AEROFLEX

2305 Stabilock®

TETRA Test Set

Getting Started Manual

For serial numbers 0302001 and higher

Ordering information   This guide is issued as part of the **2305 Stabilock**. The ordering number for a published guide is M 295 102. The ordering number for the product is M 100 205.

Table of Contents

About This Guide

This section contains the following basic information:

Purpose and scope

The purpose of this guide is to help you successfully use the Stabilock features and capabilities. This guide includes task-based instructions that describe how to install and use the Stabilock. Additionally, this guide provides a description of Aeroflex's warranty, services, and repair information, including terms and conditions of the licensing agreement.

Assumptions

This guide is intended for novice and intermediate users who want to use the Stabilock effectively and efficiently. We are assuming that you have basic computer experience and are familiar with basic telecommunication concepts and terminology.

Related information

Use this guide in conjunction with the following information:

2305 Stabilock TETRA Test Set: User's Guide, ordering number M 290 102.

Technical assistance

If you need assistance or have questions related to the use of this product call Aeroflex's technical support. You can also contact Aeroflex by e-mail at support-muc@aeroflex.com.

Conventions

This guide uses naming conventions and symbols, as described in the following tables.

Table 1   Typographical conventions

Description	Example
User interface actions appear in this **typeface**.	On the Status bar, click **Start**.
Buttons or switches that you press on a unit appear in this **TYPEFACE**.	Press the **ON** switch.
Code and output messages appear in this typeface.	`All results okay`
Text you must type exactly as shown appears in this **typeface**.	Type: **`a:\set.exe`** in the dialog box.
Variables appear in this **<typeface>**.	Type the new **<hostname>**.
Book references appear in this **typeface**.	Refer to **Newton's Telecom Dictionary**
A vertical bar | means "or": only one option can appear in a single command.	`platform [a|b|e]`
Square brackets [ ] indicate an optional argument.	`login [platform name]`
Slanted brackets < > group required arguments.	`<password>`

Table 2   Keyboard and menu conventions

Description	Example
A plus sign + indicates simultaneous keystrokes.	Press **Ctrl+s**
A comma indicates consecutive keystrokes.	Press **Alt+f,s**
A slanted bracket indicates choosing a submenu from menu.	On the menu bar, click **Start > Program Files**.

Table 3   Symbol conventions

⚠	**This symbol represents a general hazard.**
⚡	**This symbol represents a risk of electrical shock.**
▬	**NOTE** This symbol represents a Note indicating related information or tip.

Table 4   Safety definitions

⚠	**WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠	**CAUTION** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Safety Notes

This chapter provides the safety notes for the Stabilock. Topics discussed in this chapter include the following:

- – "Safety class" on page x
- – "Safety warnings" on page x
- – "Declaration of EU Conformity" on page xii

Safety class

The external power supply of the Stabilock is a safety class I equipment as defined in EN 60950:2000.

Do not try to open the power supply. There are no serviceable parts inside. If the power supply is defective you can obtain a new one from Aeroflex (order number M 860 224).

Safety warnings

This product is designed for indoor use. As exposure to water may damage the instrument it has to be protected against moisture when used outdoors.

> **WARNING**
> Only use a 50 Ω N-type connector to connect to the **RF1 IN/OUT** and **RF2 OUT** ports of the Stabilock. Use of any other connector may result in damage of the instrument.

> **WARNING**
> Do not cover the ventilation slits (on the left and right-hand side of the instrument and on the back). Covering them may result in serious damage and fire.

> **WARNING**
> Keep the heat sink at the back free!
> The instrument may overheat otherwise.

> **WARNING**
> The maximum input power level at the **RF1 IN/OUT** connector is 70 W continuous level, or 20 W burst TETRA signal. Higher input levels may result in serious damage of the instrument.

> **WARNING**
> Do not feed signals or DC voltage into the **RF2 OUT** port as it may result in serious damage of the instrument.

WARNING

Operate the instrument within the temperature range from 5°C (40°F) to 45°C (110°F) only. Operation outside this range will lead to invalid results.

Safety advice for the battery module

Do not crush. Do not heat or incinerate. Do not short-circuit. Do not dismantle. Do not immerse in any liquid, it may vent or rupture! Do not charge below 0°C (32°F) nor above 45°C (110°F).

Battery module usage

The battery module is for use with the Stabilock and the 9100 Handheld Spectrum Analyzer Series only. Aeroflex does not accept any liability for damage of the battery or other equipment if the battery module is used with other electric or electronic equipment.

Declaration of EU Conformity

Manufacturer	Aeroflex GmbH Gutenbergstr 2-4 D-85737 Ismaning Germany
Product designation	**2305 Stabilock**

The designated product conforms to the following European directive(s):

EMC Directive	**2004/108/EC**
Product directive	**IEC 61326**

The conformity of these products of the above directive(s) is demonstrated by application of the following standard(s):

Test directive	**IEC 61000-4** (Class B)

Ismaning, June 30, 2010

J. Schwarzhuber, R&D Director

This declaration is not a guarantee of features. Pay attention to the safety instructions in the product documentation.

Aeroflex GmbH • Gutenbergstr. 2–4 • 85737 Ismaning • Germany
Tel: +49 (0) 89 996 41 0 • Fax: +49 (0) 89 996 41 160 • www.aeroflex.com

Geschäftsführer/General Manager: Jacob Sobol • Registergericht/Commercial register: München, HRB 6186

Stabilock Overview

1

This chapter provides a general description of the Stabilock. Topics discussed in this chapter include the following:
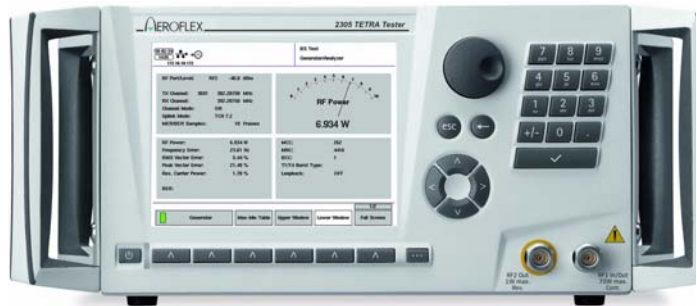
About the Stabilock

Aeroflex's 2305 Stabilock is a mainframe with software available for testing either TETRA radio terminals, or base stations, or both. Service personnel use the Stabilock to ensure the quality of the transmitter and receiver.

– Base stations can be tested at output power levels up to 100 W. Base stations with separate connectors for transmitter and receiver can easily be connected.
– Radio terminals can be tested in terms of transmit and receive parameters; the digital circuits are also tested with call setup routines in trunked mode (TMO) or direct mode (DMO).

Features and capabilities

General features

– Field proven due to
  – low weight ($<$ 4 kg)
  – battery option
  – large and high contrast screen
– Remote control for automated testing in service and manu-
  facturing
– RF signals over joint or separate RF ports
– TETRA test signals

Transmitter measurements

– RF power
– Carrier frequency offset
– Burst power profile over time (for mobile stations)
– Timing error (for mobile stations)
– Residual carrier power
– Unwanted output power
– Error vector magnitude (RMS, peak)
– Modulation spectrum
– Constellation diagram

Receiver measurements

– Single ended and loopback Bit Error Rate (BER) and Message
  Erasure Rate (MER)

- Test signals: T1 with TCH7.2, TCH2.4, SCH/F, with and without Frame 18
- Paging sensitivity (for mobile stations)

Options

2332 TETRA Base Station Test Option:
Full transmitter and receiver measurement capabilities

Supports receiver and transmitter measurements at TETRA base stations according to EN 300 394: Air interface or external synchronization, different up and downlink test signalling channels and bit error rate. The 2305 Stabilock supports measurements at RF power levels up to 100 W at a joint or at separate RF connectors.

2333 TETRA Mobile Station Test Option:
Ensuring reliability under various conditions

Approved by leading manufacturers of TETRA terminals, this option offers all the test functions needed for radio repair, tuning and preventive maintenance, including the standardized TETRA test modes and application tests for group calls. Frequent preventive testing is important to ensure the mobile stations are fully operational when they are needed most!

2330 DMO Option:
Expand testing capabilities to TETRA Direct Mode Operation

With the 2330 DMO Option installed, the 2305 Stabilock also understands and analyses the TETRA DMO protocol for direct communication between two TETRA radios. This enables the user to test the single-frequency operation. Requires 2333 TETRA Mobile Station Test Option.

2331 Autotest Option:
Efficient and time-saving checks through automated tests

Aeroflex offers a set of automatic test capabilities for the 2305 Stabilock. The 2331 Autotest Option allows to run typical test sequences automatically on the instrument. So you can run tests with the mere push of a button! (with 2333 TETRA Mobile Station Test Option only)

2360 OCXO Option: Increasing frequency accuracy

TETRA radios are usually running a reliable AFC (Automatic Frequency Correction) to match frequency offset to the base station. For tests on mobile stations which do not have this feature, Aeroflex offers the 2360 OCXO Option to make the reference frequency of the 2305 Stabilock ten times more accurate.

2361 Battery Option: Becoming independent from mains power

No need to spend time dismounting radios installed into vehicles: Take the tester on the road with the 2361 Battery Option! Using the high-capacity Li-Ion type battery, the 2305 Stabilock becomes independent from other power sources for about two hours. And with accessories like the desk charger and extra batteries, engineers are always prepared for a quick emergency mission.

1500 Battery Charger

The desktop charger allows you to recharge a battery while operating the Stabilock with another battery. This way, your 2305 will always be ready for use in the field!

Installation

2

This chapter describes how to set up the Stabilock. The topics discussed in this chapter are as follows:

Scope of delivery

When unpacking the Stabilock, ensure that you do not miss any of the following items:

– instrument (2305 Stabilock) with a dummy battery
– Battery (if ordered), with insulating tape over electrical contacts
– power supply with inlet plug for non-heating apparatus
– power cable for your region
– USB flash drive
– manual pack including this getting started manual and CD containing the user's guide

Before first-time use

The 2305 is optionally delivered with a rechargeable battery module. This battery must be charged before first-time use. Please allow six hours to charge the battery while the instrument is connected to an external power supply and switched off. For more information, see section "Installing and maintaining the battery" on page 9.

Setting up the hardware

The Stabilock can be operated either with an external power supply or with the built-in battery. For battery operation, refer to "Installing and maintaining the battery" on page 9. Setting up the instrument to operate with an external power supply is explained here.

If you have a DC source with 11 to 15 V capable of providing 60 W power, you can connect it to the **DC IN** plug on the back panel. Ensure that the voltage polarity is as indicated on the back panel.

If you want to operate the Stabilock from a standard AC mains power source, connect the power supply provided with the instrument to the **DC IN** plug on the back panel, and to the AC source using the power cable delivered with the power supply.

Installing and maintaining the battery

The Stabilock can be equipped with a rechargeable battery module to enable operation in the field, without mains voltage. If you ordered your 2305 with a battery, that battery will have to be installed; see instructions on .

The battery must be charged before first-time use. Please allow six hours to charge while the instrument is connected to an external power supply and switched off.

The battery charge status is indicated with a symbol on the screen. See the user's guide for detailed information on this symbol.

On the front panel, an LED next to the on/off switch provides basic information about the power supply status. If the LED lights green, an external power source is connected. If the LED lights yellow, an external power source is connected and the battery is being charged.

If the instrument is switched on, the battery takes about three times as long to charge compared to when the instrument is switched off. After eight hours of continuous charging, the battery charger is automatically switched off to ensure that the battery is not damaged by too long charging periods. The battery may not be fully charged at the time. Therefore Aeroflex recommends to charge the battery only while the Stabilock is switched off.

NOTE

Disconnecting the mains cable from the power source resets the eight-hour maximum charging period. In order to make sure that the battery is fully charged when the instrument is switched off, unplug the mains cable first and plug it in again.

A completely discharged battery is not recharged, if the power supply is connected while the instrument is operating. Therefore it is advisable to switch off the instrument before connecting the power supply to the Stabilock.

Safety advice for the battery module

Do not crush. Do not heat or incinerate. Do not short-circuit. Do not dismantle. Do not immerse in any liquid, the battery may vent or rupture! Do not charge below 0°C (32°F) nor above 45°C (110°F).

Battery module replacement

To replace the battery module, use genuine Aeroflex spare parts only. Contact your local Aeroflex service center or sales representative for a quotation.

The battery module compartment is situated on the back panel of the instrument. You can replace the (real or dummy) battery module as follows:

1 Switch off the Stabilock.

2 Remove the (dummy) battery module by pushing the black rubber clasp to the right and pulling the battery module out of the compartment.
Do not try to open the battery module!

3 Remove the insulating tape from the new battery.

4 Line up the new battery module with the connectors to the bottom and pointing towards the compartment.

5 Gently slide the battery module into the compartment until it locks completely.

6 Fully charge the new battery.

For optimum performance and lifetime, please follow the advice below:

– Before first-time use, charge the battery completely while the Stabilock is switched off. This takes about six hours.
– If you do not use the battery module for months: Fully charge the battery and remove it from the instrument. Check the battery twice a year and recharge it if necessary – the battery must not be stored while completely discharged!
– Do not store the battery module above 45°C (110°F) or below 0°C (32°F).
– Do not touch the battery contacts with your fingers; keep them clean.
– Do not drop the battery module to the ground (risk of cracks).

Dispose of the battery module safely

Do not simply throw the battery module away. Dispose of the battery in line with national or regional regulations.

Operation

3

This chapter describes the functionality of the instrument. Topics discussed in this chapter are as follows:

Connecting the Stabilock

The Stabilock offers different connectors for a variety of applications. The following section describes the connectors available and provides information on technical data and application purposes.

DC IN

The Stabilock can be operated either from the internal battery or from an external DC source such as the power supply which is delivered with the 2305, or a car battery. The DC voltage must be in the range from 11 to 15 V. In addition, the battery is loaded when an external DC source is connected.

The **DC IN** plug is located on the right-hand side at the back of the instrument. Read more about power supplies in chapter "Installation", in particular in section "Setting up the hardware" on page 8.

RF1 IN/OUT

RF1IN/OUT is a 50 Ω N-type connector (female) on the right-hand side of the front panel.

Use a 50 Ω shielded RF cable with an N-type connector (male) to connect to the unit under test; simply screw the connector tight to the instrument.

If you have a 50 Ω shielded RF cable with a BNC connector (male), use an N to BNC adapter to connect the cable to the 2305. Aeroflex offers an appropriate adapter.

WARNING

The maximum input power level at the RF1 IN/OUT connector is 70 W continuous level, or 20 W burst TETRA signal. Higher input levels may result in serious damage of the instrument.

CAUTION

Only use a 50 Ω N-type connector to connect to the **RF1 IN/ OUT** port of the 2305. Use of any other connector may result in damage of the instrument.

RF2 OUT

RF2 OUT is a 50 Ω N-type connector (female) on the front panel. It can be used to feed a signal into the receiver section of the unit under test (e.g. a TETRA base station).

Use a 50 Ω shielded RF cable with an N-type connector (male) to connect to the unit under test; simply screw the connector tight to the instrument.

If you have a 50 Ω shielded RF cable with a BNC connector (male), use an N to BNC adapter to connect the cable to the 2305. Aeroflex offers an appropriate adapter.

⚠️ **WARNING**

Do not feed signals or DC voltage into the **RF2 OUT** port as it may result in serious damage of the instrument.

⚠️ **CAUTION**

Only use a 50 Ω N-type connector to connect to the **RF2 OUT** port of the 2305. Use of any other connector may result in damage of the instrument.

LAN/USB

There is an RJ-45 LAN plug on the right-hand side of the rear panel. Additional USB plugs can be found below the LAN plug.

The Stabilock can be controlled from an external computer via a local area network (LAN), using a TCP/IP connection at 10 or 100 Mbit/s. This high-speed connection can as well be used to transfer traces to a PC or to update the system software.

The IP address can be either obtained automatically from a DHCP server, or set up manually in the system configuration menu or via RS-232.

Setting up the IP address, the command set to control the 2305 and the responses from the Stabilock are explained in the full user's guide.

Connect the instrument to the LAN with a standard LAN cable with RJ-45 connectors. Alternatively, you can connect the 2305 to a PC directly using a cross patch cable.

RS-232

This 9-pin sub-D connector on the rear panel of the Stabilock can be used to control the 9100 remotely via serial interface (RS-232). The command set and the responses conform to the SCPI standard and are explained in the user's guide.

The RS-232 connector can also be used to load and store results and settings and to update the operating software. See the user's guide for more details.

To connect the 2305 to a controlling PC over RS-232, use a null modem (PC to PC) cable.

EXT. REF IN The **EXT. REF IN** plug can be found on the rear panel. It can be used as an input for an external time base (reference clock). If an external 5, 10 or 13 MHz clock is connected, the 2305 will automatically use this clock as a frequency reference, and display a symbol on the LCD screen. See the user's guide for more details.
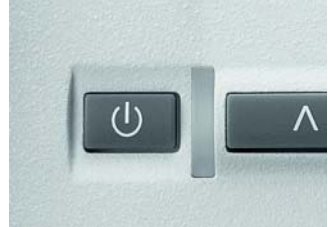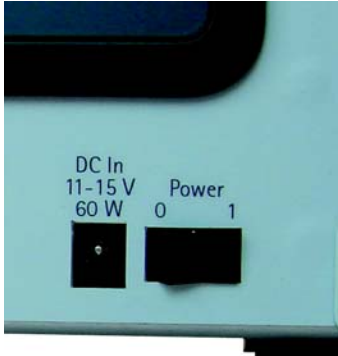
⚠ **WARNING**

The input for the external trigger signal is designed for TTL input levels only. Higher levels at this port can damage the instrument!

TRIGGER IN/ OUT This BNC plug can either provide or accept a TTL trigger signal for synchronization of external equipment with the active slot, frame or multiframe, for example for time synchronization of the Stabilock with a base station. The actual signal is set by the instrument software; see the user's guide for the Stabilock for more details.

Powering the unit

**Switching on
the instrument**

The Stabilock has two independent power switches – one on the rear (right-hand side) and one on the front panel (left-hand side). Both must be switched on to operate the instrument.

The power switch on the rear disconnects the battery from the DC voltage supply and the instrument completely. Use this switch to avoid residual currents that may discharge the battery.

Once the instrument is switched on, it takes a couple of seconds for the instrument to load and start its software.

NOTE

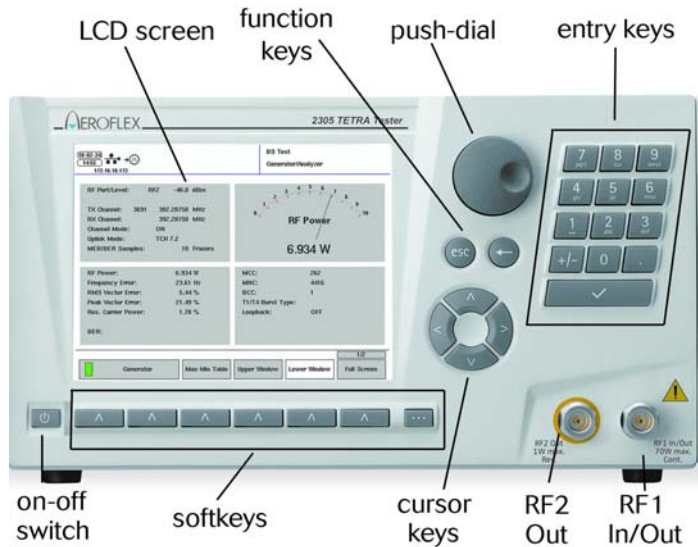The warm-up time for precision measurements is 30 minutes.

NOTE

Please wait a few seconds between switching the instrument off and on again. It will not start otherwise.
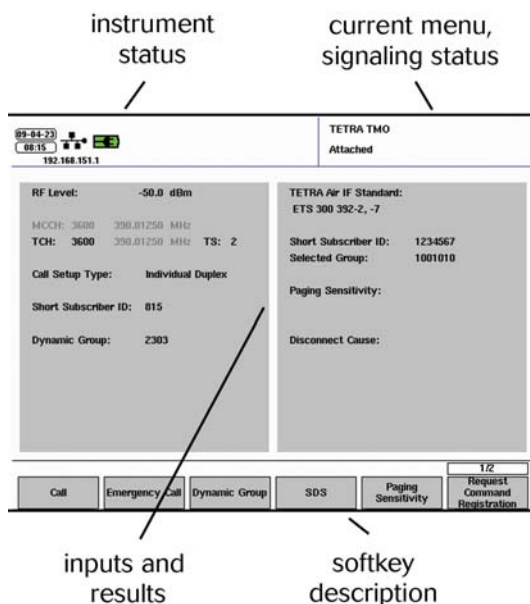
Using the front panel

LCD The LCD screen shows the menus that guide you through configuration and measurements when the Stabilock is switched on and the operating software is loaded. The menus consist of four different sections:

instrument status — current menu, signaling status

inputs and results — softkey description

The top row shows the instrument status on the left. This includes the status of battery, network and USB connections.

On the right-hand side, the top row displays the processing status, e.g. the call processing.

The top row displays the meaning of the softkeys that are located beneath the LCD screen. If the description for the right-most softkey displays "1/2" or "2/2" on top, there is a second row of softkeys available. Press the **...** key to switch to the alternate softkey menu.

The rest of the display (in the middle) shows input and result fields. If there are input fields available in the menu, these start at the top-left. Graphical output, if available, is displayed on the right-hand side.

Keypad The front panel of the Stabilock has a number of keys that can be broken down into the following sections.

On-off switch See "Switching on the instrument" on page 19.

Softkeys

The softkeys are the six keys below the LCD screen. The meaning depends on the currently active menu and is displayed on the screen, above the softkeys.

If the description for the right-most softkey displays "1/2" or "2/2" on top, there is a second row of softkeys available. Press the **…** key to switch to the alternate softkey menu.

Cursor keys In menu mode (i.e. while not entering text or a new value in an input field), the cursor keys allow you to move up and down, left and right between input fields.

In input mode (i.e. while entering text or values), you can move the cursor between the characters or digits with the help of the cursor keys.

Entry keys You can open the currently high-lighted input field and enter new values or text just by using the entry keys. The Enter key (marked with a tick) is used to accept the current value.

In input fields for numerical values, you can use the numeric keys to enter digits, the **+/-** key to toggle the sign, and the **.** key to separate the integer part from the decimal places of the input value.

In input fields for text, the numeric keys can also be used to enter characters as shown on the key. Just press the respective key multiple times to change to the desired character.

Push-dial

In menu mode, the push-dial can be turned clockwise or anticlockwise to move to a different input field, just like you would do with the Up and Down cursor keys.

In input mode, you can increase or decrease the current value by turning the push-dial. The currently active value is accepted by pressing the push-dial.

Function keys

The Backspace function key can be used in input mode to erase the character in front of the current cursor position.

The Escape function key is used in menu mode to leave the current menu and move one menu level up.

In input mode, the Escape key is used to leave input mode without accepting the current input. The previous input is maintained.

Navigating the user interface

See the Stabilock user's guide for operation details.

Maintaining the instrument

<table>
<tr>
<td>⚠️</td>
<td>

WARNING

Keep the heat sink at the back free!
The instrument may overheat otherwise.

</td>
</tr>
</table>

Keep the fans, and in particular the one on the back panel, free of any dust and dirt! Frequently remove any dust that may obstruct the ventilation grids.

As with any measuring device, the Stabilock should be calibrated on a schedule to ensure the required accuracy is maintained.

Warranty and Repair

A

This chapter describes the customer services available through Aeroflex. Topics discussed in this chapter include the following:

Warranty information

Aeroflex warrants that all of its products conform to Aeroflex's published specifications and are free from defects in materials and workmanship for a period of one year from the date of delivery to the original buyer, when used under normal operating conditions and within the service conditions for which they were designed. This warranty is not transferable and does not apply to used or demonstration products.

In case of a warranty claim, Aeroflex's obligation shall be limited to repairing, or at its option, replacing without charge, any assembly or component (except batteries) which in Aeroflex's sole opinion proves to be defective within the scope of the warranty. In the event Aeroflex is not able to modify, repair or replace nonconforming defective parts or components to a condition as warranted within a reasonable time after receipt thereof, the buyer shall receive credit in the amount of the original invoiced price of the product.

It is the buyer's responsibility to notify Aeroflex in writing of the defect or nonconformity within the warranty period and to return the affected product to Aeroflex's factory, designated service provider, or authorized service center within thirty (30) days after discovery of such defect or nonconformity. The buyer shall prepay shipping charges and insurance for products returned to Aeroflex or its designated service provider for warranty service. Aeroflex or its designated service provider shall pay costs for return of products to the buyer.

Aeroflex's obligation and the customer's sole remedy under this hardware warranty is limited to the repair or replacement, at Aeroflex's option, of the defective product. Aeroflex shall have no obligation to remedy any such defect if it can be shown: (a) that the product was altered, repaired, or reworked by any party other than Aeroflex without Aeroflex's written consent; (b) that such defects were the result of customer's improper storage, mishandling, abuse, or misuse of the product; (c) that such defects were the result of customer's use of the product in conjunction with equipment electronically or mechanically incompatible or of an inferior quality; or (d) that the defect was the result of damage by fire, explosion, power failure, or any act of nature.

The warranty described above is the buyer's sole and exclusive remedy and no other warranty, whether written or oral, expressed or implied by statute or course of dealing shall apply. Aeroflex specifically disclaims the implied warranties of merchantability and fitness for a particular purpose. No statement, representation, agreement, or understanding, oral or written, made by an agent, distributor, or employee of Aeroflex, which is not contained in the foregoing warranty will be binding upon Aeroflex, unless made in writing and executed by an authorized representative of Aeroflex. Under no circumstances shall Aeroflex be liable for any direct, indirect, special, incidental, or consequential damages, expenses, or losses, including loss of profits, based on contract, tort, or any other legal theory.

Equipment return instructions

Please contact your local service center for Aeroflex products via telephone or web site for return or reference authorization to accompany your equipment. For each piece of equipment returned for repair, attach a tag that includes the following information:

– Owner's name, address, and telephone number.
– Serial number, product type, and model.
– Warranty status. (If you are unsure of the warranty status of your instrument, include a copy of the invoice or delivery note.)
– Detailed description of the problem or service requested.
– Name and telephone number of the person to contact regarding questions about the repair.
– Return authorization (RA) number (US customers), or reference number (European customers).

If possible, return the equipment using the original shipping container and material. Additional Aeroflex shipping containers are available from Aeroflex on request. If the original container is not available, the unit should be carefully packed so that it will not be damaged in transit. Aeroflex is not liable for any damage that may occur during shipping. The customer should clearly mark the Aeroflex-issued RA or reference number on the outside of the package and ship it prepaid and insured to Aeroflex.

Appendix A Warranty and Repair
Equipment return instructions

Publication History

Revision	Changes
1006-300-A	First version.

CHINA Beijing
Tel: [+86] (10) 6539 1166
Fax: [+86] (10) 6539 1778

CHINA Shanghai
Tel: [+86] (21) 5109 5128
Fax: [+86] (21) 6457 7668

FINLAND
Tel: [+358] (9) 2709 5541
Fax: [+358] (9) 804 2441

FRANCE
Tel: [+33] 1 60 79 96 00
Fax: [+33] 1 60 77 69 22

GERMANY
Tel: [+49] 8131 2926-0
Fax: [+49] 8131 2926-130

HONG KONG
Tel: [+852] 2832 7988
Fax: [+852] 2834 5364

INDIA
Tel: [+91] (0) 80 4115 4501
Fax: [+91] (0) 80 4115 4502

JAPAN
Tel: [+81] 3 3500 5591
Fax: [+81] 3 3500 5592

KOREA
Tel: [+82] (2) 3424 2719
Fax: [+82] (2) 3424 8620

SCANDINAVIA
Tel: [+45] 9614 0045
Fax: [+45] 9614 0047

SPAIN
Tel: [+34] (91) 640 11 34
Fax: [+34] (91) 640 06 40

UK Stevenage
Tel: [+44] (0) 1438 742200
Fax: [+44] (0) 1438 727601
Freephone: 0800 282388

USA
Tel: [+1] (316) 522 4981
Fax: [+1] (316) 522 1360
Toll Free: 800 835 2352

Manual ident: M 295 102
Manual version: 1006-300-A

w w w . a e r o f l e x . c o m
i n f o - t e s t @ a e r o f l e x . c o m