

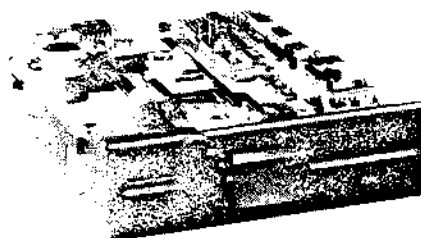


# Catalog

**Memory Products  
Service & Spares**

December 1983

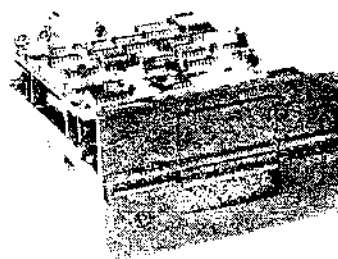
## PREFACE



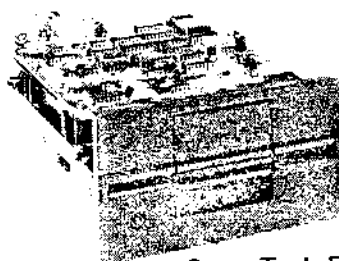
QumeTrak 142



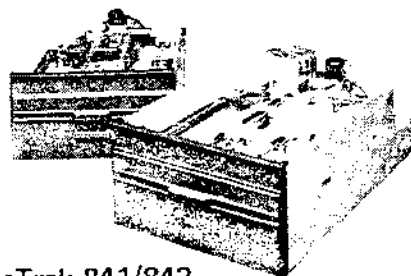
QumeTrak 242



QumeTrak 542



QumeTrak 592



QumeTrak 841/842

0158

Qume offers its customers depot repair and spare parts service for all manufactured products sold. This Memory Products Service and Spares Catalog provides detailed information regarding service and repair policies, training policies, manuals and documentation, and spare parts pricing for the complete line of Qume memory products. The manual is divided into several sections, as described below:

**SECTION 1 SERVICE AND REPAIR POLICY** describes Qume's service policies and service depots.

**SECTION 2 TRAINING POLICY** provides information on the types of classes available to Qume customers.

**SECTION 3 MANUALS AND DOCUMENTATION** provides information on technical manuals, and on all other memory products documentation.

**SECTION 4 SPECIAL TOOLS AND LUBRICANTS** describes some special service aids available to Qume customers.

**SECTION 5 SPARE PARTS PRICE LIST** provides information on unit prices for manuals. Also a list for field replaceable spare parts, are listed in numerical order. The prices shown are effective on the date of publication. Parts availability and pricing are subject to change without notice.

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**SECTION 1  
SERVICE AND REPAIR POLICY**

Qume Service Depots provide both warranty and nonwarranty repairs. This section explains the provisions for Service Depot repairs, and the cost factors.

**WARRANTY REPAIR ITEMS**

Pursuant to the terms of its warranty Qume, at its option, will repair or replace any QumeTrak listed if it is found to be defective within the specified warranty period. All items for warranty service must be shipped prepaid to a Qume Service Depot (see the appropriate "Return Procedure" section for details). Qume will pay the shipping costs for returning products repaired or replaced under warranty. Only the complete disk drive units listed in Table 1, or assemblies purchased as spares, may be returned for warranty service.

When an item is received by a Qume Service Depot for warranty repair, the warranty status of the item is verified. If the item is out of warranty, the customer is advised and the transaction is handled on a nonwarranty basis.

**Table 1. Returnable Products**

<u>Complete Disk Drives</u>	<u>Part No.(s)</u>
QumeTrak 142	53301-XX
QumeTrak 242	54100-XX
QumeTrak 542	51000-XX
QumeTrak 592	53000-XX
QumeTrak 841/842	50001-XX

**Nondefective Warranty Items**

A \$75 minimum testing and handling fee is charged for all warranty repair items that are found to be nondefective. Nondefective warranty items are returned to the customer at customer expense.

**NONWARRANTY REPAIR ITEMS**

All nonwarranty items received for repair incur a minimum service charge of \$75 per item. If the repair cost exceeds \$75, the minimum charge does not apply.

The customer must then forward a purchase order number authorizing the work to begin. If Qume does not receive a purchase order or charge authorization

## SERVICE AND REPAIR POLICY

within 15 days or, if the customer advises against the repair, the item or items affected are charged the \$75 minimum service charge and returned to the customer at customer expense.

### Fixed Fee Repair Charges

Customers returning a complete disk drive unit to Qume for nonwarranty repair are charged a fixed fee for the repair service. (Fixed fee charges do not apply to disk drives that have been cannibalized or have experienced catastrophic failure). If a unit cannot be repaired or, if repairs would exceed the price of a new unit, the unit is replaced at the current price for that item.

A list of QumeTrak products eligible for fixed fee repair service is provided in Table 2. The fixed fee charges listed in Table 2 apply only to units returned to a United States Service Depot. (For information on fixed fee charges for items returned to a European repair facility, please contact either Qume GmbH in West Germany or Qume (UK) Ltd. in England).

Fixed fee charges are subject to change without notice.

**Table 2. Fixed Fee Repair Charges for U.S. Service Depot**

<u>Description</u>	<u>Part Number</u>	<u>Fixed Fee For Non-Contract Customers</u>	<u>Fixed Fee For Contract Customers</u>
QumeTrak 142	53301-XX	\$ 120.00	\$ 85.00
QumeTrak 242	54100-XX	200.00	130.00
QumeTrak 542	51000-XX	135.00	135.00
QumeTrak 592	53000-XX	135.00	135.00
QumeTrak 841/842	50001-XX	185.00	185.00

### Time and Materials Repair

Items other than the complete disk drive units listed in Table 2 are repaired in the U.S. at \$40/hour for labor, and at list price for material. Parts and assemblies returned to a European Service Depot are repaired at the local prevailing rate for labor and at international list price for material.

### U.S. RETURN PROCEDURE

Qume customers within the United States should follow the procedures outlined in this section when returning items to Qume for repair or replacement. Qume customers outside of the United States should refer to the "INTERNATIONAL RETURN PROCEDURE" section for information.

**Returning Items to a Service Depot**

Before any item is returned to Qume for repair or replacement, a Material Return Authorization (MRA) must be issued by the receiving depot. MRA numbers are valid for 30 days after issue. If transportation is delayed longer than 30 days, either a new MRA number must be issued or the existing MRA number must be reissued. If the item or assembly to be repaired or returned has a serial number, the serial number must appear on the MRA. To avoid delay in returning items to Qume, proceed as follows:

1. Telephone the Qume Service Depot to obtain a MRA number (see Step 3 for the phone number).
2. Place the MRA number on the outside of the shipping container and on all accompanying documents (i.e., packing list, shipper, failure reports, etc.).
3. Ship material to the U.S. Service Depot location provided below:

Qume West Cost Service Depot  
2323 Industrial Parkway West  
Hayward, CA 94545  
(415) 783-6100  
TWX 910-383-0710

**Turnaround Time for Service Depot Repairs**

Under normal circumstances, items sent to a U.S. Service Depot are repaired and returned to the customer within 30 days after receipt of a purchase order for charge authorization of the repair.

**Expedited Service**

A special expedited service is also available, at customer request, for both warranty and nonwarranty repairs. An additional fee of \$50 per item is charged for these repairs. Expedited repairs are returned to the customer within 3 days of their receipt at the West Coast service depot.

**Returning Items For Credit**

Before any item is returned to Qume for credit, a Credit Material Return Authorization must be issued by Qume facility in San Jose, California. Information on returning an item to Qume is provided below:

1. Obtain a Credit Material Return Authorization by the following Procedures:
  - . Contact Qume California Sales Service for a QMRA number: telephone (408) 942-4000 or TWX 910-338-0232.

## SERVICE AND REPAIR POLICY

2. Place the QMRA number on the outside of the shipping container and on all accompanying documents (i.e. packing list, shipper, failure reports, etc.).

3. Ship material to:

Qume Sales Services  
2350 Qume Drive  
San Jose, CA 95131

### **INTERNATIONAL RETURN PROCEDURE**

Qume customers outside of the United States should follow the procedures outlined in this section when returning items to Qume for repair or replacement. Qume customers within the United States should follow the procedures outlined in the "U.S. RETURN PROCEDURE" section.

Before any item is returned to Qume for repair, a Material Return Authorization (MRA) must be issued by the receiving depot. MRA numbers are valid for 30 days after issue. If transportation is delayed longer than 30 days, either a new MRA number must be issued or the existing MRA number must be reissued. If the item or assembly to be repaired or returned has a serial number, the serial number must appear on the MRA. To avoid delays in returning items to Qume, one of the two procedures described below should be followed.

#### **Returning Items to a U.S. Repair Facility**

International customers outside of Europe should ship their repair items to the California Service Depot by following the procedure outlined below. European customers should follow the return procedure for "Returning Items to a European Repair Facility."

1. Telex the Qume California Service Depot (TLX #172294) to obtain an MRA number.
2. Complete a Commercial Invoice and a Foreign Shipper's Declaration (see Appendix A). Include all information. The value shown on all documents must be the same as the original value when the item was first shipped.
3. Place the MRA number and the statement "Made in U.S.A." on the outside of the shipping container and on all accompanying documents (i.e. Packing list, shipper, failure reports, Foreign Shipper's Declaration, etc.).
4. Advise your Freight Forwarders regarding U.S. Customs clearance to indicate on the International Airway Bill that shipment is consigned to:

Qume Corporation  
Hayward, CA.  
International Freight Services  
1610 Rollins Road  
Burlingame, CA. 94010  
USA (415) 692-1632



5. Mark all accompanying documents (i.e. Packing list, Commercial Invoice, Foreign Shipper's Declaration) with the following statement:

"Goods originated in the U.S. returned to U.S. for repair."

6. Specify the SFO International Airport in the space provided for Airport of Destination on the International Airway Bill.
7. Ship to the following address:

Qume Corporation Service Depot  
2323 Industrial Parkway West  
Hayward, Ca. 94545  
USA

8. Forward, by mail, an exact copy of all documents that accompanied the shipment to:

Qume Corporation Service Depot  
2323 Industrial Parkway West  
Hayward, Ca. 94545  
USA

### **Returning Items to a European Repair Facility**

European customers should ship their repair items to the nearest European repair facility by following the procedure below. All other international customers should follow the procedure for "Returning Items to a U.S. Repair Facility".

1. Obtain an MRA number, and other information on procedures which may be necessary, by contacting one of the following:
  - . Qume GmbH, telephone (0211) 743016 or TLX 8586478.
  - . Qume (UK) Ltd., telephone (0743) 584646 or TLX 8497069.
2. Place the MRA number on the outside of the shipping container and on all accompanying documents (i.e. packing list, shipper, failure reports, etc).
3. All parts and assemblies returned to European repair facilities for warranty or nonwarranty repair should be sent to one of the following locations:

Qume GmbH  
Eichelstrasse 31  
4000 Dusseldorf 13  
West Germany  
(0211) 743016  
TLX: 8586478

Qume (UK) Ltd.  
Bridgewater Close  
Reading, Berkshire  
England  
(0734) 584646  
TLX: 849706

### **Returning Items for Credit**

Before any item can be returned to Qume for credit, a Credit Material Return Authorization must be issued by Qume facility in San Jose, California. Information on returning an item is provided below:

1. Obtain a Credit Material Return Authorization by the following procedures:
    - . Contact Qume California Sales Services for a QMRA number: telephone (408) 942-4000 or TWX 910-338-0232.
  2. Complete a Commercial Invoice and a Foreign Shipper's Declaration (see Appendix A for sample document). All information must be included. The value shown on all documents must be the same as the original value when the item was first shipped.
  3. Place the QMRA number on the outside of the shipping container and on all accompanying documents (i.e. packing list, shipper, failure reports, Foreign Shipper's Declaration, etc.).
  4. Ship material to the following address:
- Qume Sales Services  
2350 Qume Drive  
San Jose, CA. 95131
5. Advise your Freight Forwarders regarding U.S. customs clearance to indicate on the International Airway Bill that shipment is consigned to the following:

Qume Corporation  
International Freight Services  
1610 Rollins Road  
Burlingame, CA. 94080  
USA  
(415) 692-1632

### **U.S. EMERGENCY SPARES SERVICE**

Qume's emergency spares service provides a rapid turnaround for critically needed parts orders. This program is an extended feature of Qume's normal spare parts ordering system and should be used only for "machine down" or for other emergency situations. Emergency spares can be ordered from Qume during normal Pacific Coast business hours, Monday through Friday. All emergency spares parts are dispatched to the prescribed carrier within 24 hours (one working day) after the order is received; shipping costs are paid by the customer.

Minimum charge for each emergency spares order is \$100, and emergency spares orders from each customer cannot exceed \$2000 within any 30 day period. A special \$50 handling fee is also charged for each emergency spares order. Discounts do not apply to the program; all parts are charged at the single unit rate.

For emergency spares service in the United States, contact the U.S. Service and Spares Department, at (415) 785-5650. For information on emergency spares service outside of the United States, refer to the "INTERNATIONAL EMERGENCY SPARES SERVICE".

### **Small Parts Order Program**

Emergency spares may also be obtained under Qume's small parts order program. This program is specifically designed for situations where an emergency spares order does not meet the \$100 minimum order requirement for regular emergency spares service.

Under this program, the \$50 handling fee usually charged for emergency spares service is waived. However, a check or money order must be received by the Service and Spares Department before a small parts order can be processed. Each small parts order is shipped within 10 to 15 working days after receipt of a satisfactory check or money order. As with the regular emergency spares service, shipping costs are paid by the customer.

### **INTERNATIONAL EMERGENCY SPARES SERVICE**

Qume's emergency spares service provides a rapid turnaround for critically needed parts orders. This program is an extended feature of Qume's normal spare parts ordering system and should be used only for "machine down" or for other emergency situations.

International customers outside of Europe should contact the U.S. Service and Spares Department in Hayward, California for emergency spares service. For information, telephone the Service and Spares Department during normal Pacific Coast business hours, at (415) 785-5650. A special \$50 handling fee is charged for each emergency spares order placed with the U.S. Service and Spares Department. Shipping costs for emergency spares orders received from the U.S. Service and Spares Department are paid by the customer.

For information on emergency spares service in Europe, please contact the appropriate European depot. All shipping costs are paid by the customer F.O.B. Reading (UK) or F.O.B. Desselndorf, West Germany.

Minimum charge for each emergency spares order is \$100, and emergency spares orders from each customer cannot exceed \$2000 within any 30 day period. Discounts do not apply to the program; all parts are charged at the single unit rate.

**PACKING ITEMS FOR SHIPMENT**

Qume shipping containers are designed specifically to allow shipment of the products, without damage, when exposed to normal commercial handling. Non-Qume containers may not protect the equipment adequately during shipping. For this reason, retention of original Qume shipping materials is recommended in case it should become necessary to reship the product.

If shipping damage is detected when a product is returned to Qume, the shipment will not be accepted from the carrier. The shipment will be returned; and the customer must file claim with the carrier for damages.

Products shipped in non-Qume containers and free from shipping damage are repaired and returned to the customer in Qume shipping containers. The customer is invoiced for each container used. Container prices vary with each product.

## SECTION 2 TRAINING POLICY

Qume offers its customers two separate training programs for classroom instruction: 1) Regularly scheduled classes, and 2) Custom, or customer site, classes. Section 2 provides information on class scheduling, cost estimates, and student enrollment procedures for instructor oriented training.

Memory products classes cover all QumeTrak disk products.

### U.S. TRAINING PROCEDURE FOR CLASSROOM INSTRUCTION

Training procedures for classes conducted within the United States are provided in this section. Additional information on class scheduling and student enrollment procedures can be obtained by contacting Qume's Customer Training Department in Hayward, California, during regular business hours. The telephone number to call for training information is (415) 783-6100.

For information on scheduling classes in Europe, refer to the "EUROPEAN TRAINING PROCEDURE" section.

#### Regularly Scheduled Classes

Memory products classes cover all QumeTrak disk products. Regularly scheduled classes are presented at the Depot Service level. The courses, in addition to covering field service level maintenance, include a complete, detailed presentation of all Qume memory products to the component level, with emphasis on electronic theory of operation, troubleshooting, and repair.

Classes are available, on a regularly scheduled basis, at Qume's Customer Training Center. Class duration is two days, and the cost is \$175 per student. Transportation, lodging, meals, and all general expenses incurred by the student, are not included in the course cost and are the responsibility of the student or the student's employer.

#### Free Student Enrollments

To provide continuing support to our contract customers, Qume provides a specified number of free student enrollments in regularly scheduled training classes. The number of free enrollments earned is directly related to the number of disk drives that are contractually purchased from Qume. A schedule of free enrollments versus contract quantities is provided in Table 3.

**Table 3. Schedule of free Student Enrollments**

QumeTrak Units Ordered	Student Enrollment
0-499	0
500-2499	1
2500-4999	2
More than 4999	4

The free enrollment schedule applies only to regularly scheduled classes. It does not apply to custom classes at Qume or at a customer's site.

### **Custom Classes**

Custom classes may be held either at Qume's Customer Training Center, or at any customer site within the United States. Since these classes are designed especially to meet customer's specific training requirements, custom classes can be a highly desirable and cost effective means of meeting a customer's special training needs.

Conditions for custom classes are as follows:

- . Custom or customer site classes are dependent upon Qume instructor availability. Therefore, Qume's Customer Training Department requires 60 to 120 days lead time to schedule and develop custom or customer site classes.
- . The exact content and length of a course is determined by a conference between the customer and Qume's Customer Training Department and is based upon the specific needs of the customer.
- . Class size is limited to twelve (12) students.
- . If classes are to be held at a customer site, all Qume products, tools, test equipment, classroom facilities required to present the classes must be provided by and at the expense of the customer. Qume provides these items for custom classes held at Qume facilities.
- . Qume provides all necessary technical manuals and other required training aids.
- . The cost of custom or customer site classes includes an instructor fee of \$280.00 per day (including travel days, if applicable) plus all transportation, lodging, meals, and other reasonable expenses incurred by the Qume instructor.
- . An estimated customer course cost will be provided to interested customers. A purchase order must be received or other financial arrangements made, prior to course dates.

**EUROPEAN TRAINING PROCEDURE FOR CLASSROOM INSTRUCTION**

Information on class scheduling and cost estimates for European training may be obtained by contacting one of the following European Customer Training Departments:

Qume GmbH  
Customer Training Dept.  
Eichelstrasse 31  
4000 Dusseldorf 13  
West Germany  
(0211) 743016  
TLX: 8586478

Qume (UK) Ltd.  
Customer Training Dept.  
Bridgewater Close  
Reading, Berkshire  
England  
(0734) 584646  
TLX: 849706

## SECTION 3 MANUALS AND DOCUMENTAION

### TECHNICAL MANUALS

A technical manual or set of manuals is available for each QumeTrak product manufactured by Qume. Manual sets vary with each product.

When requested, manual sets are provided (at no additional cost to the customer) according to the schedule in Table 4. The number of free manual sets provided is based upon the number of disk drives purchased from Qume under an annual contract. Manual sets are shipped separately from the products.

**Table 4. Schedule of Free Manual Sets**

Number of QumeTrak Drives Purchased	Number of Free Manual Sets Earned
500-999	5
1,000-2,499	10
2,500-4,999	15
5,000-and over	20

### Reproduction Rights

A customer may reprint Qume's published manuals, in whole or in part, provided that:

1. The Qume manuals to be reprinted are not marked **Confidential**, or otherwise indicated as being confidential or proprietary in nature.
2. Such reprinted manuals are used solely in connection with the sale or service or lease of systems containing Qume products which were purchased from Qume.

### List of Publications

A list of the technical manuals currently available from Qume is provided in Table 5. Manuals may be purchased separately from the products.

Refer to Section 5 ("SPARE PARTS PRICE LIST") for pricing information on these publications.



**Table 5. List of Publications**

<u>Manual No.</u>	<u>Description</u>
36013	QumeTrak 542 Product Description: provides information on physical characteristics, performance specifications, and electrical interface requirements and options; strappable options are explained for selection and operation details that may be required by various customer interfaces.
36017	QumeTrak 542 Maintenance Manual: provides interface and installation information; describes customer strappable options; provides maintenance information including subassembly removal and replacement procedures, adjustment procedures, and troubleshooting procedures; illustrated parts lists and schematic diagrams are also included.
36023	QumeTrak 842 Product Description: provides information on performance, physical dimensions, and electrical interface specifications; explains power and environmental requirements, and interface signal actions and interactions; describes the possible strappable options for variations in interface commands structures.
36027	QumeTrak 842 Maintenance Manual: provides interface and installation information; describes customer strappable options; provides maintenance information including subassembly removal and replacement procedures, adjustment procedures, and troubleshooting procedures; illustrated parts lists and schematic diagrams are also included.
36033	QumeTrak 592 Product Description: provides information on physical characteristics, performance specifications, and electrical interface requirements and options; strappable options are explained for selection and operation details that may be required by various customer interfaces.
36037	QumeTrak 592 Maintenance Manual: provides interface and installation information; describes customer strappable options; provides maintenance information including subassembly removal and replacement procedures, adjustment procedures, and schematic diagrams are also included.
36043	QumeTrak 142 Product Description: provides information on physical characteristics, performance specifications, and electrical interface requirements and options; strappable options are explained for selection and operation details that may be required by various customer interfaces.

<u>Manual No.</u>	<u>Description</u>
36047	QumeTrak 142 Maintenance Manual: provides interface and installation information; describes customer strappable options; provides maintenance information including subassembly removal and replacement procedures, adjustment procedures, and troubleshooting procedures; illustrated parts lists and schematic diagrams are also included.
36053	QumeTrak 242 Product Description: provides information on physical characteristics, performance specifications, and electrical interface requirements and options; strappable options are explained for selection and operation details that may be required by various customer interfaces.
36057	QumeTrak 242 Maintenance Manual: provides interface and installation information; describes customer strappable options; provides maintenance information including subassembly removal and replacement procedures, adjustment procedures, and troubleshooting procedures; illustrated parts list and schematic diagrams are also included.

#### **CHANGE NOTICES**

Qume issues Change Notices, on a monthly basis, for each QumeTrak product manufactured. Change Notices provide the customer with parts information on new products, and with update information on existing products.

Each contract customer receives, without cost, one copy of every Change Notice that applies to the contract product(s) purchased.

#### **TECHNICAL BULLETINS**

When required, Qume issues Technical Bulletins to provide the customer with additional product information. Technical Bulletins may include service tips, training class announcements, information on procedural changes at Qume, or any relevant information of interest to the customer. Publications Technical Bulletins are utilized to announce the release of new or revised publications, and to provide corrections to existing publications.

Each contract customer receives, without cost, one copy of every Technical Bulletin that applies to the contract product(s) purchased.

**SECTION 4  
SPECIAL TOOLS, TEST DISKETTES AND LUBRICANTS**

The items listed in Tables 6, 7 and 8 are available for purchase from Qume and are for use with the QumeTrak family of disk drive products. Where necessary, specific QumeTrak products are associated with specific items. The descriptions supplied for each item are intended to aid the user in selecting the special tools, test diskettes and lubricants needed to maintain a QumeTrak disk drive in optimum condition.

Refer to Section 5 ("SPARE PARTS PRICE LIST") for pricing information on these items.

**Table 6. Special Tools**

<u>Part No.</u>	<u>Description</u>
53301-G1	QumeTrak 142, Drive Belt Tension Gauge
53535-G1	QumeTrak 142, Media Guides Alignment Gauge

**Table 7. Test Diskettes**

<u>Part No.</u>	<u>Description</u>
50151-01	Certified R/W Disk for the QumeTrak 242, QumeTrak 841/842: Used to verify disk drive read/write performance.
50235-02	Dymek CE Alignment Diskette for the QumeTrak 242, QumeTrak 841/842: Used to check head alignment and to field adjust head/track alignment.
50236-04	Dysan CE Alignment Diskette for the QumeTrak 242, QumeTrak 841/842: Used to check head alignment and to field adjust head/track alignment.
51200-01	Certified R/W Disk for the QumeTrak 142, QumeTrak 542: Used to verify disk drive read/write performance.
51201-01	Dymek CE Alignment Disk for the QumeTrak 142, QumeTrak 542: Used to check head alignment and to field adjust head/track alignment.
51208-01	Dysan CE Alignment Disk for the QumeTrak 142, QumeTrak 542: Used to check head alignment and to field adjust head/track alignment.
53067-01	CE Alignment Disk for the QumeTrak 592: Used to check head alignment and to field adjust head/track alignment.

SPECIAL TOOLS, TEST DISKETTES AND LUBRICANTS

<u>Part No</u>	<u>Description</u>
53068-01	Certified R/W Disk for the QumeTrak 592: Used to verify disk drive read/write performance.

**Table 8. Lubricants**

<u>Part No.</u>	<u>Description</u>
85160-01	Thread Locking Fluid, Loctite "222", 34oz. bottle
86696-01	Chevron Grease, SRI-2, 2oz. bottle

**SECTION 5  
SPARE PARTS PRICE LIST**

The Spare Parts Price List provided in this section supercedes all previously published price lists. The price list reflects those parts and prices effective on the date of publication. Prices listed are for quantities of one each. Certain items (such as Supplemental Information documents) are supplied to customers without charge. These items are marked N/C on the price list. Items marked N/A indicate part numbers that are no longer available. Replacement part numbers are supplied for these items.

There is a \$100 minimum on all spare parts orders; customers are notified immediately of any price changes that may affect the status of an order. For information on quantity price discounts, contact your Qume Sales Representative. For all other information regarding parts availability and pricing, telephone Qume Sales Services in San Jose, California at (408) 942-4000.

**-NOTE-**

Parts availability and pricing are  
subject to change without notice.

## SPARE PARTS PRICE LIST

## SPARE PARTS PRICE LIST

<u>Part No.</u>	<u>Description</u>	<u>QumeTrak</u>	<u>Price</u>
36013	QumeTrak 542 Product Description Manual	542	\$ 15.00
36017	QumeTrak 542 Maintenance Manual	542	25.00
36023	QumeTrak 841/842 Product Description Manual	84X	15.00
36027	QumeTrak 841/842 Maintenance Manual	84X	25.00
36033	QumeTrak 592 Product Description Manual	592	15.00
36037	QumeTrak 592 Maintenance Manual	592	25.00
36043	QumeTrak 142 Product Description Manual	142	15.00
36047	QumeTrak 142 Maintenance Manual	142	25.00
36053	QumeTrak 242 Product Description Manual	242	15.00
36057	QumeTrak 242 Maintenance Manual	242	25.00
50004-01	AC Drive Motor, 115V	842	42.60
50004-12	Drive Motor, 100V	842	58.00
50004-14	Drive Motor, 200V	842	47.50
50004-24	Drive Motor, 230/240V	842	46.30
50005-01	Spindle Hub Assembly	84X	13.70
50006-03	Track 00 Sensor Assy, W/Cannon Leads	84X	9.75
50006-04	Track 00 Sensor Assy, W/Berg Leads	84X	14.30
50007-03	Write Protect Sensor Assy, W/Cannon Leads	84X	11.45
50007-04	Write Protect Sensor Assy, W/Berg Leads	84X	14.75
50008-01	Index Sensor Assy, Cannon, Photomask	84X	18.65
50008-02	Index Sensor Assy, Berg, Photomask	84X	24.15
50008-03	Index Sensor Assy, Cannon	84X	13.70
50008-04	Index Sensor Assy, Berg	84X	24.55
50008-05	Index Sensor Assy, S/S Berg, Photomask	841	15.30
50008-06	Index Sensor Assy, S/S Berg	841	12.10
50009-01	Stepper Motor Assy, W/Cannon Connector	84X	84.45
50009-02	Stepper Motor Assy, W/Berg Connector	84X	79.90
50009-03	Stepper Motor Assy, Berg W/O Housing Conn.	84X	84.45
50010-01	Idler Assembly	84X	21.90
50011-02	Carriage Assy, Dymek Aligned TK 40	84X	132.25
50011-03	Carriage Assy, Dysan Aligned TK 38	84X	153.25
50011-04	Carriage Assy, S/S Dysan Aligned TK 38	84X	136.45
50012-03	Head Load Solenoid Assy, W/Cannon Conn.	84X	25.15
50012-04	Head Load Solenoid Assy, W/Berg Conn.	84X	21.85
50013-01	Replaced By (50013-02)	84X	N/A
50013-02	Carrier Assembly	84X	28.75
50014-02	Bail Assembly	84X	6.20
50018-01	Pop-Up Assembly	84X	10.85
50019-01	Front Panel Assembly, Ivory	84X	42.65
50019-02	Front Panel Assembly, Black	84X	41.95
50019-04	Front Panel Assembly, Blk W/LED, Red Btn	84X	50.50
50020-01	Motor Pulley, 50 Hz	84X	5.70
50020-02	Motor Pulley, 60 Hz	84X	10.30
50021-01	AC Receptical Bracket	84X	1.45
50023-01	Spindle Spring	84X	.25
50024-01	Spindle Pulley	84X	14.10
50025-01	Drive Belt	84X	5.12
50026-01	Guide Rail	84X	3.75
50027-01	Guide Rail Clamp	84X	1.00

## SPARE PARTS PRICE LIST

<u>Part No.</u>	<u>Description</u>	<u>QumeTrak</u>	<u>Price</u>
50028-01	Steel Belt	84X	4.20
50029-01	Carriage Belt Clamp	84X	.30
50030-01	Pulley Clamp Belt	84X	.35
50031-01	Bail Base	84X	2.55
50032-01	Bail Pin	84X	.85
50035-01	Dust Cover Seal	84X	1.65
50036-01	Wiper	84X	.30
50059-02	Replaced By (50013-02)	84X	N/A
50060-01	Collet Assy, works with 50013-02, New	84X	11.15
50060-02	Collet Assy, works with 50013-01, Old	84X	15.70
50061-01	Index Lamp Assembly, Cannon	84X	12.70
50061-02	Index Lamp Assembly, Berg	84X	13.60
50064-01	Carriage Pin	84X	1.30
50066-01	Replaced By (50013-02)	84X	N/A
50067-01	Collar	84X	1.70
50068-01	Carrier Spring, Right	84X	.30
50068-02	Carrier Spring, Left	84X	.30
50070-01	Collet	84X	1.20
50071-02	Collet Shaft, 30.1mm	84X	1.20
50072-01	Collet Spring	84X	.30
50073-01	Cone Spring	84X	.25
50074-01	Cone	84X	1.95
50083-01	Pop-Up Lever	84X	1.35
50086-01	Pop-Up Spring	84X	.20
50088-01	Front Door, Gray	84X	3.90
50088-02	Front Door, Black	84X	4.55
50089-01	Door Latch Plate Assembly	84X	4.90
50090-01	Push Button, Gray	84X	1.05
50090-02	Push Button, Black	84X	1.10
50091-01	Solenoid Door Lock Assy, W/Cannon Conn.	84X	15.45
50091-02	Solenoid Door Lock Assy, W/Berg Conn.	84X	16.90
50092-01	Hook Spring	84X	.10
50093-01	Button Spring	84X	.10
50094-01	Hook Assembly	84X	5.45
50095-01	Hook Pin	84X	.85
50096-01	Bezel LED In Use, Cannon Conn.	84X	7.60
50096-02	Bezel LED In Use, Berg Conn.	84X	7.85
50096-03	Front Door LED In Use	84X	5.85
50117-01	Bezel Front, Ivory	84X	5.75
50117-02	Bezel Front, Black	84X	5.50
50133-00	DC Power Kit, 24VDC, DC Drive	842	149.00
50133-01	Power Kit, 115V 50 Hz	842	45.70
50133-02	Power Kit, 115V 60 Hz	842	50.85
50133-03	Power Kit, 230V 50 Hz	842	49.35
50133-04	Power Kit, 230V 60 Hz	842	54.50
50133-05	Power Kit, 100V 50 Hz	842	65.70
50133-06	Power Kit, 100V 60 Hz	842	65.70
50133-07	Power Kit, 200V 50 Hz	842	50.60
50133-08	Power Kit, 200V 60 Hz	842	55.70
50133-09	Power Kit, 115V 50 Hz, with S/S Conn.	841	46.30
50133-10	Power Kit, 115V 60 Hz, with S/S Conn.	841	51.45
50133-11	Power Kit, 240V 50 Hz	842	49.35

## SPARE PARTS PRICE LIST

<u>Part No.</u>	<u>Description</u>	<u>QumeTrak</u>	<u>Price</u>
50147-01	PCB Assembly	84X	164.05
50151-01	Certified R/W Disket	84X	24.60
50169-01	Shipping Insert	84X	.40
50173-01	Pop-Up Botton	84X	2.90
50195-01	Carrier Bracket Assembly	84X	20.60
50225-01	Door Bumper	84X	.10
50226-01	Push Button, Red	84X	.25
50235-02	CE Alignment Diskette W/Azimuth, Dymek	84X	167.30
50236-04	CE Alignment Diskette W/O Azimuth, Dysan	84X	116.15
50257-01	AC Connector Bracket, Outside S/S	84X	1.50
50258-01	AC Connector Bracket, Inside S/S	84X	2.00
50264-03	In-Use LED Wire Assembly	84X	6.95
50304-01	Conn. Bracket	842	5.50
50312-01	D.C. PCB/Bracket Assembly, 2 Pin	84X	83.90
50313-01	D.C. Motor	84X	103.08
50314-01	Replaced By (90686-01)	84X	N/A
51004-01	PCB Assembly	542	147.95
51006-01	Stepper Collar	542	1.95
51007-01	Track 00 Stop Assembly	542	.65
51009-01	Steel Ball	542	.15
51010-08	Socket Screw, M2X0.4	542	.90
51012-01	Plate Spring	542	.50
51013-01	Retainer	542	.72
51014-01	Fur Felt	542	.20
51017-01	Head Carriage Assembly	542	119.40
51036-01	Replaced By (51150-02)	542	N/A
51048-01	Replaced By (51150-02)	542	N/A
51052-02	Photo Xstr.	542	2.75
51054-01	Replaced By (51149-02)	542	N/A
51061-01	Media Lifter	542	.85
51062-01	Index Lamp Assembly	542	8.45
51068-01	Collet Assembly	542	7.60
51069-01	Collet	542	.60
51071-01	Cone Spring	542	.85
51072-01	Collet Spring	542	.45
51075-01	Washer	542	.25
51077-01	E-Ring	542	.15
51078-02	D.C. Motor Control Board Assembly	542	54.75
51079-02	Drive Motor	542	31.50
51082-02	Motor Control Board	542	27.50
51083-01	Index Sensor Assembly	542	15.65
51086-01	Spindle Drive Belt	542	3.85
51087-01	Head Load Solenoid Assembly	542	11.50
51094-01	Spindle Pulley Assembly	542	7.50
51098-01	Sprindle Washer	542	.25
51101-01	Collar	542	1.05
51102-01	Wave Washer	542	.50
51103-06	Flat Head Screw	542	.10
51104-02	Front Door Assembly	542	9.05
51109-01	Track 00 Switch Assembly	542	9.10
51115-02	Front Door Bezel Assembly	542	14.30
51116-01	In Use LED Assembly	542	7.80



## SPARE PARTS PRICE LIST

<u>Part No.</u>	<u>Description</u>	<u>QumeTrak</u>	<u>Price</u>
51126-01	Stepper Motor Assembly	542	52.24
51144-06	Dip Switch	592	2.65
51149-02	Door Carrier Assembly	542	38.50
51150-02	Harness/Left Media Guide Assembly	542	39.20
51155-01	Front Bezel Plug	84X	7.05
51200-01	Certified R/W Diskette	142/542	17.70
51201-01	CE Head Alignment Diskette, Dymek	142/542	124.40
51202-01	Shipping Insert	542	.50
51208-01	CE Head Alignment Diskette, Dysan	142/542	112.50
51447-01	Collet Assembly	142	7.70
52006-01	Media Guide Assembly, Right	542	2.65
53009-01	Spindle Motor	592	61.15
53010-01	Track 00 Sensor Assembly	592	14.25
53019-01	Write Protect Assembly	592	15.95
53020-01	Index Sensor Assembly	592	6.70
53025-01	Head Load Solenoid Assembly	592	9.35
53030-01	Stepper Motor Assembly	592	60.00
53034-01	Media Guide	592	2.16
53036-01	Guide Bar	592	2.64
53037-01	Guide Bar Clamp	592	.40
53040-01	Steel Belt Assembly	142/592	4.70
53042-01	Belt Clamp	142/592	.10
53050-01	Carriage Assembly	592	127.20
53067-01	CE Alignment Diskette	592	156.70
53068-01	Certified R/W Disk	592	15.45
53070-01	Carrier Assembly	592	32.00
53074-01	Media Lifter	592	.70
53088-01	PCB Index Lamp Assembly	242/592	5.00
53112-01	Door Clamp, Black	242	.50
53127-01	Front Door	242	5.35
53301-G1	Drive Belt Tension Gauge	142	78.60
53304-02	Shaft Support	142	.35
53309-01	Eccentric	142	.60
53312-01	Carrier Assembly, Shallow Collet	142	27.25
53316-01	Media Lifter	142	.90
53321-01	Media Guide, Right	142	1.35
53322-01	Replaced By (53312-01)	142	N/A
53325-01	Index Lamp Assembly	142	8.15
53327-01	Carriage Assembly	142	100.20
53335-01	Guide Bar, Left	142	2.00
53335-02	Guide Bar, Right	142	1.45
53337-01	Clamp, Guide Bar	142	.20
53341-01	Track 00 Sensor Assembly	142	11.65
53347-01	Front Bezel	142	3.20
53356-01	Index Sensor Assembly	142	7.55
53360-01	Drive Belt	142	4.35
53373-01	Replaced By (53443-01)	142	N/A
53379-01	Media Guide Assembly, Left	142	13.65
53380-01	Collet Cone, Shallow	142	1.45
53381-01	Collet, Shallow	142	2.50
53388-01	Collet Spring, Shallow	142	.10
53393-01	Stopper, Track 00	142	.30

## SPARE PARTS PRICE LIST

<u>Part No.</u>	<u>Description</u>	<u>QumeTrak</u>	<u>Price</u>
53407-01	D.C. Motor Assembly	142	20.75
53408-01	Stepper Motor, 12 ms	142	26.20
53408-02	Stepper Motor, 6 ms	142	47.00
53410-01	Replaced By (53443-01)	142	N/A
53411-01	Replaced By (53443-03)	142	N/A
53412-01	Replaced By (53443-02)	142	N/A
53419-01	Shipping Insert	142	.35
53420-01	Dual Mounting Bracket	142	7.50
53443-01	Bezel Assembly, W/Handle Half Height	142	6.00
53443-02	Bezel Assembly, W/Handle 2/3 Height	142	15.20
53443-03	Bezel Assembly, W/ Handle Full Height	142	15.20
53508-01	Mounting Bracket, Short	142	6.40
53533-01	Carrier Assembly	142	24.45
53535-G1	Media Guide Alignment Gauge	142	82.50
54001-01	EPS Shipping Container, Top	542	6.00
54001-02	EPS Shipping Container, Bottom	542/592	6.00
54001-11	EPS Shipping Container, Top	592	6.00
54003-01	EPS Shipping Container, Top	84X	7.55
54003-02	EPS Shipping Container, Bottom	84X	7.55
54004-01	EPS End Cap	142	.55
54101-01	PCB Assembly	242	219.55
54102-01	Drive Motor Control PCB	242	44.35
54103-01	Drive Motor	242	60.80
54104-01	Stepper Assembly	242	57.80
54105-01	Carriage Assembly	242	131.50
54106-01	Steel Belt Assembly	242	6.45
54107-01	Drive Belt	242	7.25
54108-01	Track 00 Sensor Assembly	242	12.85
54109-01	Write Protect Sensor Assembly	242	21.15
54110-01	Index Sensor Assembly	242	23.10
54111-01	Head Load Solenoid Assembly	242	27.55
54112-01	Door Lock Solenoid Assembly	242	23.65
54113-01	Pop Up Assembly	242	9.10
54114-01	Front Bezel	242	7.15
54115-01	Front Door Assembly	242	7.40
54116-01	Push Button	242	1.55
54117-01	Media Guide	242	3.85
54118-01	Collet Assembly	242	2.60
54119-01	Guide Bar	242	4.35
55000-00	Replaced By (95000)	542/84X	N/A
55000-02	Replaced By (95002)	142/542/84X	N/A
55000-03	Replaced By (95003)	84X	N/A
55000-06	Replaced By (95006)	592/84X	N/A
55000-10	Replaced By (95010)	542/84X	N/A
55002-21	Replaced By (95221)	542/84X	N/A
55010-01	Replaced By (96710)	84X	N/A
55011-02	Replaced By (96339)	84X	N/A
55012-01	Replaced By (96733-01)	542/592/84X	N/A
55013-02	Replaced By (96741)	84X	N/A
55015-01	Replaced By (97048)	84X	N/A
55016-01	Transistor, 2SC943	84X	.50
55018-01	Replaced By (97050)	84X	N/A

## SPARE PARTS PRICE LIST

<u>Part No.</u>	<u>Description</u>	<u>QumeTrak</u>	<u>Price</u>
55023-01	Replaced By (92036-01)	142/542/592/84X	N/A
55024-62	Replaced By (95462)	84X	N/A
55088-01	Shunt Plug	84X	1.80
55089-08	Jumperlug 16 Pin Dip	84X	2.95
55100-06	Connector Housing, 6 Pin	84X	1.90
55120-02	Replaced By (95472)	84X	N/A
55151-01	Resistor Network, 22K Ohm 1/8W 10%	84X	1.65
55155-06	Replaced By (92056-02)	592	N/A
55163-06	Screw, Flt/Washer 3X6MM	142/542/592/84X	.10
55163-08	Screw, P/H Phl, W/Locking Flat Washer	542/592/84X	.10
55163-14	Screw, W/Lock Washer M3X0.5	142	.10
55164-10	Screw, W/Washer 4X10MM	84X	.10
55164-12	Screw, W/Washer 4X12MM	84X	.10
55164-16	Screw, W/Washer 4X6MM	84X	.10
55173-06	Screw, Flat Hd Washer, 4X8MM	542/841	.10
55173-08	Screw, P/H W/Locking Flat Washer	542/592	.10
55173-12	Screw, PH W/Locking Flat Washer	542/592	.10
55181-04	Screw, PanHd Phil W/Lock Washer	592	.10
55183-06	Screw, Washer 3X6MM	84X	.10
55184-06	Screw, W/Washer, Large 4MMX6MM	84X	.10
55184-10	Screw, PanHd W/Lock Washer	84X	.10
55184-12	Screw, W/Washer 4X12MM	84X	.10
55184-20	Screw, W/Washer 4X20MM	84X	.10
55190-04	Washer, Flat Small	84X	.10
55193-06	Screw, M3X0.5X6	84X	.10
55193-22	Screw, P/H 3X6MM	542	.10
55200-05	Washer, Flat Medium	84X	.25
55200-08	Washer, Flat Medium	592	.25
55203-05	Set Screw, Large 3MMX5MM	84X	.20
55203-10	Set Screw Socket M3X10	84X	.25
55204-05	Set Screw, Hex	84X	.15
55210-04	Washer	542/84X	.10
55210-05	Flat Washer, Large	84X	.25
55232-03	Washer, Lock	84X	.10
55233-04	Star Washer	84X	.10
55234-05	Spring Washer	84X	.10
55238-01	E-Ring, 5MM	84X	.30
55239-01	E-Ring	84X	.10
55240-02	Shim	84X	.20
55241-02	Idler Bearing	84X	6.55
55260-03	Plain Nut, Hex Metric	542	.10
55264-08	Screw, N/P,PH W/Lock	84X	.10
55270-01	Polyethylene Bag	842	.65
85004-04	Screw, Pan Head #4-40X.250	84X	.10
85122-04	Nut, Full Hex4-40	84X	.10
85124-04	Washer, #4 Helical Lock	84X	.10
85128-18	E-Ring, 5133-18	142	.10
85160-01	Thread Locking Fluid, Loctite "222", .34 oz	142/242/542/84X	9.00
85183-01	Plastic Bag	84X	.90
85258	Polyethylene Bag	542	.15
85349-10	Shipping Bag	142	.35
85355-06	Screw, Flat Head M3X0.5	542	.15

## SPARE PARTS PRICE LIST

<u>Part No.</u>	<u>Description</u>	<u>QumeTrak</u>	<u>Price</u>
85589-06	Screw, Socket Head Cap	84X	.50
85645-01	Cone Spring	142	.40
86696-01	Chevron Grease, SRI-2, 2 oz. bottle	142/242/542/84X	2.60
90686-01	D.C. Motor Control Board	84X	70.60
90688-01	Replaced By (90688-03)	142	N/A
90688-02	Replaced By (90688-03)	142	N/A
90688-03	PCB Assembly, 12 ms	142	105.00
90688-04	PCB Assembly, 6 ms	142	100.20
90756-01	PCB Assembly	592	100.20
92036-01	Inductor, VK-200-09/3B	142/542/592/84X	1.00
92040-01	Inductor, 330uH 10%	542/84X	2.15
92040-02	Inductor, 680uH 10%	542	1.95
92056	Resistor Network, 150 Ohm 1/4W 2%	142/542/592/84X	2.25
92056	Resistor Network, 150 Ohm 1/4W 2%, 14 Pin	142	2.25
92056-02	Resistor Network, 150 Ohm 1/4W 2%, 16 Pin	592	2.25
92061	Resistor Network, 4.7K Ohm 1/8W 10%	142/542/592/84X	.70
92065-02	Resistor Network, 150 Ohm 1/4W 10%	142/542/592	1.10
92110-04	Resistor, 10K Ohm 1/8W 1%	142	.65
92114-03	Resistor, 1.40K Ohm 1/8W 1%	142	.65
92115-05	Resistor, 150K Ohm 1/8W 1%	142	.70
92118-24	Resistor, 18.2K Ohm 1/8W 1%	142	.20
92122-13	Resistor, 2.21K Ohm 1/8W 1%	142	.55
92130-13	Resistor, 3.01K Ohm 1/8W 1%	142	.40
92139-24	Resistor, 39.2K Ohm 1/8W 1%	142	.55
92142-22	Resistor, 422 Ohm 1/8W 1%	142	.55
92151-11	Resistor, 51.1K Ohm 1/8W 1%	142	.20
92151-12	Resistor, 511 Ohm 1/8W 1%	142	.55
92164-93	Resistor, 6.49K Ohm 1/8W 1%	142	.55
92171-53	Resistor, 7.15K Ohm 1/8W 1%	142	.20
92186-63	Resistor, 8.66K Ohm 1/8W 1%	142	.55
92210-01	Resistor, 10 Ohm 1/4W 5%	84X	.25
92210-02	Resistor, 100 Ohm 1/4W 5%	142/542/592	.20
92210-03	Resistor, 1K Ohm 1/4W 5%	142/542/592/84X	.20
92210-04	Resistor, 10K Ohm 1/4W 5%	142/542/592/84X	.20
92210-05	Resistor, 100K Ohm 1/4W 5%	142/542/592/84X	.20
92210-06	Resistor, 1M Ohm 1/4W 5%	142	.20
92212-03	Resistor, 1.2K Ohm 1/4W 5%	592	.20
92212-04	Resistor, 12K Ohm 1/4W 5%	592	.15
92215-01	Resistor, 15 Ohm 1/4W 5%	592	.10
92215-02	Resistor, 150 Ohm 1/4W 5%	142/592/84X	.25
92218-04	Resistor, 18K Ohm 1/4W 5%	592/84X	.20
92220-07	Resistor, 200K Ohm 1/4W 5%	84X	.10
92222-02	Resistor, 220 Ohm 1/4W 5%	142/542/592/84X	.25
92222-03	Resistor, 2.2K Ohm 1/4W 5%	142/542/592	.25
92224-02	Resistor, 240 Ohm 1/4W 5%	84X	.10
92227-01	Resistor, 27 Ohm 1/4W 5%	142/84X	.10
92230-04	Resistor, 30K Ohm 1/4W 5%	142	.20
92233-02	Resistor, 330 Ohm 1/4W 5%	142/84X	.20
92233-03	Resistor, 3.3K Ohm 1/4W 5%	142	.20
92247-01	Resistor, 47 Ohm 1/4W 5%	142/542/592/84X	.15
92247-02	Resistor, 470 Ohm 1/4W 5%	142	.25
92247-03	Resistor, 4.7K Ohm 1/4W 5%	142/542/592/84X	.20

## SPARE PARTS PRICE LIST

<u>Part No.</u>	<u>Description</u>	<u>QumeTrak</u>	<u>Price</u>
92247-04	Resistor, 47K Ohm 1/4W 5%	142/542/592	.20
92251-01	Resistor, 51 Ohm 1/4W 5%	592	.20
92251-02	Resistor, 510 Ohm 1/4W 5%	142	.25
92256-02	Resistor, 560 Ohm 1/4W 5%	542/592	.15
92268-02	Resistor, 680 Ohm 1/4W 5%	542/84X	.25
92510-00	Resistor, 1 Ohm 2W 5%	84X	.80
92527-02	Resistor, 270 Ohm 2W 5%	84X	.95
92643-21	Resistor, 43.2 Ohm 1/2W 1%	142/542/84X	.20
92810-03	Resistor, 1K Ohm 1/4W 1%	542	.20
92811-02	Resistor, 110 Ohm 1/4W 1%	592	.30
92811-33	Resistor, 1.13K Ohm 1/4W 1%	592	.30
92812-14	Resistor, 12.1K Ohm 1/4W 1%	542	.15
92813-34	Resistor, 1.3K Ohm 1/4W 1%	84X	.25
92814-73	Resistor, 1.47K Ohm 1/4W 1%	592	.30
92815-04	Resistor, 15K Ohm 1/4W 1%	542/592/84X	.25
92816-53	Resistor, 1.65K Ohm 1/4W 1%	592	.30
92818-24	Resistor, 182K Ohm 1/4W 1%	542/592	.20
92819-15	Resistor, 191K Ohm 1/4W 5%	592	.10
92839-22	Resistor, 392 Ohm 1/4W 1%	542	.15
92839-24	Resistor, 39.2K Ohm 1/4W 1%	542/592	.20
92847-53	Resistor, 4.75 Ohm 1/4W 1%	542/592	.15
92868-12	Resistor, 681 Ohm 1/4W 1%	542	.20
92882-53	Resistor, 8.25 Ohm 1/4W 1%	542	.15
92886-63	Resistor, 8.66K Ohm 1/4W 1%	592	.30
92940-101	Potentiometer, 100K 10%	142	6.65
92941-503	Potentiometer, 50K 20%	142	3.00
93000	Capacitor, 1uf 35V 20%	84X	1.70
93000-02	Capacitor, 1uf 35V 10%	142/542	1.40
93013-225	Capacitor, 2.2uf 10V 10%	592	1.50
93019	Capacitor, 1uf 35V 20%	84X	1.75
93020	Capacitor, 10uf 35V 20%	84X	2.25
93021	Capacitor, .47uf 35V 20%	84X	.80
93022	Capacitor, 4.7uf 16V 20%	542/84X	1.40
93023	Capacitor, 4.7uf 16V 20%	142/592	1.40
93031-336	Capacitor, 33uF 16V 10%	542/592/84X	3.75
93032-474	Capacitor, .47uf 35V 10%	84X	.70
93100	Capacitor, 0.1uf 12V 20%	542/592/84X	.55
93116	Capacitor, 0.01uf 50V 20%	142/542/592/84X	.50
93117-01	Capacitor, 680pf 50V 5%	542	1.45
93118-01	Capacitor, 220pf 50V 5%	542	.75
93200-104	Capacitor, 0.1uf 50V 20%	142	.50
93200-224	Capacitor, 0.22uf 50V 20%	142	1.15
93203	Capacitor, 0.001Pf 200V 10%	142	3.80
93205	Capacitor, 1.0uF 50V 20%	592	4.20
93207	Capacitor, .01uf 50V +80,-20%	142/84X	.45
93217	Capacitor, 150pf 100V 5%	84X	.90
93225-06	Capacitor, .0.001uf 100V 10%	142	2.10
93225-07	Capacitor, 0.0033uf 100V 5%	142	3.05
93403	Capacitor, 330pf 100V 5%	142	1.70
93405	Capacitor, 470pF 100V 5%	592	2.25
93408-221	Capacitor, 220pf 100V 5%	592	1.55
93408-391	Capacitor, 390pf 100V 5%	592	1.65

SPARE PARTS PRICE LIST

<u>Part No.</u>	<u>Description</u>	<u>QumeTrak</u>	<u>Price</u>
93408-620	Capacitor, 62pf 100V 5%	592	.75
93413-181	Capacitor, 180pf 100V 50%	142	1.85
93413-221	Capacitor, 220pf 100V 5%	142	2.10
93413-300	Capacitor, 30pf 50V 5%	84X	.75
93416	Capacitor, 330pf 100V 5%	592	1.55
93518-108	Capacitor, 1000uf 35W VDC +50,-10%	84X	3.00
93606-01	Capacitor, .033uf 100V 2%	542/592	1.25
93607	Capacitor, .027uf 100V 1%	84X	2.30
93608	Capacitor, .001uf 50V10%	542/592/84X	.35
93611	Capacitor, 33pf 50V 10%	84X	1.05
93613	Capacitor, .0033uf 50V 10%	842	.35
93614	Capacitor, .033uf 50V 10%	84X	1.15
93621-103	Capacitor, 0.01uf 400V 5%	142	1.00
93621-104	Capacitor, 0.1uf 100V 5%	142	1.15
93621-223	Capacitor, 0.022uf 250V 5%	142	1.20
93621-333	Capacitor, 0.033uf 250V 5%	142	1.20
94298-14	Connector	142	2.80
94345-01	Insulator, 1.0X.55X.50	142/542	.45
94372-02	Crystal	84X	7.85
94567-223	Inductor, 220uh 5%	142	.70
94567-562	Inductor, 56uh 5%	142	.70
94603-02	Inductor, 180uh 5%	592	2.40
94603-03	Inductor, 470uh 5%	592	2.60
94631-01	Inductor, 670uh 5%	592	5.05
95000	I.C., 7400 Burned in	542/84X	2.00
95002	I.C., 7402	142/542/84X	2.10
95003	I.C., 7403	84X	2.05
95004	I.C., 7404 Burned in	542/592	2.05
95006	I.C., SN7406	592/84X	3.75
95010	I.C., 7410 Burned in	542/84X	2.20
95014	I.C., SN7414N Burned in	142/84X	5.55
95038	I.C., 7438N	142/542/592/84X	1.80
95074	I.C., 7474 Burned in	542/84X	2.50
95086	I.C., 7486 Burned in	542/84X	2.55
95093	I.C., 7493A Burned in	542	2.90
95123	I.C., 74123 Burned in	542/84X	3.40
95221	I.C., 74221 Burned in	542/84X	7.60
95451	I.C., SN7545IN Burned in	142	5.25
95452	I.C., 75452 Burned in	142/542/592	4.85
95462	I.C., 75462	84X	2.45
95472	I.C., 75472	84X	3.05
96002-01	I.C., NE592	592	3.65
96140-01	I.C., CS 140	542	5.35
96141-01	I.C., CS2917-D8	142	4.80
96311	I.C., LM311	84X	2.55
96311-01	I.C., LM311P	542/592	5.20
96339	Replaced By (96339-01)	84X	N/A
96339-01	I.C., LM339AN	84X	4.55
96540-01	I.C., MM5369EST	84X	8.45
96541-01	I.C., MC3470AP	142	9.20
96555-01	I.C., NE555P	84X	3.25
96710	I.C., 710CN	84X	2.10

## SPARE PARTS PRICE LIST

<u>Part No.</u>	<u>Description</u>	<u>QumeTrak</u>	<u>Price</u>
96733-01	I.C., UA733CN	542/592/84X	2.60
96741	I.C., UA741C	84X	1.30
97001	Transistor, 2N6386	142	2.55
97001-01	Transistor, 2N6386 NPN	84X	4.35
97013-01	Transistor, TA8203/8204 PNP	84X	6.35
97031	Transistor, MC78L05ACP	84X	1.60
97035	Transistor, P1087E FET	142	1.40
97048	Transistor, 2N2907/2SA603	84X	.40
97050	Transistor, 2SC1983	84X	3.30
97051	Transistor, 2N2369/2SC1216	84X	1.25
97059-01	Transistor, 2SA883	542/84X	1.30
97060-01	Transistor, 2SC1833	542/84X	1.65
97074-01	Transistor, MPS-U95	542	6.55
97077-01	Transistor, PN2907A PNP	142/592	.60
97078-01	Transistor, PN2222A NPN	142/592/84X	.60
97111	Diode, 1N4150	142/592/84X	.30
97120	Diode, 1S953	542/84X	.15
97121	Diode, 1S955	542/84X	.15
97122-01	Diode, 1N4003	142/542/592/84X	.40
97209	Zener Diode, 1N4742A 1W 12V 5%	84X	.40
97209-01	Zener Diode, 1N4734C 1W 5.6V 2%	84X	1.75
97209-03	Zener Diode, 1N4739 1W 5.6V 10%	84X	.45
97215-01	Zener Diode, 1N5232 1/2W 5.6V 2%	84X	.30
97226-01	Transistor, 3.3V 400MW	142/542/592	1.05
98000	I.C., 74LS00N	142/592	1.75
98010	I.C., SN74LS10N	142/592	2.00
98014	I.C., 74LS14	142/542/592	13.50
98074	I.C., SN74LS74	142/592/84X	2.25
98075	I.C., 74LS75	592	2.35
98086	I.C., 74LS86	142/592	3.00
98132	I.C., 74LS132	142/592/84X	4.85
98164-01	I.C., 74LS164	592	3.45
98221	I.C., 74LS221N	142/592	3.00

**APPENDIX A**

# Foreign Shipper's Declaration



I, \_\_\_\_\_ declare that the articles herein specified, are, to the best of my knowledge and belief, the growth, produce or manufacture of the United States; that they were exported from the United States, through the Port of \_\_\_\_\_ on or about \_\_\_\_\_, 19\_\_\_\_, that they are returned without having been advanced in value or improved in condition by any process of manufacture or other means.

Marks & Nos.	Description	Unit Price	Total US \$

**Example**

Describe the reason for return and action required.

Date:	Shipper:
Address:	Signature:
	Capacity:

\*Note: This clause must accompany the shipping documents. The clause may be typed on the commercial invoice if this document is not available.



APPENDIX B



Agreement No. ....

Date .....

QUME SPARE PARTS PURCHASE AGREEMENT WITH

(HEREINAFTER REFERRED TO AS "BUYER")

ADDRESS

CITY STATE OR PROVINCE COUNTRY & POSTAL CODE

This Agreement is entered into as of ... 19 ... between ... (Buyer) and Qume Corporation ("Qume") for the purchase of Qume's recommended spare parts and service tools ("Spares") in accordance with the terms and conditions set forth below.

1. PURCHASE ORDERS.

1.01 Initial Order. Upon execution of this Agreement, Buyer will deliver to Qume a written order covering Buyer's initial Spares requirements.

1.02 Subsequent Orders. Subsequent purchases of Spares shall be made by delivery to Qume of written purchase orders requesting a delivery date within six (6) months of the date of the order. In order to permit production scheduling, orders must be received by Qume at least ninety (90) days prior to the first day of the requested month of delivery.

1.03 Delivery Schedule. As soon as practical after receipt of a written order, Qume will notify Buyer in writing whether Buyer's order can be accepted (i.e., whether the ordered Spares are currently available) and, if accepted, of the date or dates on which delivery will be made.

1.04 Change Orders. Subject to the terms hereof, Buyer may, by written change orders, effect the following changes in outstanding orders for Spares:

(a) Cancellation Charges. Buyer and Qume hereby acknowledge that cancellation of any order or release hereunder will cause damages to Qume in an amount which cannot be readily determined. To avoid future disputes over the amount of such damages, Buyer and Qume agree that a cancellation charge determined in accordance with this provision represents a reasonable estimate of the damages to Qume which would result from such cancellation. The cancellation charge shall be that percentage of the invoice prices for the cancelled Spares corresponding to the number of days prior to the original scheduled delivery date that Qume receives written notice of cancellation as set forth below.

Table with 2 columns: Cancellation period, Percentage. Row 1: more than 30 days, 10%. Row 2: 30 days or less, 15%.

Cancellation charges shall be invoiced on terms of payment of net ten (10) days. Any invoiced amount which is not paid when due will bear interest at a rate of eighteen percent (18%) per annum, to the extent permitted by applicable law.

(b) Rescheduling. Buyer may extend the delivery date by written notice which specifies a new delivery date and which is received by Qume at least 60 days prior to the original delivery date for such Spares; provided, however, the original delivery date may not be extended for more than 30 days pursuant to this subparagraph, and only one such extension may be made.

2. PRICE.

Qume agrees to sell Buyer, during the term hereof, the Spares listed in Addendum A of this Agreement pursuant to the discounts and conditions described in Exhibit A. Prices for Spares shall be in accordance with Qume's published price lists as may be made available from time to time hereafter, and such prices are subject to change without notice.

3. TERMS AND CONDITIONS.

3.01 Shipment. Delivery will be F.O.B. Qume's plant, freight collect. All shipments hereunder will be made in Qume's standard shipping cartons to Buyer at Buyer's address set forth above. Unless otherwise instructed in writing by Buyer, Qume will select the carrier. Title and risk of loss to the Spares purchased under this Agreement shall pass to Buyer upon delivery thereof to the carrier at Qume's plant.

3.02 Delivery Location. Qume will ship only to Buyer's service or warehouse locations. Qume will not "drop ship" to any other location.

3.03 Payment. Where open account credit is established and maintained to the satisfaction of Qume, payment terms shall be net thirty (30) days after date of shipment by Qume. Any invoiced amount which is not paid when due will bear interest at the rate of eighteen percent (18%) per annum, to the extent permitted by applicable law.

3.04 Taxes. Buyer shall bear all applicable federal, state, municipal and other government taxes (such as sales, VAT, use or similar taxes); all customs duties, imposts, and similar charges, and all personal property taxes assessable on the Spares after delivery to the carrier at Qume's plant.

3.05 Warranty. Qume warrants to Buyer for a period of ninety (90) days from the date of original shipment to Buyer that Spares delivered by Qume pursuant to this Agreement shall be free from defects in material and workmanship. Qume's obligation under this warranty is limited to replacing or repairing, at its option, at its designated site, only serial numbered major assemblies that within the warranty period are returned to Qume in Qume's shipping carton under a Material Return Authorization (MRA) number and that are found by Qume to be defective in proper usage. Qume reserves the right to refuse to accept delivery of any shipment containing any shipping cartons which do not have the MRA number displayed on the outside. Buyer shall prepay transportation charges back to Qume's designated site. If returned parts are repaired or replaced under terms of this warranty, Qume will prepay transportation charges back to Buyer at Buyer's address in the United States set forth above, otherwise, Buyer shall pay transportation charges in both directions.

THE FOREGOING WARRANTY IS IN LIEU OF ALL WARRANTIES.

## APPENDIX B

TIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND OF ANY OTHER OBLIGATION ON THE PART OF QUME

**3.06 Limitation of Liability.** Any provision herein to the contrary notwithstanding, in no event shall Qume be liable for indirect, incidental or consequential damages and in no event shall the liability of Qume arising in connection with any Spares sold hereunder (whether such liability arises from a claim based on contract, warranty, tort or otherwise) exceed the actual amount paid by Buyer to Qume for such Spares

### 4. PATENT AND TRADEMARK INDEMNITY.

**4.01 Indemnity.** Qume, at its own expense, will defend any suit or proceeding against Buyer in a court of the United States for the direct infringement of United States patents and trademarks by the Spares purchased from Qume hereunder. Qume shall pay all damages and costs finally awarded against Buyer because of direct infringement provided however that Qume shall not be obligated to defend or be liable for costs or damages awarded in any suit or proceeding for infringement of patents by any other product or products, or any completed equipment, assembly, combination, method or process, in which, or in the manufacture or testing of which, any of the Spares purchased from Qume may be used (notwithstanding that such Spares purchased from Qume may have been designed only for use in or may only be useful in such other patented products or such patented equipment, assembly, combination, method, or process, or in the manufacture or testing thereof, and that such Spares purchased from Qume may have been purchased and sold for such use; Qume's liability hereunder shall not exceed the purchase price paid by Buyer for the infringing Spares; and Qume shall not be liable for any collateral, incidental or consequential damages awarded against Buyer

**4.02 Notice.** Qume's duties are conditioned upon Buyer giving Qume prompt written notice of the commencement of any suit or proceeding or any claim of infringement and furnishing to Qume a copy of each communication relating to the alleged infringement and giving to Qume all authority (including the right to exclusive control of the defense of any such suit or proceeding), information and assistance (at Qume's expense) necessary to defend or settle such suit or proceeding. Qume shall not be bound by any settlement made without Qume's prior written consent.

**4.03 Injunction.** In the event that the Spares purchased from Qume are held in such suit or proceeding to constitute infringement and the use of such Spares is enjoined, Qume shall, at its option and expense, either procure for Buyer the right to continue using such Spares or modify them (providing modification does not materially affect performance) so that they become noninfringing or remove such Spares and grant Buyer a credit thereon as depreciated and accept their return. If infringement is alleged prior to completion of delivery of the Spares, Qume may decline to make further shipments without being in breach of any agreement.

**4.04 Buyer Specifications.** Qume shall not be obligated to defend any suit or proceeding, or be liable for any costs or damages, if the infringement arises out of compliance with Buyer specifications or any marking or branding applied at the request of Buyer. Buyer agrees, at its expense, to defend and to pay costs and damages finally awarded in any suit or proceeding against Qume based on any such infringement, provided that Buyer is promptly notified by Qume in writing of the commencement or threat of such suit or proceeding or claim of infringement and is given all authority (including the right to exclusive control of the defense of any such suit or proceeding), information and assistance (at Buyer's expense) necessary to defend or settle such suit or proceeding.

**4.05 Infringement After Notice.** Qume's obligations hereunder shall not apply to any alleged infringement occurring after Buyer has received notice of such alleged infringement unless Qume thereafter gives to Buyer written consent for such continuing alleged infringement.

### 5. TERM AND TERMINATION.

**5.01 Term.** The term of this Agreement shall be from the date hereof until terminated by either party.

**5.02 Termination.** Either party may terminate this Agreement by providing written notice of termination to the other party ninety (90) days prior to the date of termination. All orders in effect on the date of termination of this Agreement shall be cancelled as of such date.

**5.03 Termination for Default.** Failure to make any payment when due in accordance with the terms of this Agreement shall constitute a default. Any other material breach of this Agreement by either party shall constitute a default if not cured within forty five (45) days after written notice of such breach is given. Upon default by either party, the other party may terminate this Agreement on ten (10) days' written notice.

**5.04 Termination for Insolvency.** Either party may terminate this Agreement on thirty (30) days' written notice if the other party is insolvent or has made any assignment by operation of law or otherwise of this Agreement or any of its rights hereunder for the benefit of creditors.

**5.05 Other Remedies.** Termination under Section 5.03 and 5.04 shall not limit the terminating party's rights and remedies otherwise available in law or in equity, including but not limited to the right to recover damages.

### 6. MISCELLANEOUS.

**6.01 Assignment.** The rights of Buyer under this Agreement may not be assigned in whole or in part by operation of law or otherwise without the prior express written consent of Qume and any attempted assignment of any rights, duties or obligations hereunder without such consent shall be void.

**6.02 Force Majeure.** If the performance of this Agreement or of any obligation hereunder (except payment of monies due) is prevented, restricted or interfered with by reason of fire or other casualty or accident; strikes or labor disputes; inability to procure raw materials, power or supplies; war or other violence; any law, order, proclamation, regulation, ordinance, demand or requirement of any governmental agency or intergovernmental body; or any other act or condition whatsoever beyond the reasonable control of the parties thereto, the party so affected, upon giving notice to the other party, shall be excluded from such performance to the extent of such prevention, or restriction or interference.

**6.03 Changes.** Qume reserves the right to make design modifications in the Spares at any time but shall not be obligated to implement such modifications in Spares which have previously been delivered.

**6.04 Entire Agreement.** This Agreement supersedes and cancels all prior agreements relating to the subject hereof, if any, between the parties and shall not be amended, altered or changed except by written agreement signed by both parties.

**6.05 Titles and Subtitles.** The titles and subtitles used in this Agreement are for convenience only and are not a part of this Agreement and do not in any way limit or amplify the terms and provisions of this Agreement.

**6.06 Notices.** All notices and other communications hereunder shall be in writing and shall be sent by first class or registered mail, postage prepaid, to the parties hereto at their respective addresses specified herein, subject to the right of either party to change its address by written notice.

**6.07 Use of Standard Purchase Order.** Although Buyer may use its standard purchase order form for orders, change orders or other notices provided for hereunder, said orders, change orders or notices will be governed by the terms and conditions of this Agreement, and any term or condition set forth in any such standard form which is inconsistent with or in addition to the terms and conditions of this Agreement shall have no force or effect.

**APPENDIX B**

**6.08 Governing Law.** This Agreement shall be governed in all respects by the laws of the State of California and both parties hereby consent to the non-exclusive jurisdiction of the courts of California over all disputes arising hereunder.

**6.09 No Waiver.** Failure on any occasion by either party to enforce any term of this Agreement shall not prevent enforcement on any other occasion.

**6.10 Expenses of Suit.** If suit is commenced to enforce the performance of any part of this Agreement, including without limitation any order or release made hereunder, the prevailing

party shall be paid by the other party reasonable attorneys' fees and expenses.

**6.11 Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument

**6.12 Confidentiality.** This Agreement and/or its contents is not to be publicly announced without prior written consent from Buyer and Qume.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

QUME CORPORATION  
2350 Qume Drive  
San Jose, CA 95131

Buyer  
Address

By \_\_\_\_\_  
(Authorized Signature)

By \_\_\_\_\_  
(Authorized Signature)

Name of Signer - Type or Print

Name of Signer - Type or Print

Title of Signer - Type or Print

Title of Signer - Type or Print

**NOTE:** Qume's acceptance of this Agreement and its associated order does not imply Qume's approval of an open line of credit. Credit terms are established by the Qume Credit Manager outside of the scope of this Agreement based upon Buyer's financial and payment records made available to Qume.

Agreement No. \_\_\_\_\_

Buyer \_\_\_\_\_

Date \_\_\_\_\_

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