95, '98, NT 4.0, 2000 or higher. Display with at least 800 x 600 resolution, with 256 or more colours. At least one serial port must be available to communicate with the Roadside Unit.

Although not absolutely necessary (as the Roadside Unit can be setup in the office with the start time deferred), using MCSurvey with a notebook PC is an advantage. This enables entry of parameters in the field, real-time viewing of individual vehicles to verify tube performance and, if required, adjustment of digital debounce filters.

MetroCount® Signature System

We have created a sophisticated interaction between the MetroCount Vehicle Classifier System hardware and software that allows us to offer a variety of Option Levels, including Base, Regular and Plus, all with the option of Batch processing.

Each MetroCount Roadside Unit of the 55xx *Series* or newer has an Authenticity Signature that identifies the Option Level you purchase. Traffic datasets created using MCSurvey then inherit this Option Level. Other programs in Traffic Executive dynamically change their available features based on the Option Level of the datasets you load.

One of the best features of the MetroCount Signature System is that you can easily upgrade the Option Level of your Roadside Units, any time after purchase, via fax or e-mail. We simply supply you with new Authenticity Signatures, then any new datasets you create will have your new Option Level.

Old datasets can be upgraded to your new Option Level, but only by MetroCount. Contact us for details about our Dataset Signing Service.

Table 1. MetroCount 5600 Series Roadside Unit Hardware Specifications

Internal battery	User replaceable battery pack 6V 18Ah, 4 D alkaline cells.
Battery life	290 days at 25°C in continuous Run mode.
Current drain	Run – less than 1.8mA. Stop – less than 100μA. Comms – less than 8mA.
Memory	512kB, 1MB and 2MB CMOS RAM.
RAM backup	3.6V Nickel Cadmium.
Baud rate	9,600 or 38,000bps, using Block method with Acknowledge.
Sensor type	Pneumatic tube.
Time resolution	Better than 1ms.
Sensor spacing	800mm to 1200mm.
Enclosure	Dual system with outer stainless steel road case and internal PVC Main System Unit.
Dimensions	Stainless steel road case – 350mm x 124mm x 95mm. PVC Main System Unit – 243mm x 107mm x 82mm.
Weight	Stainless steel road case – 2.5kg. Main System Unit without battery pack – 1.06kg. Battery pack – 570g.
Storage temp.	-20°C to 70°C.
Operating temp.	-10°C to 60°C with reduced battery life at temperature extremes.
Operating humidity	0 to 95%, non condensing.
Altitude	0 to 3000 metres.
Accessories	Traffic Executive™ software. Operating and reference manual. Data communications cable.
Optional accessories	Traffic survey field kit. Notebook computer. Printer.

Table 2. Estimated battery performance
Based on measurements of 6V/18Ah alkaline battery pack at 25°C

Duty Cycle	Example of Usage	Battery Life (approx.)
100%	Continuous surveys	290 days / 0.8 yr
50%	1 week survey / 1 week off	540 days / 1.5 yrs
25%	1 week survey every 4 weeks	1,080 days / 3.0 yrs

Table 3. Individual vehicle capacity
Class / speed survey, ALL axles with spacings, 2MB memory

Road ADT (4 lanes)	Traffic Volume (per lane)	Days (approx.)
64,000 per day	16,000 per day	14
32,000 per day	8,000 per day	28
16,000 per day	4,000 per day	60
8000 per day	2,000 per day	120

Table 4. Individual axle capacity
Count survey, single sensor, ALL axles

Memory	Total Axle Events Logged (approx.)
512kB	250,000
1MB	500,000
2MB	1,000,000

Contact us or visit our Web Site:

- For more information about the MetroCount Classifier System
- For traffic network solutions
- For permanent multi-lane sites
- For dial-up traffic systems
- To request a FREE COPY of our *Traffic Executive* demo CD
- For our other traffic products
- For software demos
- For product updates

at:

http://www.metrocount.com

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AUSTRALIA / NEW ZEALAND / ASIA
Microcom Pty Ltd
ACN 009 273 410

P.O. Box 1182, Fremantle, Western Australia, 6959

Phone: **(08) 9430 6164**
Int'l phone: +61 (8) 9430 6164

Fax: **(08) 9430 6187**
Int'l fax: +61 (8) 9430 6187

E-mail: **sales@metrocount.com**

UK / EUROPE
MetroCount (UK) Ltd

Brunswick Ctr, 33 O'Donnell Crt, London WC1N1AQ

Phone: **(020) 7833 4767**
Int'l phone: +44 (20) 7833 4767

Fax: **(020) 7278 8422**
Int'l fax: +44 (20) 7278 8422

E-mail: **uksales@metrocount.com**

USA / CANADA / MEXICO
MetroCount USA

MetroCount USA North-East – Maryland
Phone Toll Free: **(800) 576 5692**

MetroCount USA South-East – Florida
Phone Toll Free: **(800) 954 6196**

MetroCount USA West – Arizona
Phone Toll Free: **(800) 837 2562**

E-mail: **usasales@metrocount.com**

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