


# 7 Maintenance, Servicing and Troubleshooting

## 7.1 General

The Tempus 2000 is designed to be as maintenance-free as possible. The only user-replaceable and user-serviceable parts in the Tempus 2000 are those listed in this section of the manual.

## 7.2 Battery Removal and Replacement



Press the  button in the Advanced Help Menu in order to bring up the helpscreen for this activity.

Follow the instructions given in the helpscreen to complete this activity.

### 7.2.1 Removing the Battery

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#### WARNING

**Do not short-circuit the terminals of any battery. A short circuit can occur if the battery terminals come into contact with any metal or other electrically conductive object. The battery may be irreversibly damaged if it is short-circuited.**

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#### IMPORTANT

**Before removing the battery you must switch off the Tempus 2000 by pressing and holding the power button for two seconds.**

**Remember that the battery cannot be removed until the red lamp on the front panel has gone out.**

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### 7.2.2 Charging Batteries

For full details on charging the rechargeable battery, please refer to the Tempus 2000 Battery Charger User/Operator Manual (part number 41-0003).

To charge the RDT rechargeable batteries, simply place the battery into the opening of the charger. The battery can only be inserted in the correct orientation and will easily drop into place if the orientation is correct.

Ensure that the charger is connected to the associated power supply and that the power supply is connected to a mains supply. The mains supply that is supplied with the charger is approved for use in most areas including North America and Europe. It is supplied with a cord that is appropriate and approved for use in the relevant market and it must be ensured that this cord is always used. If the cord is damaged or needs replacing, it must be replaced with another of the same type and rating.

Connect the power supply to the charger box by pushing the low voltage jack socket on the end of the power supply output lead into the receptacle on the charger.

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#### NOTE

**Batteries cannot be charged on board aircraft but may be charged in land or sea based locations (where no other restrictions apply e.g. in hazardous locations).**

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Note that when the battery is first inserted into the charger, the “Charged” and “Charging” LEDs may flash intermittently for a short period of time (20 seconds to 4 minutes). This indicates that the charger is in a “trickle – charge” mode. The duration of time that the charger remains in this mode is dependent on the level of remaining charge in the battery when it is first connected to the charger.

When the mains supply is connected to the charger, the green LED marked “power” will light. When a battery is placed into the charger and the charging cycle is complete (normally 4-5 hours), the second green LED, marked “Charge complete” will light.

### 7.2.3 Disposal of Batteries

Dispose of batteries in accordance with the applicable local regulations (these can vary from country to country).

*(In most countries, the trashing of used batteries is forbidden and the end-users are invited to dispose them properly, eventually through not-for-profit profit organisations, mandated by local governments or organised on a voluntary basis by professionals).*

Where the Tempus 2000 is marked with a CAA (UK Civil Aviation Authority) Safety Acceptance Approval Number, all defective or exhausted batteries must be returned to RDT for proper disposal. Please contact RDT at the address given in section 1.1 to obtain instructions prior to shipping.

## 7.3 Replacing the Fuse

A fuse holder is located on the bottom panel of the Tempus 2000 system unit.

The fuse may have blown if the Tempus 2000 will not operate when a suitably charged battery is installed and the battery life indicator indicates that the battery is OK.

### 7.3.1 Removing the Fuse

To remove the fuse,

- Remove the battery
- Close the lid of the Tempus 2000
- Turn the Tempus 2000 on its side
- Insert the edge of a small coin into the slot in the fuse holder and gently twist anti-clockwise about 1/4 of a turn to release the fuse holder
- Withdraw the fuse holder
- Remove the fuse from the fuse holder.

If the fuse is good, it should be possible to see a fine wire running the entire length of the glass cylinder. If the fuse is blown, it may be possible to see a break in the fine wire or the inside of the glass cylinder may be discoloured. The following figure illustrates fuses which are OK and fuses which are blown.

- It is not always possible to see whether the fuse is blown. If in any doubt, replace the fuse.

### 7.3.2 Fuse Replacement Type

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#### **WARNING**

**It is essential that the fuse is only replaced with one of the correct type and rating described below. Use of a different type or rating of fuse may cause damage to the Tempus 2000 or reduce the protection against risk of fire that the fuse provides. Replacement fuses should only be obtained from Remote Diagnostic Technologies Ltd. or their agents.**

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The correct fuse type is 20mm, low capacity (glass body), 4A, anti-surge (type T). Replacement fuses are available from Remote Diagnostic Technologies Ltd.

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### 7.3.3 Replacing the Fuse

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#### WARNING

**Use of excessive force in the following steps may result in breakage of the glass fuse and consequent risk of personal injury or area contamination from broken glass.**

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This procedure applies equally to a new fuse or refitting the original fuse if it is not blown.

To replace the fuse,

- Gently insert the fuse into the end cap of the fuse holder.
- Hold the end cap and slide the fuse into the fuse holder on the underside of the Tempus 2000.
- Insert the edge of a small coin into the slot in the fuse holder and gently twist clockwise about 1/4 of a turn to secure the fuse holder. Only a small amount of force is required.

## 7.4 Periodic Preventive Maintenance

The Tempus 2000 must be returned to the manufacturer every 10-14 months for preventive maintenance. This includes, but is not necessarily limited to, factory recalibration of sensors, cleaning, and the replacement of worn, damaged or suspect parts.

Please contact the manufacturer at the address in section 1.1 to arrange preventive maintenance. Please note that all returns must be performed within the restrictions of RDT's Terms and Conditions of Sale.

The Tempus 2000 should be securely repackaged in its original shipping materials prior to dispatch for preventive maintenance. Do not include consumable materials when packing for periodic maintenance. Contact the manufacturer if the original shipping material is not available, or damaged, or if you have any other queries on returns.

### 7.4.1 Cleaning by Manufacturer

If the Tempus 2000 becomes soiled with bodily fluids or tissues it must be returned to the manufacturer for specialist cleaning and refurbishment. Please contact the manufacturer for instructions.

## 8 Spares List

### 8.1 Spares List

The following user-replaceable parts are available from the manufacturer at the address in section 1.1.

<b>Part number</b>	<b>Description</b>
01-0001	Blood Pressure Cuff – Child (US)
01-0002	Blood Pressure Cuff – Adult (US)
01-0003	Blood Pressure Cuff – Large Adult (US)
01-0004	Alcohol Wipes (Box of 100)
01-0006	Nail Varnish Remover Swabs (Box of 100)
01-0007	ECG Spray
01-0009	Thermometer Cover Dispenser (Dispenser of 25)
01-0012	Fuse
01-0013	Battery Charger
01-0014	Battery Rechargeable
01-0016	Capnometer Cannula/Filter
01-0017	Blood Pressure Cuff – Child (EU)
01-0018	Blood Pressure Cuff – Adult (EU)
01-0019	Blood Pressure Cuff – Large Adult (EU)
41-0001	Tempus 2000 User Manual
41-0003	Battery Charger User Manual
01-0022	Tempus 2000 Repack Kit*
01-0024	Tempus 2000 Telecoms Extension Cable
01-0028	Earpiece Covers (Pack of 60)

\*Note that the Tempus 2000 may be re-stocked by means of a kit that is available from RDT. The kit contains: 4 off of the individual covers for the Earpiece, 2 off packs of Cannula and Filters, 4 off of the individual Nail Varnish Remover Swabs, 4 off of the individual Alcohol Wipes, 1 off full ECG Spray Bottle and 1 off full box of Thermometer Covers.


The kit is intended to be used to completely restock a single Tempus 2000 system. All usable items within the Tempus 2000 should be discarded. The items contained within the kit must only be used with the Tempus 2000.

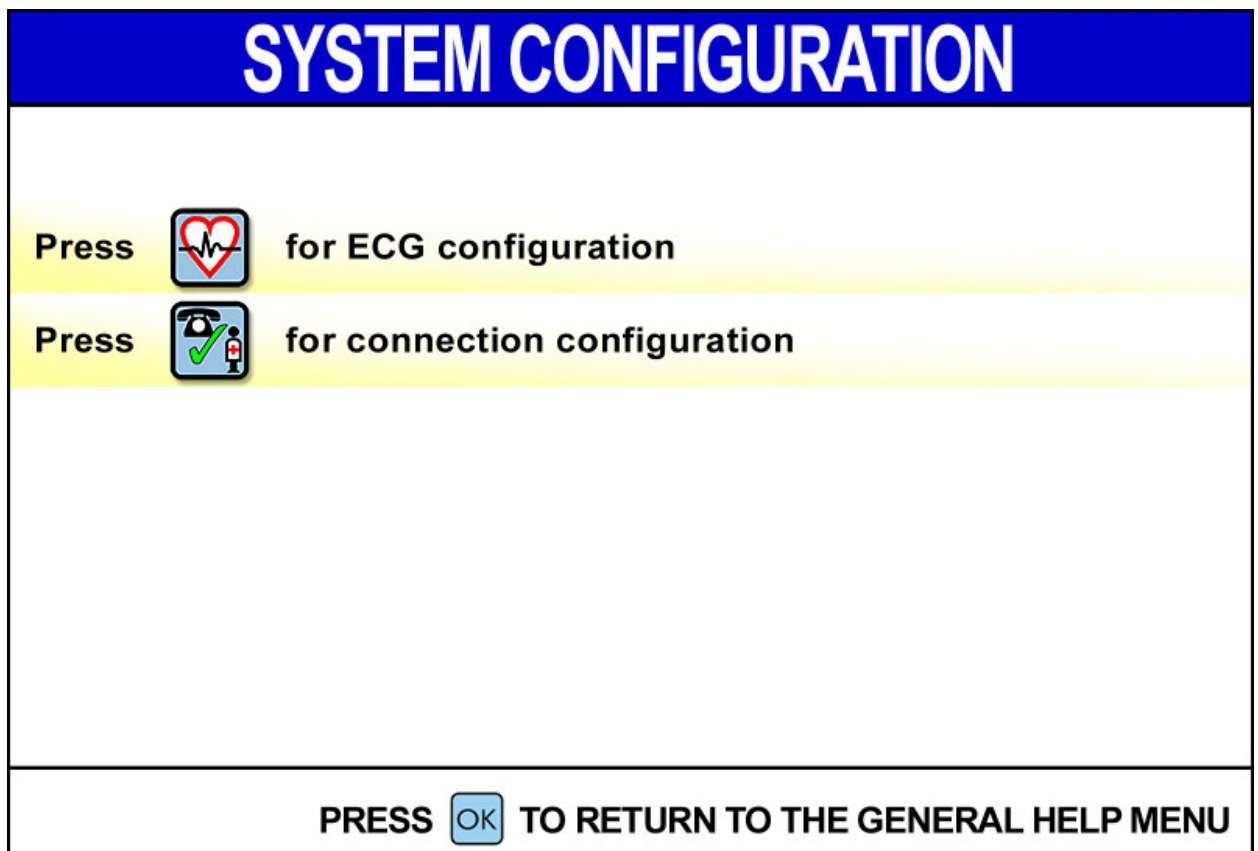
## 9 System Configuration

### 9.1 General

A number of the parameters used by the Tempus 2000 are configurable to suit certain requirements. An example of this is the Response Centre telephone numbers - should these change, the new numbers can be programmed in to the Tempus 2000.





If you pressed the  button in the Advanced Help Menu, the Tempus 2000 will display the System Configuration Menu. This is shown below.




From this point you can access the configuration screens for the ECG (where you can change the filter frequency settings) or for the telecoms connections (where the telephone numbers of the Response Centre are stored).

You should only access these areas if you need to, and you should always ensure that you have enough time to ensure that the changes you make are the correct ones. If you make any changes, you will be asked by the Tempus 2000 to press


the  and the  buttons to confirm the changes you have made. The Tempus 2000 will require you to repeat this key combination to ensure that you definitely want to make the change. This procedure is designed to prevent the settings from being changed inadvertently because, once the changes are made, they become the default settings that the Tempus 2000 will always use. Consequently, if you make changes to the connection configuration details that are incorrect, you will not be able to subsequently achieve a connection until the mistake is corrected. So you should always be sure that you are making a valid change before you confirm the new setting.

## 9.2 ECG Configuration

If you press the  button in the System Configuration menu, you will be able to switch between 50Hz and 60Hz filtering of the ECG. You will also be able to put the ECG in demonstration Mode (for training purposes). In this mode the device will display a computer generated ECG instead of a “real” trace when monitoring and recording.

Follow the on screen instructions to edit the numbers as necessary.

## 9.3 Connection Configuration

If you press the  button in the System Configuration menu, you will be able to edit the communications settings.

This screen is divided into two areas, upper and lower. In the upper section are the Communications Configuration details, these can be reset by you. In the lower area is the Device Information section. This contains the device serial number and the software version number. You may occasionally need to refer to this information when dealing with RDT, but generally it is not information that you need to know.

Follow the on screen instructions to edit the numbers as necessary.

## 10 Specifications and Standards

### 10.1 Specifications

Note that all figures quoted are based on room temperature, pressure and humidity unless otherwise stated.

#### 10.1.1 Thermometer

Measurement range	18°C to 43°C (target)
Type	Tympanic
Resolution	0.1°C
Accuracy	±0.1°C

#### 10.1.2 Electrocardiograph

Input impedance	>100MΩ
Dynamic range	±5.28mV AC
Accuracy	±4%
DC offset	±300mV DC
Frequency response	0.05Hz to 100Hz
Sample rate	300Hz
Sample resolution	2.58μV (LSB), 12 bit resolution
Common mode rejection	96dB
50Hz/60Hz rejection	selectable, implemented through software filter
Defibrillator discharge protection	Yes
Maximum defibrillator voltage	5kV (all units are individually tested)
Leakage current	<1μA
Pacemaker detection	No
Pulse rate ranges	No hardware limitation. Measurement software reads to 250bpm. Higher rates will not be measured, but are still represented correctly in ECG graphs.



## 10.1.3 Non-invasive Blood Pressure

### 10.1.3.1 *Adult cuff and Large Adult cuff ratings*

Systolic	60 - 250 mmHg
Diastolic	40 - 220 mmHg
Range	0 - 330 mmHg
Accuracy	$\pm 3$ mmHg or $\pm 2\%$ (whichever is greater)
Resolution	1 mmHg
Maximum inflation	330mmHg

### 10.1.3.2 *Child cuff ratings*

Systolic	60 - 250 mmHg
Diastolic	40 - 220 mmHg
Range	0 - 330 mmHg
Accuracy	$\pm 3$ mmHg or $\pm 2\%$ (whichever is greater)
Resolution	1 mmHg
Maximum inflation	330mmHg

## 10.1.4 ETCO<sub>2</sub> sensor

Range	0-100 BPM
Accuracy	$\pm 2$ BPM
Range	0-10% CO <sub>2</sub> displayed value
Accuracy	$\pm 5\%$ (of full scale)
Rise time	<2 seconds
Delay time	5 seconds
Operating altitude range	0-15000 feet

## 10.1.5 SpO<sub>2</sub> sensor

Range	30-240 bpm
Graphic display range	50-200 bpm
Accuracy	$\pm 3$ bpm or $\pm 2\%$ whichever is greater
Resolution	1%
Range	50% to 100%
Graphic display range	50-100%
Accuracy	$\pm 2\%$ at 70%-100%, $\pm 3\%$ at 50%-69%
Type	Functional saturation (test methods available upon request)
Wavelength range	Red 660nm, infra-red 905nm

### 10.1.6 Environmental Specifications

Altitude	0-4500m (0-15000ft) (can be used at higher physical altitudes provided the local atmosphere is no higher than 4500m, e.g. in a pressurised aircraft cabin)
Relative humidity	15%-95% (non-condensing)
Operating temperature range	0°C to 40°C
Storage temperature range	-20°C to +60°C
Environmental protection	IPX1, 30G shock

### 10.1.7 Miscellaneous Features and Specifications

Dimensions	L 300mm, W 270mm, D 240mm
Mass	7.2kg (without batteries)

#### 10.1.7.1 *Rechargeable battery*

Battery life	4 hours running in normal use (battery life is shortened by approximately 20 minutes if only the built in Cell Phone is used)
Nominal voltage	14.4V
Charging voltage	16.4V $\pm$ 1%
Nominal capacity	5.5Ah
Shelf life	2 years
Weight	0.8kg
Shelf life	2 years (before re-charging is required)
Overall rate of charge loss	10% maximum per year (dependant on treatment)

#### 10.1.7.2 *Battery charger*

Mains input voltage	100-250V (19Vdc input to charger)
Frequency	50-60Hz
Input power	45W max
Output voltage	16.4V dc
Output current	3A

## 10.1.8 Communications

### 10.1.8.1 Types of Communications

Low Speed Communications	Transmits voice and data via two modems at 2.4 kbaud (ITU-T V.34, data compression V22bis)
Medium Speed Communications	Transmits simultaneous voice and data over a single modem - OPTIONAL
Wireless Communications	Transmits simultaneous voice and data over a single built in Cell Phone (tri-band GSM).- OPTIONAL

### 10.1.8.2 Connection Compatibility

The Tempus 2000 is designed to operate with any telephone line which provides an "RJ11" type connection with an analog interface. Typically, this includes aircraft telephones and many fixed-line sockets. RJ11 connectors are widely used in the USA.

Adapters are available to permit the Tempus 2000 to operate with other types of telephone line socket.

### 10.1.8.3 Cell Phone (GSM) Specifications

Dimension	GSM 900 / E-GSM 900	GSM 1800	GSM1900
Frequency range	TX: 880-914MHz RX: 925-959MHz	TX: 1710-1785MHz RX: 1805-1880MHz	TX: 1850-1910MHz RX: 1930-1990MHz
Channel spacing	200kHz	200kHz	200kHz
Number of channels	175 Carriers * 8 (TDMA)	374 Carriers * 8 (TDMA)	299 Carriers * 8 (TDMA)
Modulation	GMSK	GMSK	GMSK
TX Phase accuracy	5° (RMS) 20° (peak)	5° (RMS) 20° (peak)	5° (RMS) 20° (peak)
Duplex spacing	45MHz	95MHz	80MHz
Frequency stability	0.1ppm	0.1ppm	0.1ppm
Transmitter RF power output	33dBm Class 4 2W peak	30dBm Class 1 1W peak	30dBm Class 1 1W peak
Transmitter spurious emission	According to GSM spec	According to GSM spec	According to GSM spec
Receiver RF level	-102dBm	-102dBm	-102dBm
Receiver RX bit error rate	$\leq 10^{-4}$ (Static Ch.) $\leq 3\%$ (EQ50)	$\leq 10^{-4}$ (Static Ch.) $\leq 3\%$ (EQ50)	$\leq 10^{-4}$ (Static Ch.) $\leq 3\%$ (EQ50)

Note that the US FCC Grantee code for the Cell Phone is ROS0002.

## 10.1.9 Classification

The system is classified according to the requirements of EN60601-1:1990 inc. A13:1996, the standard for Medical Electrical Equipment, Part 1, General Requirements for Safety, Clause 5 as:

- 5.1 Internally (battery) powered
- 5.2 Applied parts type CF defibrillator proof (ECG electrodes), type BF defibrillator proof (capnometer cannula, pulse oximeter probe, non-invasive blood pressure cuff) and type BF (thermometer).
- 5.3 IPX1, protected against rainfall according to IEC529 (with the display closed)
- 5.4 No parts supplied sterile or suitable for/requiring sterilising
- 5.5 Equipment not suitable for use in the presence of a flammable anaesthetic mixture with air or with oxygen or nitrous oxide
- 5.6 Suitable for continuous use (8 hours maximum before the battery will require replacement).

## 10.2 Standards Compliance

The Tempus 2000 complies with the applicable parts of the following standards:

- IEC/EN60601-1:1990 inc. amendment A2:1995 and A13:1996, general requirements for the safety of electrical medical products
- IEC/EN60601-1-2:2001, collateral requirements for electromagnetic compatibility, requirements and tests
- IEC 60601-1-4, First edition, 1996 Collateral standard: programmable electrical medical systems (software)
- IEC 60601-2-27, First edition, 1994 Particular requirements for electrocardiographic monitoring equipment
- IEC 60601-2-30, First edition, 1995 Particular requirements for automatic cycling indirect blood pressure monitoring equipment
- ISO 9918, First edition, 1993 Particular requirements for capnometers for use with humans
- ISO 9919, First edition, 1992 Particular requirements for pulse oximeters for medical use
- RTCA/DO-160D Environmental conditions and test procedures for airborne equipment
- EN60529:1992 Degrees of protection provided by enclosures (approved to IPX1)
- BS2G 239:1992 Specification for Primary active lithium batteries for use in aircraft
- 3GPP TS 51.010-1 Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification
- EN301489-1 Electromagnetic compatibility and Radio Spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements.

- EN301489-7 Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS).




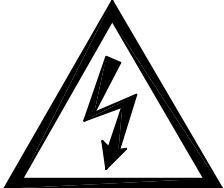

### **10.2.1 Other Standards Being Used for Reference Purposes**


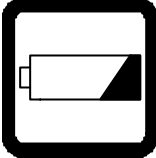


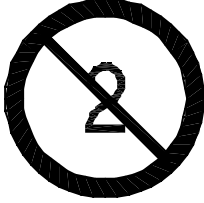


The following standard is used for reference in the design of the Tempus 2000:

- IEC/EN60945:1997 Maritime navigational equipment - General requirements - Method of testing and required test results

## 11 Symbols Used on the Tempus 2000

The following symbols are used on the Tempus 2000:

Symbol	Description
	Defibrillation proof type CF applied part, The ECG electrodes are floating from earth and meet the patient leakage current requirements of EN60601-1:1990 Inc A13:1996 for type CF applied parts. The ECG electrodes are proof against the effects of a cardiac defibrillator discharge.
	Defibrillation proof type BF applied part. The blood pressure cuffs, the capnometer cannula and the pulse oximeter probe are floating from earth and meet the patient leakage current requirements of EN60601-1:1990 inc. A13:1996 for type BF applied parts. The applied parts listed are proof against the effects of a cardiac defibrillator discharge.
	Type BF applied part. The thermometer is floating from earth and meet the patient leakage current requirements of EN60601-1:1990 inc. A13:1996 for type BF applied parts. The thermometer <b>is not</b> proof against the effects of a cardiac defibrillator discharge.
	Hazardous voltage. Do not tamper with the internal components or connections of this device. Always follow instructions when replacing the battery.
	Attention, consult accompanying documents

Symbol	Description
	Battery area
	Battery power level
	System power on/off (push/push)
 YYYY - MM	Date of manufacture, where the year that the item was manufactured is represented by the year and then the month e.g. 2002 06 is June 2002.
	Single use device only, discard item after use
<b>IPX1</b>	The device is proof against light rain according to IEC529
	The device has been declared by the manufacturer to be in accordance with the requirements of the European Union Medical Devices Directive 93/42/EEC as transposed by UK national legislation.
 YYYY - MM	Shelf life, where the time that the unit must be used by is represented by the year and then the month e.g. 2004 06 is June 2004.

Symbol	Description
<b>LOT</b> YYYY - MM	Where the year that the item was manufactured as a part of a larger batch is represented by the year and then the month e.g. 2002 06 is June 2002.



# 12 Terms and Conditions of Sale

## TERMS & CONDITIONS OF SALE

### 1. DEFINITIONS

- "RDT" shall mean Remote Diagnostics Technologies Limited whose registered office is at The OM Coach House, The Avenue, Farleigh Walk, Basingstoke, Hampshire, RG25 2HT, United Kingdom, and shall include all employees and agents.
- "Purchaser" shall mean the party who wishes to purchase Goods from RDT and who is named on the Quotation Order or Order Acceptance and who warrants that it is not dealing as a consumer.
- "Goods" shall mean the Goods, parts or service to be supplied by RDT.
- "Order" shall mean an order placed by the Purchaser for Goods to be supplied by RDT in accordance with these terms and conditions.
- "Order Acceptance" shall mean the acceptance of an Order by RDT in writing which shall confirm the price and order quantity.

### 2. GENERAL

- RDT shall sell and Purchaser shall purchase the Goods subject to these conditions in the exclusion of all other terms and conditions.
- All quotations given by RDT are subject to confirmation in writing at the time of Order Acceptance. Order Acceptance is contingent upon availability of Goods and the absence of any circumstances beyond RDT's control which may hinder or prevent execution of Order.

### 3. PRICES

- Notwithstanding any price specified on RDT's quotation or in the Order, it is understood between the parties that prices are exclusive of taxes and shall be those specified in the Order Acceptance. Any query by the Purchaser of any invoice rendered by RDT must be made within seven days of the date of the invoice or the parties agree that such invoice shall be deemed accepted and any query of the Purchaser waived.
- RDT shall be entitled to pass onto the Purchaser any increase in the cost of the Goods occurring between the date of issue of Order Acceptance and date of delivery.
- If the price of the Goods has been based on the purchase of a particular quantity of Goods to be delivered over a specified period of time and the Purchaser fails to purchase the agreed quantity within the specified period, RDT shall invoice the Purchaser for the difference between the unit price charged to the Purchaser for the Goods and RDT's standard unit price for the Goods.
- For the avoidance of doubt, RDT does not operate a price protection policy. The price for Goods will be determined as set out in Clause 3. The Purchaser will not be entitled to a refund, credit or price reduction in respect of any Goods unless agreed in writing by two directors of RDT.

### 4. TERMS OF PAYMENT

- Payment shall be made prior to delivery of the Goods unless otherwise agreed in writing by a director of RDT. In the event that alternative terms of payments are agreed in writing by a director of RDT and the Purchaser does not comply with the alternative terms of payment, the payment terms shall automatically revert to payment prior to delivery without notice. In the event of default in payment by the due date, RDT reserves the right to charge interest on money overdue at the rate of 3% above Barclays Bank Plc minimum lending rate for the time being. In the event of default in payment of any sum owed by the Purchaser to RDT all such sums owed shall become immediately due and payable to RDT and RDT may suspend deliveries or terminate any Orders in respect of any undelivered Goods under the same or different Orders.
- With regard to shipments outside the UK, payment will be made by irrevocable Letter of Credit ("LC"), confirmed by a prime London bank. Correct LC must be opened and received by RDT with an Order.

### 5. OWNERSHIP AND RISK

- Ownership of the Goods shall be retained by RDT until payment in full has been received by RDT of all sums due (including interest) in accordance with Clause 4 above. RDT grants permission to the Purchaser to use all Goods in the normal course of business to unrelated third parties in arm's length transactions for sale. Until RDT in paid in full the proceeds of any such sale shall be held by the Purchaser in trust as a fiduciary for RDT and the Directors and Management of the Purchaser shall personally undertake by issuing or authorising issue of orders to RDT that they will personally stand with the Purchaser in this fiduciary relationship with RDT.
- Risk of loss or damage to the Goods shall pass to the Purchaser on delivery. The Purchaser shall insure the Goods until RDT has been paid in full. The Purchaser shall ensure all packaging on delivery and shall notify RDT and the carrier of any damage or claims in writing within seven days of delivery or such shorter period as specified in any consignment or delivery note or advice. It is agreed that the Purchaser waives any claim he may otherwise have had where no claim has been made in writing within the aforesaid period. The packaging and contents must be retained for examination.
- All insurance claims will be pursued by the Purchaser as swiftly and efficiently as is practicable, whenever the terms of delivery.
- The Purchaser grants to RDT and its agents an irrevocable licence to enter the premises of the Purchaser to enter and remove any Goods not paid for in full if RDT fears payments in full may not be made. Until such time as payment in full is made to RDT, the Purchaser will store the Goods so that they are clearly identifiable as the property of RDT.
- Subject to these terms and conditions, RDT hereby grants to Purchaser a personal and non-exclusive licence to use the software and licensed internal code accompanying or installed on any Goods, for the sole purpose of enabling the Goods to function according to their specification. The Purchaser may make one backup copy of the software, provided that the Purchaser reproduces on that backup copy all of the original copyright notices and other statements. Except as permitted under this license or applicable law, the Purchaser may not copy, modify, reverse engineer, decompile or disassemble the software or licensed internal code, or sublicense, rent, lease, assign or otherwise transfer the software or licensed internal code or this license to anyone except as specifically provided for in section 10.C below.

### 6. WARRANTY

- Purchaser acknowledges that it has an opportunity to inspect the Goods prior to placing an Order to assess functionality.
- RDT warrants that the Goods shall for a period of one year from the date of delivery be free from defects in workmanship and materials and that RDT is able to pass good title to the Goods. RDT will at its discretion and in full satisfaction of its obligations hereunder, repair or replace any of the Goods purchased by the Purchaser which in RDT's opinion has a defect in materials or workmanship and which are returned to RDT in accordance with the returns procedure set out in Clause 11.
- To the extent permitted by law, the above express warranties are RDT's only warranties of quality and RDT does not warrant that the Goods will meet any particular description, that the Goods will be free from defects, fit for their intended purposes, or that the Goods will be of satisfactory quality.
- The Purchaser shall by purchasing such Goods from RDT at trade prices thereby waive all claims whatsoever which may arise out of or after delivery of the Goods including but not limited to, the following:-
- Remedies based on Section 14 or any other Section of the Sale of Goods Act 1979 (or any statutory modification or re-enactment thereof) or at common law to the extent that such provisions can be waived.
  - Compensation for damage or loss or the costs of labour or other charges incurred in repairing or replacing any defective Goods or parts thereof PROVIDED ALWAYS that any such defect shall not be due to:
    - damage to the Goods incurred prior to delivery of the same to the Purchaser and in respect of which the Purchaser has given written notification pursuant to Clause 5(B) above; or
    - an endemic fault in a particular component of the Goods recurring within twelve months of delivery and notified by the Purchaser to RDT and acknowledged by RDT; or
    - a major fault in the Goods occurring within twelve months of delivery being a fault so substantial that it cannot be rectified by adjustment, replacement or repair of parts, components or modules.
  - For damages in respect of the cost of removing and reinstalling any fitted, installed or built-in Goods.
  - For damages in respect of loss, damage or injury to property, other than liability which cannot be excluded under the Consumer Protection Act 1987.
  - For the cost of returning any defective or damaged Goods to RDT or its nominated third party.
  - Loss or damage caused by delays in delivering, repairing or exchanging damaged Goods or parts thereof.
- The parties acknowledge that the Purchaser has been given an opportunity to inspect, test and analyse the Goods offered by RDT and is satisfied as to their suitability, functionality and safety. The Purchaser accepts full responsibility for maintaining Goods after sale by RDT in such a manner that no loss, damage or injury to persons or property shall occur.

- Save for RDT's liability under the Consumer Protection Act 1987, RDT shall not be responsible for any injury to persons except to the extent such injury is caused by the direct negligence of RDT and the Purchaser shall insure and indemnify RDT accordingly.

- RDT reserves the right to make any changes in the specification of the Goods whether required to conform with any applicable safety, regulatory or other statutory requirements or otherwise.

- ALL OTHER WARRANTIES OR CONDITIONS WHETHER STATUTORY OR AT COMMON LAW, WHETHER EXPRESS OR IMPLIED, ARE HEREBY EXCLUDED TO THE EXTENT PERMITTED BY LAW.

### 7. DELIVERY AND DELAYS

- Delivery takes place Ex-Works, London (or other named place) UK (as defined by Incoterms 1990) unless agreed otherwise in writing. Prices are based on the Goods being delivered in one consignment and do not include the cost of delivery.

- Unless the Purchaser requests otherwise, RDT will arrange delivery to the address specified on the Purchaser's Order at RDT's prevailing delivery rates (particulars available on request) and Goods will be shipped in standard packaging.

- Delivery dates are approximate. RDT does not accept any liability for delay in dispatch or delivery of Goods or for delay in completion of any Goods. (The Purchaser's attention is drawn to the fact that RDT is dependent upon manufacturing by third parties and shipment of Goods and/or components on the high seas.) Delays which are not attributable to RDT may arise.

- Any delay in delivery shall not relieve the Purchaser of any obligation to accept and pay for any other deliveries.
- RDT is not liable for any loss, damages or penalty when such delay is due to causes beyond the control of RDT (including (but not limited to) Supplier delay, force majeure, acts of God, yield problems. In any event, the delivery date will be extended by the period equal to the delay.

### 8. CANCELLATION AND RESCHEDULING

- No request for cancellation of Orders or rescheduling of shipments will be effective unless accepted in writing signed by two Directors of RDT.
- RDT will accept cancellations of Orders or rescheduling of shipments entirely on its discretion and only on payment of the following charges:

- Cancellation of Orders or rescheduling of shipments of Goods with an acknowledged shipment date between 1 to 60 days of the date of cancellation or reschedule - full purchase price.
- Cancellation of Orders or rescheduling of shipments of Goods with an acknowledged shipment date between 61 to 90 days 50% of the full purchase price.
- Cancellation of Orders or rescheduling of shipments of Goods with an acknowledged shipment date between 91 and 120 days 20% of the full purchase price.

### 9. SHORTAGES

- Shortages or damage not covered by Clause 5(B) above must be notified in writing to the carrier within seven days after receipt of the consignment. Written notification of such damage or shortage including particulars of advice note numbers and packing conditions should also be made available to RDT within seven days after receipt or such shorter period as specified in any consignment or delivery note or advice. The packaging and contents must be retained for examination. Notwithstanding Clause 3 above, the Purchaser must advise RDT in writing within seven days after the date of invoice of any non-delivery of entire batches of Goods.

### 10. RESALE

- Many Goods include high technology, some of which may originate in the USA. Unless specifically brought to the attention of RDT's Company Secretary in writing and agreed in writing by RDT, RDT is not aware that the Purchaser intends to sell Goods for ultimate destination in any country requiring a COCOM or US re-export licence and the Purchaser agrees not to ship Goods directly or indirectly to any such country.
- In the event that RDT agrees in writing to sell Goods for ultimate destination in a country for which a COCOM or US re-export licence is required, the Purchaser will obtain any necessary COCOM licences and US Government re-export licences prior to the date of delivery by RDT to the Purchaser and will provide copies of such licences to RDT.

- The Purchaser may transfer possession of the software or licensed internal code to a third-party provided that: (i) the transfer shall occur in conjunction with the transfer to the third-party of the Goods on which the software or licensed internal code is installed; (ii) the third-party transferee is furnished with a legible and complete copy of these terms; and (iii) the third-party transferee agrees to be bound by the terms of these terms. Unless expressly agreed upon in writing by RDT, any third-party transferee accepts the software, the licensed internal code and the Goods on an "as-is" basis, and neither RDT nor any of its direct or indirect licensors shall have any liability whatsoever to the third-party transferee for any claims relating to the software, the licensed internal code or the Goods. When Purchaser is no longer in possession of the Goods or Purchaser is in violation of any of the terms of this Agreement, Purchaser's license for the Goods and the licensed internal code shall automatically terminate and Purchaser must purge any copies in its possession.

### 11. RETURNS

- No Goods may be returned to RDT after delivery without prior written consent of RDT. The Purchaser must notify RDT in writing stating the reason for the return and the date and number of RDT's invoice for the Goods. If RDT agrees that the Goods may be returned it will issue a Return Authorisation Number. Any Goods returned without a Return Authorisation Number shall be disposed of.
- Goods returned on a warranty claim which prove to be other than a genuine in warranty failure will be disposed of or held for collection by the Purchaser and the Purchaser charged for warehousing.
- All Goods returned must be securely packed and unless the carrier effecting the return is instructed otherwise by RDT, must be consigned carried paid.
- For the avoidance of doubt, RDT will not accept any Goods returned as part of any stock rotation policy of the Purchaser. The Purchaser shall not be credited for any such Goods returned.

### 12. LIMITED AUTHORITY OF EMPLOYEES

- These terms and conditions constitute the entire agreement in respect of the sale of Goods by RDT and all other representation, terms, conditions, understandings, and hereby exclude. Nothing in this agreement shall exclude or restrict a party's liability for fraudulent misrepresentation. Execution of, compliance with or implementation of Orders received from the Purchaser does not imply acceptance by RDT of any terms and conditions contained within the Purchaser's Order or otherwise presented by the Purchaser to RDT.

### 13. EXCLUSION OF LIABILITY

- In no event will either the Purchaser or RDT be liable to the other for loss of profit, loss of use, loss of revenue or interest, loss of goodwill, damages, costs or expenses payable to third parties or any other economic, indirect or consequential loss arising out of breach of contract (except refusal to pay the price of the Goods), nor of any kind or otherwise.
- For the avoidance of doubt, the parties agree that neither party shall be liable to the other for damages or delay caused by (a) Government intervention, (b) official strikes, (c) act of God, (d) fire, (e) flood, (f) shortage of components, (f) sabotage, (g) riot, (h) war, (i) rebellion, (k) terrorism or any other factor beyond the reasonable control of the parties.
- Clause 6 above sets out RDT's sole liabilities for the supply of the Goods pursuant to an Order.
- Except in the case of liability for personal injury or death, the amount of RDT's liability in respect of any Order shall be the value of Goods delivered under that Order.
- RDT does not exclude or restrict liability for death or personal injury caused by its negligence or defective Goods.
- Each provision of this paragraph 13 is to be construed as a separate limitation or exclusion applying or surviving even if for any reason, one or other of the said provisions is inapplicable or held unenforceable in any circumstances and shall remain in force notwithstanding termination of an Order.

### 14. SUPPORT AND TRAINING

- RDT agrees to provide and Purchaser agrees to pay for the Services, as set out below.
- The "Services" shall comprise the following:
- the provision by RDT of maintenance of the Goods as detailed by RDT;
  - the provision by RDT of support as detailed by RDT; and
  - the training of Purchaser's personnel in the proper use of the Goods as detailed by RDT.

### 15. CONFIDENTIALITY

- The Purchaser will not announce or advertise nor knowingly allow to be announced or advertised, the existence or contents of an Order, these terms and conditions or any other contract or agreement between RDT and the Purchaser, without the prior express written consent of RDT.
- Where RDT discloses to the Purchaser information relating to the existence of or technical details of RDT's products prior to the release of that information by RDT to the general public, such information will be confidential and the Purchaser will not disclose or knowingly permit to be disclosed such confidential information to any other party, unless expressly as authorized by RDT in writing, until such information is referred to the general public.

### 16. LEGALITY AND LAW

- When on-selling Goods, the Purchaser will comply at all times with all applicable Laws and Regulations.
- These terms and conditions will be governed and construed in all respects in accordance with the Laws of England and subject to the exclusive jurisdiction of the English courts.

# 13 Software License Agreements

This product incorporates software object code licensed by Remote Diagnostic Technologies Ltd. The software is licensed, not sold. All rights reserved. If you do not agree to this End User License Agreement ("EULA"), do not use the device or copy the software. Instead, promptly contact Remote Diagnostic Technologies Ltd for instructions on return of the unused device(s) for a refund. Any use of the software, including but not limited to use on the device, will constitute your agreement to this EULA. The agreement: (i) prohibits any disassembly, decompilation, and/or reverse engineering or any other action attempting to discover or disclose the source code or methods or concepts embodied in the source code; (ii) the software and chipset copyright, trademark other proprietary notices and confidential legends shall not be altered; (iii) all warranties associated with the software object code shall be no greater than the license agreement made between Remote Diagnostic Technologies Ltd and its licensor, (iv) the liability of the licensor shall be limited and shall be no greater than that expressly set forth in the license agreement between Remote Diagnostic Technologies Ltd and the licensor.

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**NO WARRANTIES FOR THE SOFTWARE.** THE **SOFTWARE** is provided "**AS IS**" and with all faults. **THE ENTIRE RISK AS TO SATISFACTORY QUALITY, PERFORMANCE, ACCURACY, AND EFFORT (INCLUDING LACK OF NEGLIGENCE) IS WITH YOU. ALSO, THERE IS NO WARRANTY AGAINST INTERFERENCE WITH YOUR ENJOYMENT OF THE SOFTWARE OR AGAINST INFRINGEMENT.** IF YOU HAVE RECEIVED ANY WARRANTIES REGARDING THE **DEVICE** OR THE **SOFTWARE**, THOSE WARRANTIES DO NOT ORIGINATE FROM, AND OR NOT BINDING ON, MS.

**Note on Java Support.** The **SOFTWARE** may contain support for programs written in Java. Java technology is not fault tolerant and is not designed, manufactured, or intended for use or resale as online control equipment in hazardous environments requiring fail-safe performance, such as in the operation of nuclear facilities, aircraft navigation or communications systems, air traffic control, direct life support machines, or weapons systems, in which the failure of Java technology could lead directly to death, personal injury, or severe physical or environmental damage. Sun Microsystems, Inc. has contractually obligated MS to make this disclaimer.

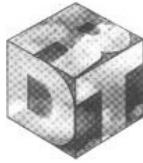
No liability for Certain Damages. **EXCEPT AS PROHIBITED BY LAW, MS SHALL HAVE NO LIABILITY FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE SOFTWARE. THIS LIMITATION SHALL APPLY EVEN IF ANY REMEDY FAILS OF ITS ESSENTIAL PURPOSE. IN NO EVENT SHALL MS BE LIABLE FOR ANY AMOUNT IN EXCESS OF U.S. TWO HUNDRED FIFTY DOLLARS (U.S.\$250.00).**

**Limitations on Reverse Engineering, Decompilation, and Disassembly.** You may not reverse Engineer, decompile, or disassemble the **SOFTWARE**, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation.

**SOFTWARE TRANSFER ALLOWED BUT WITH RESTRICTIONS.** You may permanently transfer rights under this EULA only as part of a permanent sale or transfer of the **Device**, and only if the recipient agrees to this EULA. If the **SOFTWARE** is an upgrade, any transfer must also include all prior versions of the **SOFTWARE**.

**EXPORT RESTRICTIONS.** You acknowledge that **SOFTWARE** is of US-origin. You agree to comply with all applicable international and national laws that apply to the **SOFTWARE**, including the U.S. Export Administration Regulations, as well as end-user, end-use and country destination restrictions issued by U.S. and other governments. For additional information on exporting the **SOFTWARE**, see <http://www.microsoft.com/exporting/>

# 14 FCC Supplier's Declaration of Conformity



**Remote Diagnostic  
Technologies Ltd**

## Supplier's Declaration of Conformity

Place of Issue: Basingstoke, Hampshire, UK

Date of Issue: 30 May 2003

Remote Diagnostic Technologies Ltd. located at The Old Coach House, The Avenue, Farleigh Wallop, Basingstoke, Hampshire, in the United Kingdom hereby certifies that the products: Tempus 2000 part number 00-0001, Tempus 2000 (DSVD) part number 01-0002, DSVD Relay Box part number 01-0025, DSVD Receiver Box part number 01-0026 and the ADR Modem part number 01-0027, and product-labelling number (ACTA US: 3VZMD10531 bearing labeling identification number ACTA US: 3VZMD10531 comply with the Federal Communications Commission's ("FCC") Rules and Regulations 47 CFR Part 68, and the Administrative Council on Terminal Attachments ("ACTA")-adopted technical criteria: TIA/EIA/IS-968, Telecommunications – Telephone Terminal Equipment – Technical Requirements for Connection of Terminal Equipment To the Telephone Network, July 2001.



Chris Hannan  
Product Validation Manager

RDT, The Old Coach House, The Avenue, Farleigh Wallop, Basingstoke, Hampshire RG25 2HT, United Kingdom

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Certified to: ISO 9001 : 1994 BS EN 46001 : 1997

