

# Ozone Calibration Standards

Ozone Primary and Transfer Standards ideally suited for the calibration of ambient ozone analyzers in the laboratory or field

## Portable Docking Station



- Model 734 Ozone Primary Standard
- Model 724 Ozone Transfer Standard (US EPA Equivalent Method EQOA-0407-165)



## Rack Mountable Dual Docking Station

Tanabyte is proud to present a comprehensive line of ozone calibration instruments, designed with the specific needs of auditors, laboratory quality assurance engineers and site operators in mind.

Whether your need is for an ozone primary standard or an ozone transfer standard, the pneumatics and electronics needed to perform ozone generation and measurement is mounted on a removable "module" that can be inserted into one of two types of enclosure or "Docking Stations".

The Portable Docking Station is small and rugged - ideal for field auditors and traveling service personnel. The Dual Docking Station supports two independent modules in a rack mountable enclosure. Its 5¼" height takes up less rack space than other rack-mount calibrators on the market, which are typically 7" or higher.

## Common Features:

- Advanced microprocessor diagnostics assure optimal operation.
- Color graphic display with high contrast, wide viewing angle and large digits
- The menu system is very intuitive and easy to learn and use.
- An analog input allows the results of instrument calibrations to be captured.
- Analog outputs allow measurement or diagnostic data to be sent to a data logger or chart recorder.
- A removable SD Flash Memory Card allows the results of calibrations to be saved and later viewed, analyzed or charted on a PC. In addition, setup and internal calibration data may be up or down loaded via the SD card.
- Pre-programmed ozone calibration sequences may be entered and initiated manually, automatically at preset times or by digital input command.
- A variety of networking and data acquisition options are supported on Serial RS-232 and USB ports, including Dasibi "Dot" commands, the Modbus protocol and remote operation via menus.
- The modular design simplifies maintenance. Using an extension cable, the module can be operated outside the docking station while servicing.

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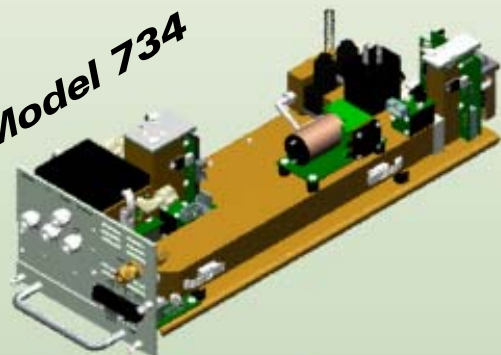
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# Calibration Modules

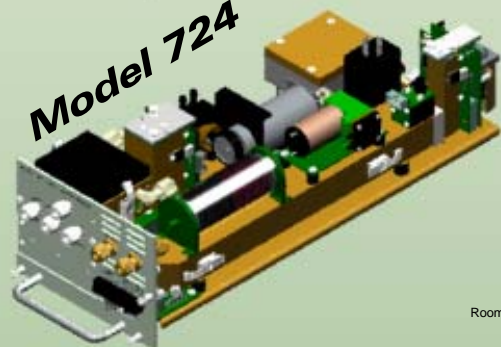
The heart of all Tanabyte Ozone Standards is the "Module". Each Module consists of a tray with a rear panel attached onto which all pneumatics, electronics and software needed to perform the ozone generation and measurement is mounted. One or more Ozone Standard, Calibration or Gas Analysis Modules can be plugged into the Docking Station that best suits the needs of the application.

The Model 734 Primary Standard requires an external zero air supply, which provides air flow for the ozone generator and is used in place of an ozone scrubber for the photometer's reference air. The Model 724 Ozone Transfer Standard is completely self-contained, incorporating its own zero air supply and ozone scrubber.

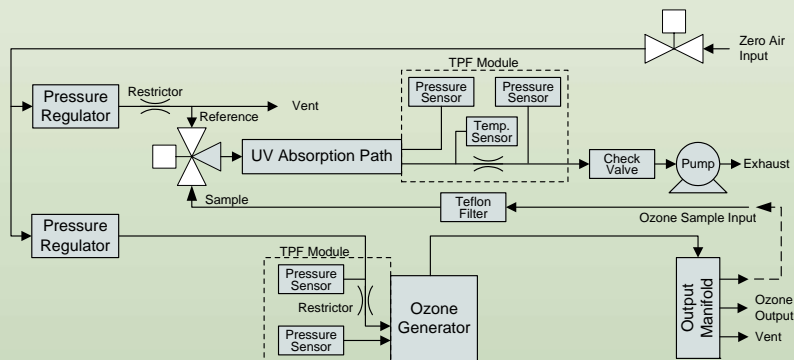
**Model 734**



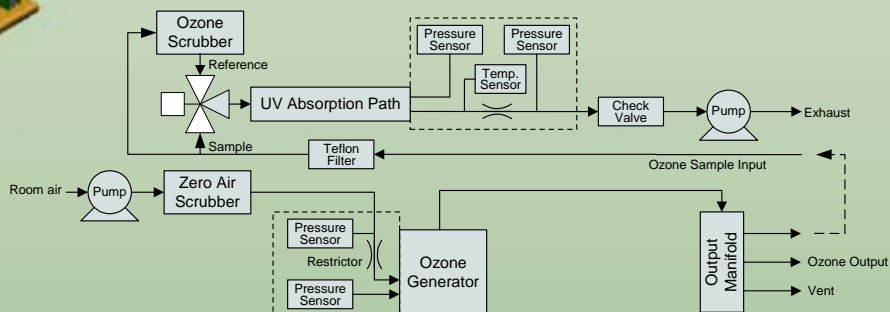
**Model 724**



## Ozone Primary Standard Calibrator



## Ozone Transfer Standard



### **Ozone Photometer Specifications:**

Analog outputs:	4 isolated 16-bit outputs with $\pm 100$ mV to $\pm 10$ V independent ranges
Full Scale Range:	100 to 10,000 PPB, independently programmable for each output
Sample Flow Rate:	.5 to 2.0 LPM, adjustable
Photometer Cycle:	3 to 20 seconds, adjustable
Zero Noise:	< 0.0003 PPM
Span Noise:	< 0.5% of reading (above 100 PPB)
Precision:	< 0.5% of reading
Linearity:	< 1% of full scale
Zero Drift	< .001 PPM per month
Span Drift	$\pm 1\%$ per month
Lag / Rise / Fall Times	10 / 20 / 20 seconds, respectively (with fast cycle setting)

### **Ozone Generator Specifications:**

#### **Model 724 and 734:**

Ozone Output Range:	0 to 1000 PPB (at 5 SLPM)
Minimum Non-zero Ozone Output:	1 PPB
Ozone Output Resolution:	0.5 PPB
Ozone Output Linearity:	+/- 1% of range

#### **Model 724 only:**

Zero Air Flow Rate	2.5 to 6.5 LPM
Zero Air Pollutant Concentrations:	NO, NO <sub>2</sub> , H <sub>2</sub> S, SO <sub>2</sub> , O <sub>3</sub> , Non-methane hydrocarbons < 1PPB

# Selecting a Docking Station

Though Tanabyte calibration and analysis modules represent complete, self-contained systems, autonomously performing their designated calibration or gas analysis functions, they require an enclosure, DC power and some means of retrieving data and interacting with the modules. Docking Stations provide all these in addition to other services, such as ventilation and networking.

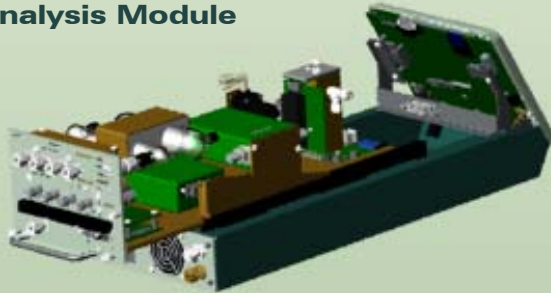
At the present time, Tanabyte offers two Docking Stations, primarily distinguished by the number of Docking Ports supported. The Portable Docking Station is designed not only to be rugged and reliable for portable applications, but also requires very little space for bench-top applications. The Dual Docking Station may be bench mounted or rack mounted, requiring only 5¼" of rack space.

## Docking Station Common Features

- Universal power supply operates from 90-264 VAC at 50 or 60 Hz.
- Color TFT display supports a graphical user interface that is easy to learn and use.
- Keypad with raised keys and tactile response
- SD Memory Card, removable from the front, for data and setup storage
- Optional Ethernet and USB ports for connection to a network or PC \*

\*Contact Tanabyte about availability

### The Portable Docking Station supports any Calibration or Analysis Module



### **Docking Station Specifications**

#### **Physical Specifications**

##### Dual Docking Station:

17" Wide x 5.25" High x 21" Deep (432 x 133 x 533 mm)  
Empty Weight: 12½ lb (5.7 kg)

##### Portable Docking Station:

8.1" Wide x 9" High x 23.4" Deep (206 x 228 x 594 mm)  
Empty Weight: 9 lb (4 kg)

#### **Environmental Specifications**

Operating Temperature: 5° to 45°C

Humidity: 0 to 90%, non-condensing

Power Requirements: 90 to 264 VAC, 50 or 60 Hz,  
100 Watts max per Docking Bay

### **What is a Docking Station?**

A Docking Station is a rugged enclosure designed to provide Docking Ports for one or more Tanabyte modules. In addition to enclosing the modules, a Docking Station has the following features:

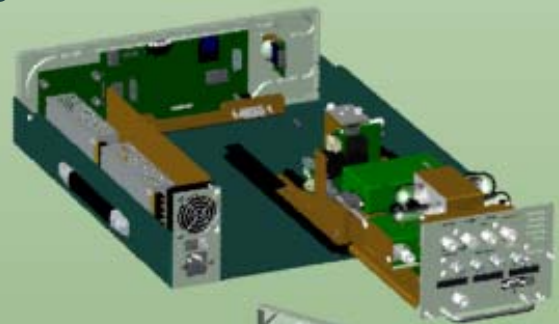
- Docking Ports for one or more modules
- A User Interface for controlling and monitoring the modules
- Power Supplies
- Ventilation
- Network Connections
- Data storage

### **What is a Docking Port?**

A Docking Port is a plug-in slot designed to accept any 7" wide analysis or calibration module manufactured by Tanabyte. Each Docking Port consists of two slides, captive nuts to secure the module in place and a docking connector to provide power and communications to the module when plugged in.

### The Dual Docking Station Can support ...

One ...

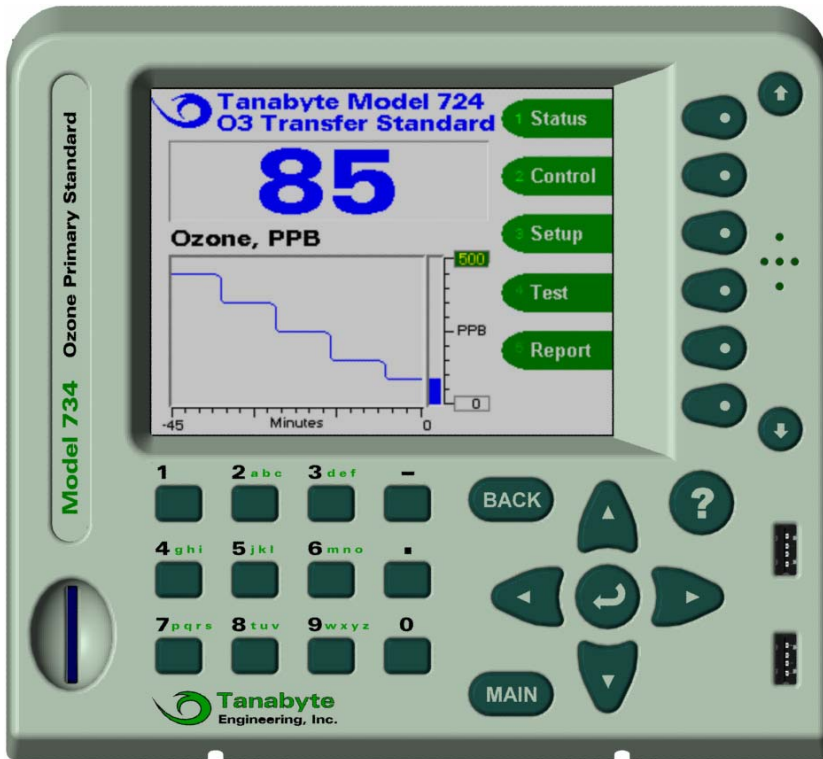


... Or Two

Calibration or Analysis Modules



# Model 724/734 Advanced Software Features

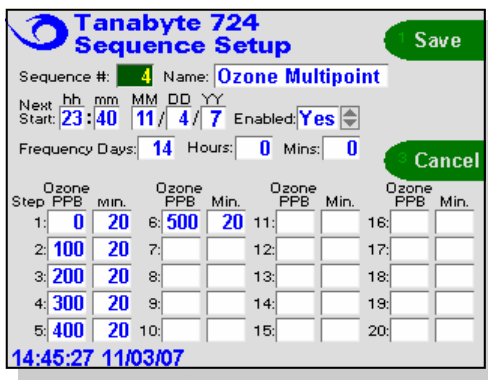


Whether performing field audits, laboratory work or operating an air monitoring station, the advanced software features of Tanabyte Calibrators can make your job much easier.

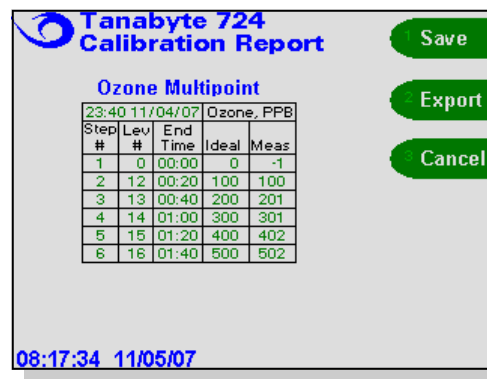
With a bright color display, a Graphical User Interface, an easy to follow menu system and raised keys with a positive tactile feel, Tanabyte Ozone Standards are extremely easy to learn and use.

The multi-level menu system operates much like that of an ATM machine. Pressing buttons to the right of the display select the functions labeled on the screen. Cursor keys allow the screens to be navigated in an intuitive way while the numeric keypad allows numbers and text to be entered.

Selected ozone concentrations can be activated manually, by remote digital control or from within timed "Sequences". Sequences of ozone levels can be initiated manually, by digital control or automatically, at preset times and frequencies.



Connecting an external ozone analyzer to the provided analog input allows detailed calibration reports to be automatically generated and saved to the SD Memory Card for later viewing on the front panel or a PC.



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