



Innovative solutions
for Life Science
sample tracking and management



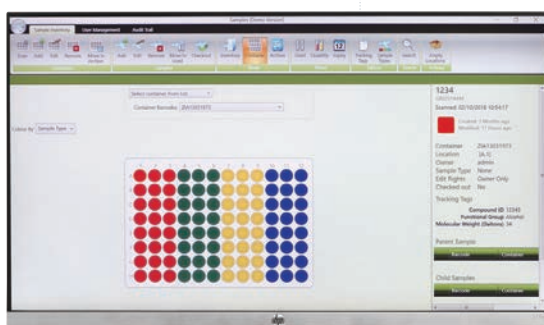
INTRODUCTION

Nearly 20 years ago, Ziath was the first company to develop a fast and easy to use rack reader that accurately read and decoded full 96-position racks of 2D tubes. Today Ziath is a global leader in the use of 2D bar-coded sample tubes in the management of large sample libraries. Our readers have an enviable reputation worldwide for working straight out of the box, giving years of uninterrupted service. We achieved this by designing and building all our own equipment and software in our UK factory. When you buy a Ziath reader, you are buying it from the scientists and engineers who originally developed it and are best positioned to help you get the most from your investment in our technology. Only Ziath can do this. We listen to our customers and develop new products to help solve their sample management problems.

Our continual investment in R&D has revolutionized the way 2D barcoded tubes can be used and integrated into your workflows. Ziath were first to produce a camera-based scanner, first to get the read time for 96 tubes down to under a second, first to offer nine data export formats,

first to reliably read AcoustiX™ tubes, first to use Artificial Intelligence to discern empty wells and first to offer full network control of your scanners from any connected laptop, tablet or phone on the same network. And now, Ziath is the first to offer you a fully portable, network enabled whole-rack reader you can take to the freezer room or remote storage location.

Ziath instruments integrate into existing workflows. Ziath has direct experience at the lab bench, so we completely understand the applications and challenges faced by our users. With unparalleled technical support, we ensure our customers can spend more time on their research and less time worrying about the location of their samples.



With Ziath high-speed readers and automated tube selectors, sample tracking and inventory management has become easier and more secure. The efficiency, speed and accuracy of decoding these barcodes has become

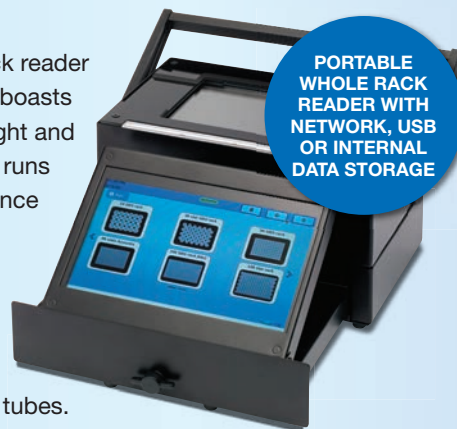
key to a successful workflow. With their ability to handle multiple formats, Ziath scanners are now the industry standard by which others are evaluated.

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CAMERA-BASED SCANNERS

Lux

The latest innovation from Ziath is the first truly portable camera-based rack reader that can be used in the lab as well as in front of your freezers or store. Lux boasts an average 8 hour battery life in everyday usage, will re-charge fully overnight and yet is small and light enough to carry comfortably. The latest DP5 software runs on a built-in computer and state of the art electronics with artificial intelligence are used to read your racks, process and store the data and find any unoccupied wells in the rack. It all folds away neatly for transport and will eliminate the tedious process of retrieving racks back to lab only to find that you need a different one! Once within range, Lux connects to your LAN and can send data directly or can store it on a plug-in USB storage device. An optional upgrade is available for Lux to read Azena AcoustiX™ tubes.



Cube

The Cube is a fast camera reader with a unique cuboid design that can scan all rack types currently available on the market, including those which are larger than the SBS format, such as cryoboxes. The format is user-selectable through a quick and simple exchange of the screen bezel. This high-speed reader uses a dual camera system to decode 384-, 96-, 48- and 24-tube racks in 1-2 seconds on a normal computer. A robust build and minimal cabling make it great for both benchtop and integrated applications.



Express

The Express is a compact camera reader that decodes all SBS 2D barcoded racks, with a very fast image capture time. The Express is the smallest reader on the market and is only slightly larger than the SBS rack itself, it is ideal for on-deck robotic integration. The Express can decode even the smallest 2D barcodes found on 384-tube racks. It is recommended by many liquid-handling robot suppliers. An inverted version is available to read Bruker NMR tubes. Please ask us for a separate data sheet.



Mirage

Ziath's most popular rack reader, the Mirage, was designed around low profile and low cost of ownership. With both achieved, the Mirage can be used for both desktop and automation applications and comes at an affordable price. It can scan all commonly used SBS format racks. An optional upgrade is available for Mirage to read Azena AcoustiX™ tubes.



Ziath's DP5 control environment for our scanners uses fast and reliable cutting-edge communications protocols to simplify the operation of our camera-based scanners, while simultaneously offering an option for greater networking ability for more demanding applications. See page 4. All current Ziath models run our latest DP5 control software. For linear rack barcode readers to fit these units, please refer to page 7.

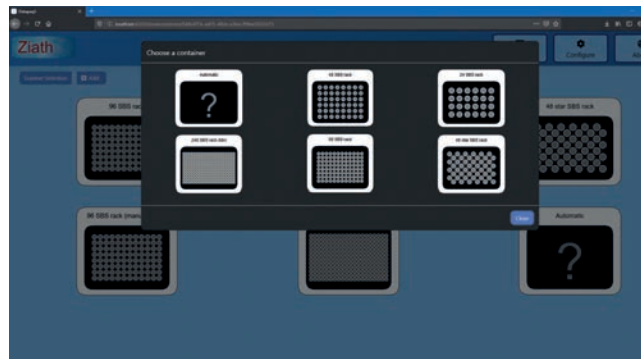
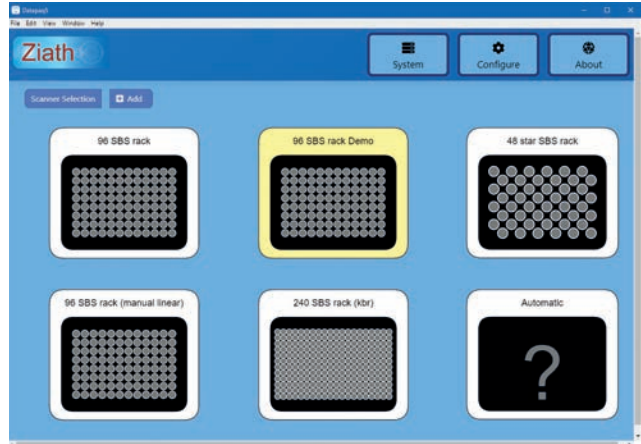
CAMERA-BASED READERS RUNNING DP5

DP5 – the novel technology at the heart of Ziath readers



Using high-speed, web-based, communications protocols allows DP5 to run just one reader in your lab, or multiple readers connected over a local area network. In the advanced DP5 Network application, readers can be controlled directly from Wi-Fi connected smart phones, tablets or laptops. DP5 represents the very latest technology applied to laboratory sample tracking and identification in an easy to use and scalable format that can adjust to

the needs of your laboratory. Combined with the unrivalled accuracy and speed of Ziath Datapaq camera-based readers, tube identification and sample tracking has never been easier or more convenient. DP5 Network unchains you from the bench, allowing a reader to operate anywhere on your LAN from your own tablet or phone. DP5 Standard simplifies day-to-day reader operation through an intuitive and uncluttered user interface that is ready to go in just minutes, straight out of the box.



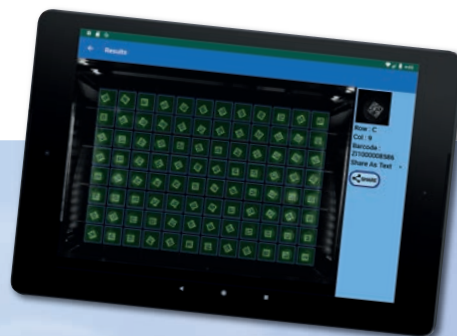
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DP5 Network unchains you from the bench, allowing a reader to operate anywhere on your LAN from your own tablet or phone, even right alongside your freezers. DP5 Standard simplifies day-to-day reader operation through an intuitive and uncluttered user interface that is ready to go in just minutes, straight out of the box.

Because Lux includes its own web server, it does not need to run DP5 network.

CAMERA-BASED READERS RUNNING DP5

DP5 comes in two versions according to your requirements:



DP5 Standard

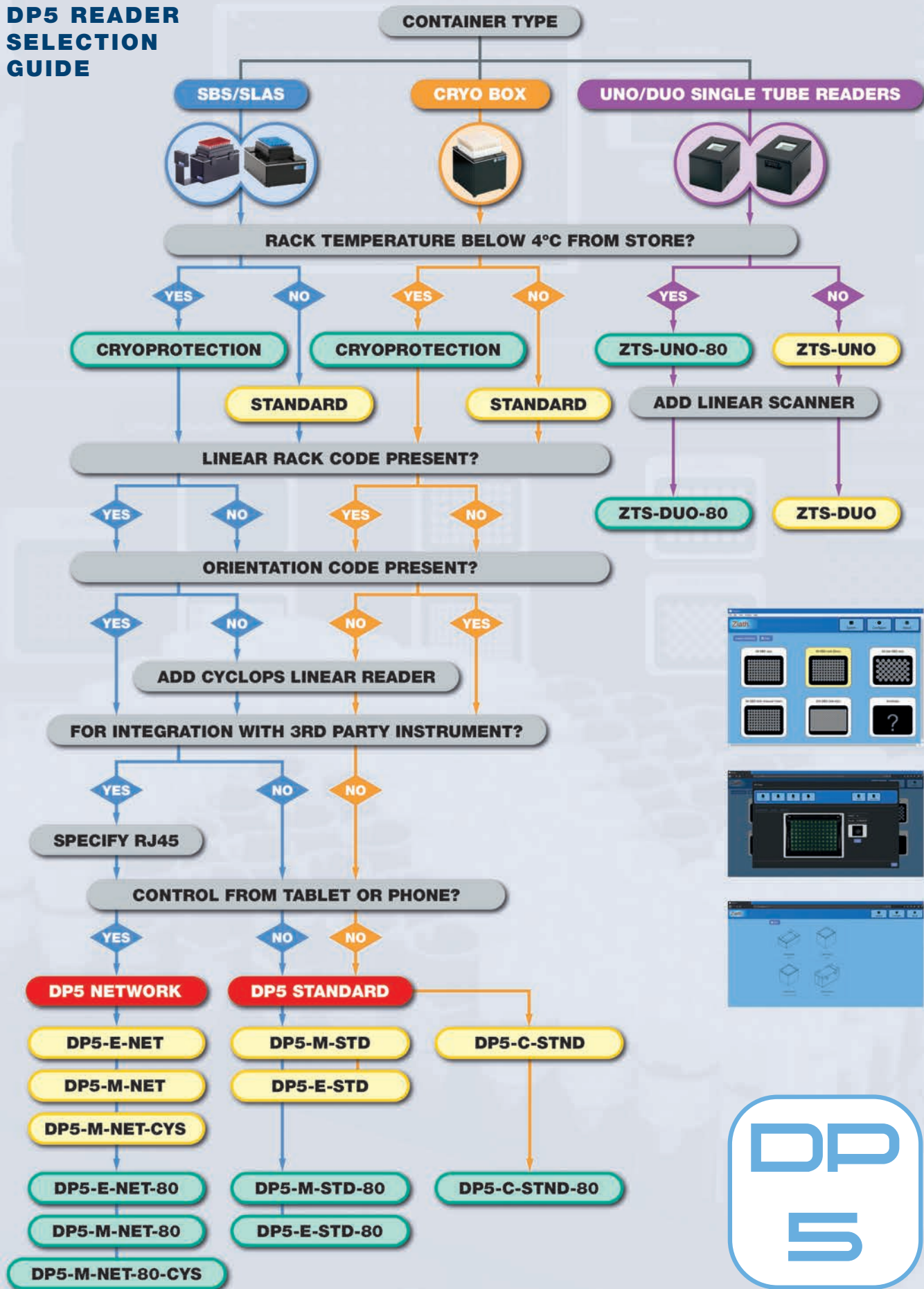
- Runs like any other desktop application from a connected PC or laptop
- Autoscaling allows DP5 Standard to work with the latest 4K displays
- Runs all Ziath Datapaq camera based scanners: Mirage, Cube & Express
- Export data directly to a database, text, PDF, XML, JSON, Excel or e-mail
- Remote control function allows direct integration with popular liquid handling robots, compound stores and other external compatible devices
- Scanner and export settings can be assigned individually for each type of rack in use
- Automatic rack type detection and rack template creation as standard

DP5 Network

- Advanced operation via a LAN allows readers to be controlled directly from a Wi-Fi connected phone, tablet, desktop PC or laptop
- Control multiple readers on one server from one hand-held device, laptop, tablet or desktop computer
- Scripting feature allows a high level of post-run data processing automation – send data to LIMS, e-mail, Excel or any other compatible program
- Take a reader anywhere on site, run a scan on a hand-held device and send that file back to any computer in a variety of formats

Version	Code	Description
DP5 Standard with network storage only	DP5-LUX-80	Lux portable rack reader and DP5 Standard
DP5 Standard	DP5-M-STD	Mirage Standalone and DP5 Standard
	DP5-M-STD-80	Mirage Standalone with Cryoprotection and DP5 Standard
	DP5-C-STD	Cube Standalone and DP5 Standard
	DP5-C-STD-80	Cube Standalone with Cryoprotection and DP5 Standard
	DP5-E-STD	Express Standalone and DP5 Standard
	DP5-E-STD-80	Express Standalone with Cryoprotection and DP5 Standard
DP5 Network	DP5-M-NET	Mirage LAN and DP5 Network
	DP5-M-NET-80	Mirage LAN with Cryoprotection and DP5 Network
	DP5-M-NET-CYS	Mirage LAN and DP5 Network with Cyclops linear scanner port
	DP5-M-NET-80-CYS	Mirage LAN with Cryoprotection and DP5 Network with Cyclops linear scanner port
	DP5-E-NET	Express LAN and DP5 Express
	DP5-E-NET-80	Express LAN with Cryoprotection and DP5 Express
(Please Note: DP5 Network is not available on Cube or required on Lux)		
Upgrades	DP5-3UP	Upgrade from 3.18 to DP5 Standard (Requires return to UK workshop)
	DP5-UP-AT	Upgrade to DP5 to reads Azenta Acoustix tubes (all models)
	DP5-NET1	Upgrade DP5 Standard to DP5 Network with up to 3 licences. Per licence
Express NMR	DP5-E-STD-NMR	Express NMR tube reader

DP5 READER SELECTION GUIDE



SINGLE TUBE READERS

Uno Single Tube Reader

Designed with ease-of-use in mind, this scanner rapidly reads single tubes in less than one second per tube. The single tube scanner is very easy to configure, and the 'keyboard wedge' functionality enables users to enter barcode data directly into their application software. This scanner is very robust, and the mineral glass scanning window is scratch-resistant.

Duo Single Tube reader with linear barcode scanner

By popular request, Ziath has added the convenience of linear barcode scanning to the single tube reader, so that you can now read the bottom of the tube using the 2D code or a linear code printed along the side of the tube. Either one will punch the appropriate barcode into any open programme on a connected device, using the "keyboard wedge" function. All now in one neat compact unit.



Azenta AcoustiX™ tube reader option

A chargeable option is available to allow Uno and Duo to read the special barcodes found on the base of Azenta AcoustiX™ tubes

Handheld reader

The first truly portable reader that allows sample management on the move. The Handheld is light and robust with an intuitive user interface. It has five operating modes; simple tube reading, read and display data, picklist operations, edit data/add new sample, and the optional 'Scripts', which enables wireless access to your database. Connection to a database, Excel, Samples software, LIMS or wireless keyboard wedge are all options – please discuss these with your Ziath representative. Users can also define unique applications for the Handheld and Ziath will implement them. AcoustiX™ tube upgrade available.



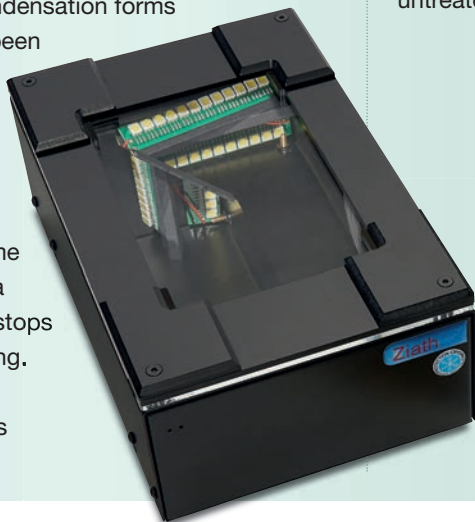
Code	Description
ZTS-UNO	DataPaq™ Uno Single Tube Reader
ZTS-UNO-80	DataPaq™ Uno Single Tube Reader with Cryoprotection
ZTS-DUO	DataPaq™ Duo Single Tube Reader with Linear Scanner
ZTS-DUO-80	DataPaq™ Duo Single Tube Reader with Linear Scanner & Cryoprotection
ZTS-HND	DataPaq™ Handheld Tube Reader
ZTS-HND-80	DataPaq™ Handheld Tube Reader with Cryoprotection™
ZTS-HND-SRVR	Handheld Server Option
ZTS-HND-1D	Opticon linear barcode scanner accessory
ZTS-UP-AT	Azenta AcoustiX™ upgrade for Uno, Duo and Handheld

READER OPTIONS

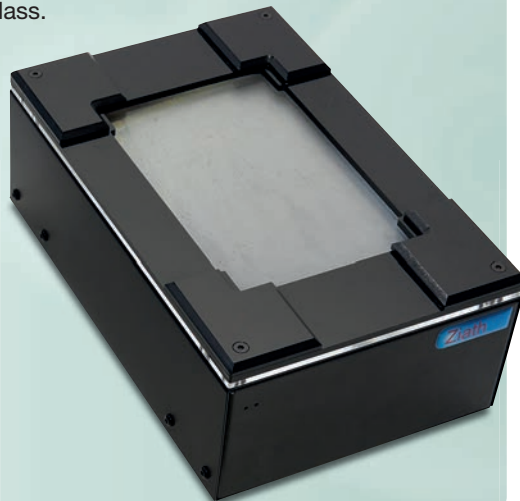
Cryoprotection

When samples are removed from a minus 80 °C freezer, there is frequently a high level of ice build-up on the racks. This can often obstruct the 2D barcode and prevent it from reading properly. A simple solution is to blot the rack onto a sponge soaked in alcohol. The rack temperature can still cause problems with “fogging” of the scanner glass as condensation forms on the glass which has been cooled by the application of the cold racks straight from the freezer.

The best way to overcome this is to use glass with a proprietary coating that stops the fogging from occurring. Ziath offers such “cryoprotection” on all its scanners as an option.



The advantage of a coating is that unlike physical methods, such as blowing air over the surface, it will not heat up and potentially damage, delicate thermally-sensitive samples. In this image the reader on the left has cryoprotection, whereas that on the right uses standard glass. The cold rack has caused a layer of condensate to form across the surface of the untreated glass.



Cyclops 1D rack barcode scanner

All Ziath’s rack readers can be fitted with a 1D scanner to scan the linear barcode on the side of the rack. This is usually recorded with the 2D codes from the tubes that it contains to ensure accurate sample tracking.



Auto-read

DP5 software includes the capability to automatically start a scan whenever a rack is placed onto the scanning window. This feature is available on all Ziath instruments.



Code	Description
ZTS-CYS-EXP	Express Cyclops 1D rack scanner with bracket
ZTS-CYS-CUBE	Cube Cyclops 1D rack scanner with bracket
ZTS-CYS-MRG	Mirage Cyclops 1D rack scanner with bracket

TUBES AND TUBE PICKERS

Mohawk

The Mohawk Semi-Automatic Tube Selector enables you to pick individual or groups of tubes directly from 96 well racks with ease. Trying to extract a single tube from a rack can be difficult and doing so manually can lead to positional errors. By using software to control 96 individual solenoids, the Mohawk can lift one, two or up to sixteen individual tubes at a time, making it easy to remove them from the rack and place in a subsidiary rack or other tube device.

The pins to be selected can be set in a “pick List” which can be generated manually from the on-screen graphical representation of the Mohawk deck or from an imported Excel spreadsheet. The Excel file can also be created manually or imported from Ziath’s Samples inventory management system or from your LIMS or another sample tracking programme that can export Excel format files. The picklist can even include tubes that are contained in multiple racks.

The integrated 1D barcode scanner identifies individual racks and the system software then uses this ID to look up the pre-defined picklist. This reduces the risks of the wrong tubes being selected during picking.

The Mohawk works out of the box and needs no set up or calibration. In Automatic mode, The Mohawk allows for operation with minimal interaction of the control PC, while in Worklist mode, a file that describes the tubes that are to be selected is used to control the pins. It can be in excel, csv, text, xml or json format. The Mohawk works with both frozen and thawed tubes. It can work in combination with a Ziath Mirage, Express or Cube scanner to automatically create pick lists and then verify the contents of the subsidiary (or Daughter) racks and re-upload their new positions to Samples™ or to your LIMS via an Excel file.

Low profile lid adapter and a release block are available to enable the Mohawk to operate safely with Azenta AcoustiX™ tubes.



Code	Description
ZTS-MHK	Semi-automatic Tube Selector
ZTS-MHK-LOW	Low Profile Tube Rack Adaptor for Mohawk
ZTS-ATRP	Azenta AcoustiX™ Tube Release Plate

CRYOTUBES

CryoTraq tubes

Cryo-tubes and boxes are available in 2 mL and 5 mL volumes. The advanced cap design provides excellent leak resistance without the use of 'O' rings and is available in both internal and external threads. The CryoTraq range can be stored at temperatures as low as -196 °C but can also withstand temperatures as high as 125 °C so you can sterilise tubes in an autoclave. The cryogenic boxes are available in 48 (SBS format), 81 or 100 tube format and the larger sizes are compatible with the racks used in liquid nitrogen-based storage systems.



Code	Description
ZTS-2ECT	CryoTraq 2D tube, 2ml external thread, screwcap, sterile, box of 500*
ZTS-2ICT	CryoTraq 2D tube, 2ml internal thread, screwcap, sterile, box of 500*
ZTS-5ECT	CryoTraq 2D tube, 5ml external thread, screwcap, sterile, box of 500*
ZTS-5ICT	CryoTraq 2D tube, 5ml internal thread, screwcap, sterile, box of 500*
ZTS-81LB4CTX	CryoTraq Box 81 places for 2ml tubes, 2D, low - 40 boxes. Substitute X with the required box band colour: B=Blue, R=Red, G=Green, Y=Yellow
ZTS-81LB5CTX	CryoTraq Box 81 places for 2ml tubes, 2D, low - 5 boxes. Substitute X with the required box band colour: B=Blue, R=Red, G=Green, Y=Yellow
ZTS-100LB5CT	CryoTraq Box 100 places for 2ml tubes, 2D, low - 5 boxes
ZTS-100LB4CT	CryoTraq Box 100 places for 2ml tubes, 2D, low - 40 boxes

* Different coloured caps are available; please ask on request.

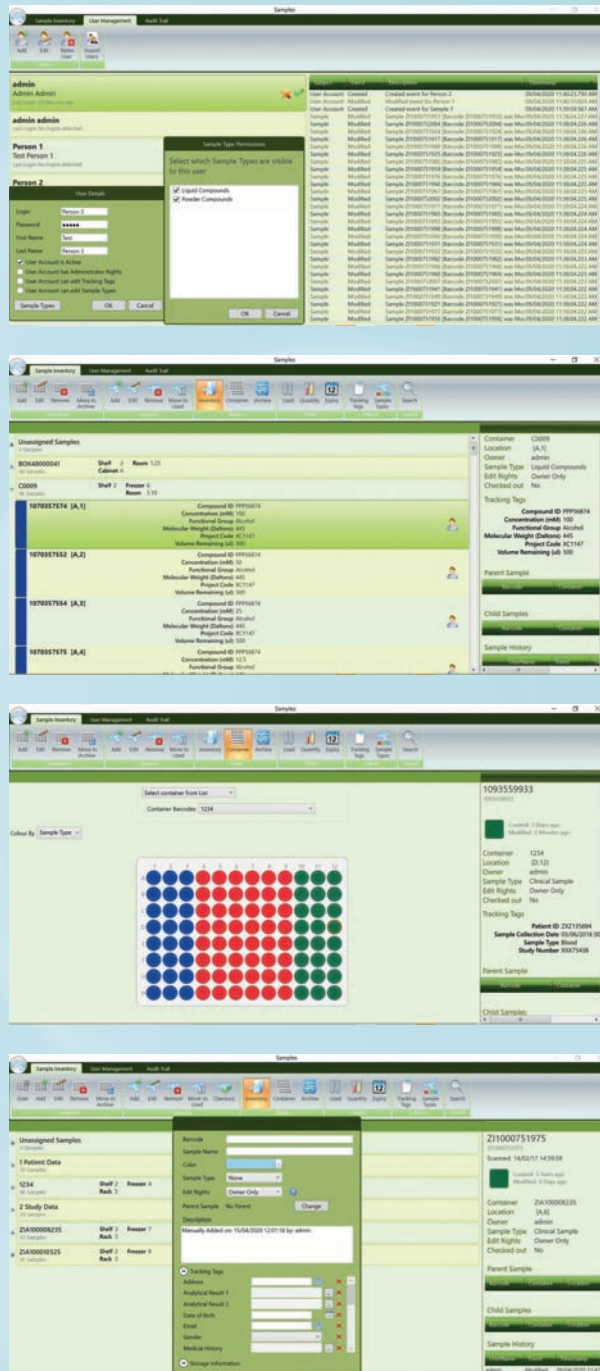
SAMPLE MANAGEMENT SOFTWARE



Samples™ – innovative software solution for sample tracking

Ziath's goal is to ensure you always know the whereabouts of your samples. Our software solution, Samples, enables us to do this by seamlessly integrating with all Ziath 2D data matrix barcode scanners, allowing you to quickly locate your samples. Samples effortlessly fits into your workflow and can be customised to meet your requirements. Simply install the software and either import or enter in the required information about your samples. We understand that each lab is different and that's why Samples allows you to add custom tracking tags in a variety of different formats to ensure the information is stored in a way that's meaningful for you. Samples is fully scalable and can be operated by a single user or be used on multiple computers across a network, allowing for easy data collaboration.

If Samples does not include a specific feature that you need, we have the capability of adding this functionality. We have several installations that have been customised to ensure that end users can do exactly what they want with the software, rather than make a compromise with a package that cannot be changed. Finding your individual samples is made easy by the multi-parameter search feature. Specify the sample characteristics that you are looking for and Samples will locate and report any that match and, if needed, the results can then be exported in a format suitable for downstream processing.



Code	Description
ZTD-SPLS	Samples™ Software Fixed Licence
ZTD-SPLS-FLT1	Samples™ Software First Floating Licence
ZTD-SPLS-FLT	Samples™ Software Additional Floating Licence

Take the stress out of managing your samples. Leave it to us

Ziath's robust and reliable products are designed to integrate into existing workflows and are primed for automation. We pride ourselves on providing high-level technical support to ensure that our customers' sample tracking processes run smoothly and efficiently. Our commitment to the development of innovative products allows us to provide a truly bespoke experience for each customer. We can provide scanners to read every available rack and box format on the market with speed and accuracy.

Detailed information and technical specifications on all of our products are contained within our product data sheets and our e-Books provide useful hints and tips relating to sample tracking and information management for life science. Please visit our website at www.ziath.com to download your copies.



DATAPAQ™ CUBE
2D barcode scanner for all racks and boxes



UNO AND DUO
Single tube readers



DATAPAQ™ EXPRESS
Small, automation-friendly 2D barcode scanner



ZIATH LUX
Portable camera-based rack reader



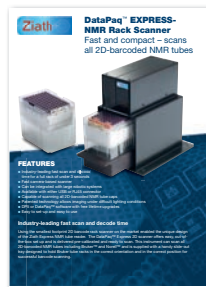
DATAPAQ™ MIRAGE
Economical 2D barcode camera rack scanner



MOHAWK
Semi-automated tube picker



SAMPLES™
Sample management software



DATAPAQ™ EXPRESS-NMR RACK SCANNER
2D barcoded NMR scanner



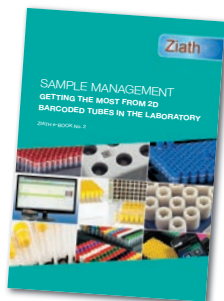
ZIATH HANDHELD
Handheld 2D barcode scanner



ZIATH CYCLOPS
2D and 1D rack barcode reader



e-Book 1
Sample management tips and tricks



e-Book 2
Getting the most from 2d barcoded tubes

AFTER-SALES SERVICE PROGRAMME

Protecting the value of your investment in Ziath equipment is important to us. We offer a range of different after-sales service and customer care plans to suit most laboratory budgets. Please contact us at service@ziath.com to discuss your individual needs.

Be sure to check out our **YouTube** channel for informative video tutorials at <http://bit.ly/ziathchannel>



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