

DATA RECOVERY TOOLS

PC-3000 FOR WINDOWS



DATA EXTRACTOR



PC-3000 FLASH



ACE Laboratory Ltd  
world leader in  
data recovery technologies

Unique Data Recovery Solutions  
PC-3000 and Data Extractor

FOR SUCCESSFUL BUSINESS

P R O F E S S I O N A L

2012  
PRODUCT CATALOGUE

→ *EVERY DATA RECOVERY PROFESSIONAL TRUSTS PC-3000*



## ACE LABORATORY

## TRUE LEGEND IN DATA RECOVERY

ACE Laboratory is the Russian-based developer and manufacturer of world-famous PC-3000 products for performing professional data recovery. It was founded in 1992 by smart developers who previously used to develop and manufacture Hard Disk Drives themselves at the Research Institute for the Ministry of Electronic Industry of USSR. The thorough knowledge of HDD from inside, nonstop in-depth research works combined with our sincere passion for excellence gave a way to the legendary PC-3000 equipment that remains the absolute world leader within 20 years.

Data recovery specialists from already 87 countries are successfully using our products and services. Many users come to our front office in Rostov-on-Don, Russia to get our know-how. All top data recovery companies and guru data recovery specialists trust their business to the technologies of our company. Our main aim is to always give you the best and the most efficient data recovery solutions, and we are proud to say, that during all these 20 years we have been meeting these highest standards.

Without exaggeration, ACE Laboratory has revolutionized data recovery as it pushed the beginning of global professional data recovery, ultimately changing it once and for all.

→ **EVERY DATA RECOVERY PROFESSIONAL TRUSTS PC-3000**

## PROFESSIONAL DATA RECOVERY TOOLS FOR SUCCESSFUL BUSINESS

PC-3000 solutions - must have data recovery tools for everyone who is involved in data recovery. Being able to work on PC-3000 is now a must-have skill when getting a good well-paid job in reputable data recovery company and doing your own data recovery business. No other tools in the world solve as many data recovery cases as PC-3000.

All PC-3000 Products are hardware-software systems for recovering data from various types of storage devices, like Hard Disk Drives, SCSI Hard Disk Drives, Solid State Drives NAND based devices. The main distinguishing features of all PC-3000 are comprehensiveness, fundamental approach, attention to details and passion for excellence that is seldom seen in today's world of mass production. As developers, we promise that your working place will be equipped with the most effective tools, you get all-round Technical Support and opportunity to increase your knowledge at our intensive training seminars.

Trusting your business to PC-3000 solutions, you get the guarantee to have the best and the most powerful solutions for your data recovery business.

**Become the leader in data recovery with ACE Laboratory PC-3000 systems!**

## PC-3000 Technology

You need to	repair	IDE, SATA drives	PC-3000 for Windows UDMA
		SCSI/SAS drives	PC-3000 for SCSI
	recover data from	IDE, SATA drives	PC-3000 for Windows UDMA + Data Extractor UDMA
		SCSI/SAS drives	PC-3000 for SCSI + Data Extractor SCSI
		SSD and Flash memory drives	PC-3000 Flash SSD Edition
	recover data from slightly damaged	IDE, SATA/SAS drives	PC-3000 Portable
	image data from	IDE, SATA, SCSI/SAS drives	PC-3000 for Windows UDMA + Data Extractor UDMA + PC-3000 for SCSI + Data Extractor SCSI
	recover data from all types of storage devices	IDE, SATA, SCSI/SAS drives, SSD and Flash memory drives	PC-3000 for Windows UDMA + Data Extractor UDMA PC-3000 for SCSI + Data Extractor SCSI PC-3000 Portable PC-3000 Flash SSD Edition
	get knowledge on	recovering data from IDE, SATA drives	«PC-3000 Technology for HDD Data Recovery» training seminar
		recovering data from NAND based devices	«Most efficient NAND Recovery Technology» training seminar

ACE Laboratory offers you the most comprehensive set of professional data recovery products. As our users say, if you have PC-3000, you don't need anything else as all jobs can be done with PC-3000.

*It is the flagship product of our company combining a wealth of long experience in data recovery and HDD repair industry during more than 20 years.  
PC-3000 UDMA Professional system is the recognized world-leading professional data recovery system. It is the comprehensive solution composed of PC-3000 for Windows UDMA and Data Extractor UDMA for restoring IDE (ATA and SATA) Hard Disk Drives and recovering data from them, or composed of PC-3000 for Windows UDMA with Data Extractor RAID Edition for getting the most possible amount of user information from damaged RAID arrays.*



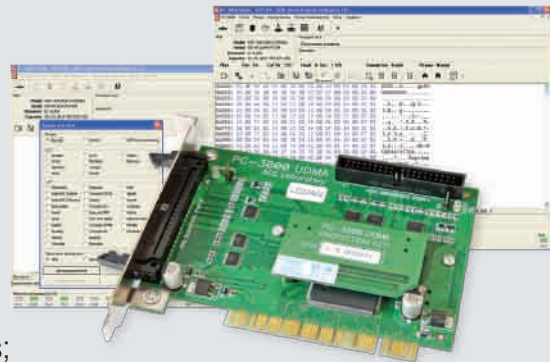
## PC-3000 UDMA PROFESSIONAL SYSTEM

### PC-3000 for Windows UDMA

#### ▶ What is PC-3000 for Windows UDMA?

PC-3000 for Windows UDMA is a hardware-software part of PC-3000 UDMA Professional system. This hardware-software solution diagnoses and repairs damaged Hard Disk Drives before recovering data from them.

- ▶ Seagate, Western Digital, Fujitsu, Samsung, Maxtor, Quantum, IBM (HGST), HITACHI, TOSHIBA
  - with ATA (IDE) and SATA (Serial ATA 1.0, 2.0) interfaces;
  - with capacity from 1 Gb up to up to unlimited capacity;
  - with form factor:
    - 3.5" - desktop computers
    - 2.5" and 1.8" - laptop drives
    - 1.8" - portable computers/devices
    - 1.0" - portable computers/devices with Compact Flash interface.



## → PROFESSIONAL DATA RECOVERY TOOLS FOR SUCCESSFUL BUSINESS

- ▶ It works in UDMA modes with vastly increased speed. Data exchange with Hard Disk Drive is done at PIO, UDMA33 and UDMA66.
- ▶ PC-3000 for Windows UDMA supports the biggest number of Hard Disk Drives, from the earliest to the most modern models, providing you with the ability to recover data from the rarest models that are not being supported by any other products in the world and recover much more data from the damaged Hard Disk Drives with the most popular problems.

### PC-3000 FOR WINDOWS UDMA HELPS YOU AT:\*

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>▶ service area problems:           <ul style="list-style-type: none"> <li>– HDD is not detected in BIOS</li> <li>– HDD is detected by vendor name</li> <li>– damaged service modules</li> <li>– damaged translation system</li> <li>– logs overflow</li> </ul> </li> <li>▶ surface or head problems:           <ul style="list-style-type: none"> <li>– multiple BAD-sectors</li> <li>– some heads are damaged</li> <li>– "knocking sound"</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>▶ electronic failures:           <ul style="list-style-type: none"> <li>– spindle does not rotate</li> <li>– PCB is damaged</li> <li>– problems with PCB and HDA compatibility</li> </ul> </li> <li>▶ more:           <ul style="list-style-type: none"> <li>– HDD locked passwords</li> <li>– SMART overflow</li> <li>– many others</li> </ul> </li> </ul> |
|--|--|

\* – *It is the general classification of HDD problems which PC-3000 UDMA Professional suite can solve. In fact, this product can handle much more of them. More capabilities are described in [www.ancelaboratory.com](http://www.ancelaboratory.com) and also can be obtained by the direct contact to ACE Laboratory at [info@ancelaboratory.com](mailto:info@ancelaboratory.com)*

## ▶ PC-3000 for Windows UDMA features

### PC-3000 UDMA Professional system

- ▶ PC-3000 UDMA Professional system is the combination of PC-3000 for Windows (UDMA) and Data Extractor UDMA that operate in tandem and form a complete solution for restoring IDE (PATA and SATA) drives and recovering data from them. This is the only solution that solves up to 90 % of all existing cases!

### Dual port tester board

- ▶ Operations with HDDs are performed via PC-3000 UDMA specialized tester board.
  - Specialized board with two independent high-performance diagnostic ports for connecting the HDD to be restored
  - PCI interface of the board that enables the highest speed of data transfer between the computer and the board
  - Independent two-channel supply power adapter with overload protection.

### Universal and Specialized utilities

- ▶ The PC-3000 for Windows UDMA software consists of universal and specialized utilities providing you a large range of diagnostic capabilities and ways to solve HDD problems
  - **Universal utilities** provide you fast HDD diagnostics that reveal the root of the problem and the ultimate solution to repair it.
  - **Specialized utilities** provide you with FACTORY LEVEL: Access, Control, Diagnostics and Restoration of these Hard Disk Drives. The specialized utilities allow deeper diagnostics of Hard Drive malfunctions and firmware recovery in a drive's vendor-specific mode. Alternatively, if a HDD cannot be restored, the utilities provide an opportunity to access user data.

### Simultaneous work with two HDD

- ▶ You may work with two Hard Disk Drives at the same time

### For advanced users

- ▶ Especially for the advanced users each technological utility has special HDD's resources view and edit mode which helps you to work with service area, ROM and RAM areas most thoroughly.
- ▶ The users also can add new factory modes on their own. For this, PC-3000 UDMA Professional system has Built-in script engine, which allows independent extension of utility features. You may also exchange the resources and ready scripts for new factory modes.
- ▶ ATA Commander is the another tool that allows inspection of new HDD modes. In fact, it offers a real research lab for users who wish to analyze HDD operation on their own.

### Unique «MR-head shift technology»

- ▶ If one of heads in Hard Disk Drive is damaged, the drive does not get ready state or forms dynamic part of translator incorrectly, as a result you can't read user information. Unique «MR-head shift technology» enables to virtually replace bad heads to good ones in drive RAM. Your drive will «think» that all MR-heads are good, will build correct translator and get ready state. After that, you can easily read user data on good heads. Moreover, this technology simplifies the search of donor drive and you can use donor drive with even another number of heads.

### Password unlock

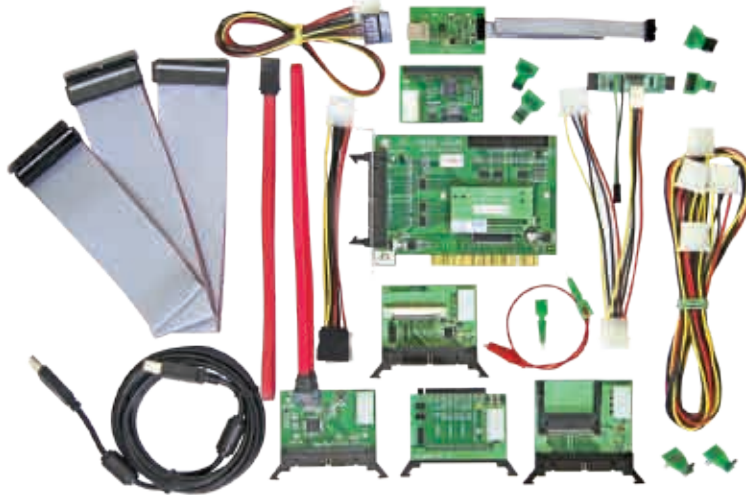
- ▶ A special mode for work with the password-based security subsystem of HDDs allows you to view and erase existing Master and User passwords thus unlocking the HDD. For the most Hard Disk Drives the password unlocking is done at the fully automatic mode.

### Database

- ▶ PC-3000 UDMA Professional system has the massive database of factory firmware resources: FLASH ROMs, Service Area, Modules, Tracks and other HDD critical resources.
  - The necessary database is supplied on the installation CD.
  - You may download all necessary resources from the ACE Laboratory database.
  - You may add your own resources, for example new objects from the latest HDD models, on your own.
  - All users can exchange all resources they have between each other.

### Regular updates

► Major Updates are released three-four times a year. We add support of the most popular and new Hard Disk Drives into PC-3000 UDMA Professional system. You may see all updates of PC-3000 UDMA Professional system here <http://www.ancelaboratory.com/history.pc3000.php>



With PC-3000 UDMA, you can restore much more drives than your competitors do.

→ More information on [www.ancelaboratory.com](http://www.ancelaboratory.com)

## Data Extractor UDMA

### ► What is Data Extractor UDMA?

Data Extractor UDMA is a specialized software product functioning in tandem with the PC-3000 for Windows UDMA hardware-software system. It is intended for recovery of data from any media IDE (ATA and SATA) HDD 3.5", 2.5", 1.8", 1.0".



- Data Extractor UDMA is not just merely software - it is the professional hardware-software system for data recovery
- It can work with the file systems FAT, NTFS, EXT2 and EXT3, HFS+, UFS1 and UFS2
- Very important: up to 50 MB/s - highly increased speed of reading and copying data for the drives connected to PC-3000 UDMA board ports



- ▶ Using Data Extractor UDMA together with PC-3000 UDMA allows to recover data from HDD in a factory mode.

#### DATA EXTRACTOR UDMA HELPS YOU:

- ▶ at physical damages:
  - multiple BAD-sectors caused by damaged surfaces or damaged heads
  - "knocking sound" at reading (damaged heads or servo-marks)
  - HDDs which do not work "on logical parameters" - they are not detected in BIOS
  - data recovery after HOT-SWAP
  - unstably reading HDDs  
(shifted HSA or HDA caused by HDD shocks)
  - recovery from HDDs with corrupted dynamic translator
- ▶ at logical damages:
  - damaged partition table
  - damages in partition data structures (FAT, MFT, INODE tables etc.)
  - deleted user data
  - partition is formatted or deleted etc
  - viruses attacks
- ▶ at combination of physical and logical damages.

#### ▶ Data Extractor UDMA features

##### **Extraction of user data**

- ▶ Data Extractor UDMA has different modes for reading user data from Hard Disk Drives.

When used with malfunctioning drives, PC-3000 UDMA Professional system often allows selective extraction of data necessary to your customers without reading all data from a drive saving a lot of time. For it you may apply the Map of used sectors of partitions, Map of folder.

Also it makes the load on the drive lower. In some cases, when drive malfunctions cause constant self-damage (scratches on disks) these are the only way to accomplish this task.

While recovering your data you can create full (sector-by-sector) or partial (to image files) copy of data from the damaged drive to any other good drive connected to the second port of PC-3000 UDMA board or connected standardly to the computer (Primary, Secondary IDE; SCSI etc.).

### Drive control possibilities

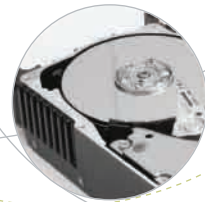
- ▶ You have the extended opportunities for drive control while recovering your data, which is valuable dealing with the damaged HDDs.
  - power supply control
  - software and hardware reset
  - HDD initialization
  - read forward and backward
  - read ahead (cash function) disabling
  - autorelocation disabling
  - HDD factory mode usage

Using these drive control possibilities very often gives the only way to recover the customer data from the malfunctioning drive.

### Combination of automatic and manual modes

- ▶ Data Extractor UDMA features a convenient combination of modes for completely automatic and manually controlled analysis of data recovery which greatly increases the successful data recovery rate.  
For that, Data Extractor has:
  - effective data search system (user data, metadata)
  - viewing and editing data structures of various file systems
  - advanced "raw" recovery mode
  - mode of building the used/unused space map – you can search for user data at these maps.

You do not need to puzzle over searching for various tools, PC-3000 for Windows UDMA & Data Extractor UDMA is the most comprehensive and powerful solution for your data recovery business!



*ACE company has developed principally new ultimate technology for recovering data from damaged RAIDs that enables to smartly handle tasks insolvable before.*

## DATA EXTRACTOR UDMA RAID EDITION HIGH LEVEL PROFESSIONAL SYSTEM

### Data Extractor UDMA RAID Edition



#### ▶ What is Data Extractor RAID Edition?

The main distinguishing feature of Data Extractor RAID Edition is its ability to recover data from RAID even when one or several disks inside RAID have not only logical but also physical damages. No other software in the world can do it! Our effective techniques and methods minimize efforts and costs at recovering data from RAID. Some of features of this professional system are truly unique.

You can quickly create virtual RAID and try to get access to user data without making full analysis of status and data of all HDD inside your RAID.

DE RAID Edition has principally new feature — it can work with damaged drives of your RAID and you don't need to previously make full copy of their data.

**Main features**

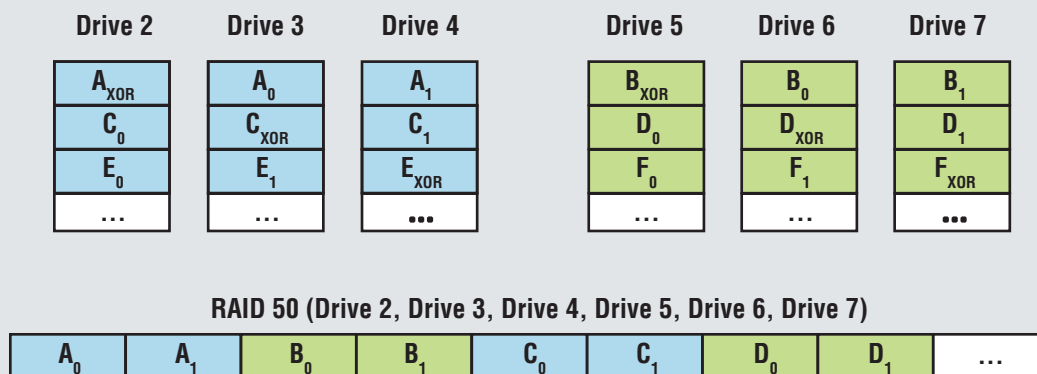
- ▶ For any of drives inside your RAID it is possible to create sector-by-sector copy just of necessary data. Attribute map is created and filled for each read sector. Later you can use this map at restoration process;
- ▶ You can set and use table of shifts (virtual translator) for any drives inside your RAID or for the whole virtual RAID. This feature is very important when one of RAID members has problems with translating the physical number of PCHS sector into logical LBA;
- ▶ Any drive connected to PC-3000 card ports can be widely controlled and interacted with PC-30000 UDMA specialized utility. You can control power supply and send resets, execute scenarios and scripts, choose read commands and build head map, make complex initialization of the drive and non-standard reading of data using HDD technological mode features;
- ▶ Extended methods for working with SCSI drives are implemented. You can control read parameters, choose read command, build «head map» of the drive and do many other operations.

**Many possible virtual RAID members**

- drives connected to PC-3000 UDMA card ports
- standardly connected drives including SCSI drives
- files-images of drive data
- data of Data Extractor tasks that were performed with copy creation
- virtual RAID created within task

**Virtual RAID**

- ▶ Opportunity to create virtual RAID array from other virtual arrays enables to easily and logically create combined arrays like stripe from two fifth-level arrays etc.

*RAID 50 configuration*

### Working via PC-3000 board

- ▶ Besides extended control and copy creation possibilities, connecting the drives to PC-3000 UDMA card ports has one more big advantage: OS does not send requests to these drives. This can be very important because it is impossible to prohibit such interaction which can be destructive for successful data recovery.

### Extended functionality

- ▶ You can «arrange» created virtual RAID as physical disk of OS. Data Extractor RAID Edition and PC-3000 UDMA instruments will solve problems of interaction with damaged drives, while OS or any other program gets access to virtual array sectors like to sectors of standard device. If necessary, this feature enables to use software of other vendors, which provide additional methods for data recovery, but they could not be used because array members had physical damages.

### RAID autodetection

- ▶ Data Extractor RAID Edition has original [RAID autodetection method](#) based on file system and user data analysis.  
With certain limits, it can be considered as universal method and you can use its results for creating virtual RAID array. It greatly saves your time!
- ▶ Outstanding advantage is an opportunity not to use data from damaged drive while making autodetection. At first you may try to determine RAID parameters without interacting with its damaged drive and start working on it only after virtual RAID has been built.

### Supported RAIDs

- ▶ Now you can recover data from the following RAID types: 0, 1, 4 and 5, 5E, 5EE, 6. You can easily create combined arrays, like 50. Even if some type of disk array is not supported now, you can use Data Extractor RAID Edition methods to determine disk array rules yourself and recover data not waiting when this type of RAID will be added into support list.
- ▶ When working on Windows dynamic volumes, our system helps to use data from Logical Disk Manager at building virtual disk arrays.

[Rise to RAID challenge - get undoubted competitive edge!](#)

→ More information on [www.ancelaboratory.com](http://www.ancelaboratory.com)

SCSI Hard Disk Drives are essential part of the modern IT business due to their growing popularity. The technology of SAS drives continues to be recognized as one of the best ways to help companies unleash the hidden potential of their data storage systems. High performance and big capacity of SAS drives make them appear in Server systems and Hi-End PC user workstations more and more often.

At the same time, the risk of losing the data, that was stored on these types of drives still exists. The main aim of PC-3000 SCSI Professional system is to repair malfunctioning SCSI or SAS drive and get user data from it. It is composed of products: PC-3000 for SCSI and Data Extractor SCSI.

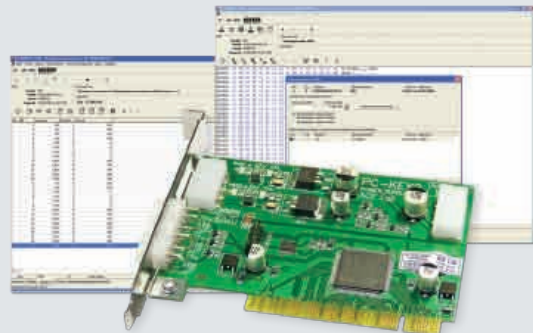


## PC-3000 SCSI PROFESSIONAL SYSTEM

### PC-3000 for SCSI

#### ▶ What is PC-3000 for SCSI?

PC-3000 SCSI Professional system is the hardware-software system that makes overall testing of damaged Hard Disk Drives with the SCSI interface, diagnoses the failure, repairs this drive. Together with Data Extractor SCSI this system recovers data from the damaged SCSI drives.



- ▶ SAS (Serial Attached SCSI) is supported
- ▶ SCSI-2, Ultra SCSI, Ultra2 SCSI, Ultra 160 SCSI, Ultra 320 SCSI are supported
- ▶ Original user-friendly interface similar to that one of PC-3000 for Windows
- ▶ PC-3000 for SCSI can work with 1 up to 15 Hard Disk Drives simultaneously, make tests and service operations for each of them and independently from all the other drives

**Great chance to handle SAS HDD**

- ▶ The PC-3000 for SCSI Universal utility enables the work with SAS (Serial Attached SCSI) HDD of all manufacturers. It can do all basic functions: reading, writing, verification, formatting, work with defects and parameter pages, replication etc. We have added SAS HDD into the specialized utilities.

**Image creation**

- ▶ PC-3000 for SCSI can create image of Hard Disk Drive (full sector-by-sector copy). It also can save any surface area of the SCSI HDD being restored to file on the another HDD and then write these data on the selected drive.  
You can make copy from one to several drives simultaneously.

**Wide possibilities of copying**

- ▶ Test operations are available – reading, writing, verification, replication (copying information from one HDD to any number of connected HDDs). In HDD replication it is possible to copy from SCSI/SAS to SCSI/SAS, from SCSI/SAS to ATA/SATA, from ATA/SATA to SCSI/SAS, from ATA/SATA to ATA/SATA, in other words, any combinations are available.

**Sector editor**

- ▶ Our hardware-software solution has a Sector editor which helps you to view and edit selected surface areas, and to save them to files or to database.

**Visualization**

- ▶ All operations are logged. PC-3000 for SCSI tests HDD performance and displays it in a diagram.

**Maximum speed of work**

- ▶ One of the advantages of PC-3000 for SCSI is the maximum possible speed of working with your SCSI/SAS HDD. It is defined by HOST SCSI/SAS controller possibilities and does not depend on the number of the Hard Disk Drives connected to the PC-3000 for SCSI.

**Database**

- ▶ New DBMS for resource storage – one of the most safe database of all existing ones.

Restoring SCSI/SAS Hard Disk Drives with such efficiency provides you great chances to meet most sophisticated demands of your customers.

→ More information on [www.ancelaboratory.com](http://www.ancelaboratory.com)



- ▶ Know-how manuals with different methodologies of data recovery, recommendations on interchangeability of PCBs, succession of making hot-swap and many other knowledgeable methods which you won't find anywhere else in the world.

#### PC-3000 FOR SCSI HELPS YOU AT: \*

- ▶ service area problems:
  - SCSI/SAS HDD is not detected in BIOS
  - service information is damaged
  - translation system is damaged
  - data not read by logical parameters (LBA)
  - 0 GB capacity
  - logs overflow
- ▶ surface or head problems:
  - multiple BAD-sectors
  - some heads are damaged
  - "knocking sound"
- ▶ electronic failures:
  - spindle does not rotate
  - PCB is damaged
  - problems with PCB and HDA compatibility
- ▶ more:
  - problems of compatibility of HDA and PCB, adaptation of «donor» PCB to «patient» HDA
  - usage of factory mode for HDD diagnoses and restoration
  - and much more

\* – This is a general classification of HDD problems which PC-3000 SCSI Professional system can solve. Actually, this product can handle much more of them. More features are described on [www.ancelaboratory.com](http://www.ancelaboratory.com) and also can be obtained by the direct contact to ACE Laboratory at [info@ancelaboratory.com](mailto:info@ancelaboratory.com)

#### ▶ PC-3000 for SCSI features

##### Restoring SCSI HDD

- ▶ The main purpose of PC-3000 for SCSI is the diagnosis of the damaged SCSI or SAS HDD and recovering its functionality.

##### PC-KEY2 Power supplier card

- ▶ New PC-KEY2 card can control power supply of one Hard Disk Drive through the in-built power supply adapter and three external power sources of ATX standard, you may connect several HDDs to any source.

##### Universal and Specialized Utilities

- ▶ Hard Disk Drives are diagnosed in the usual (user) mode and in the special technological (factory) mode. For it, PC-3000 for SCSI has an universal utility and a suite of specialized utilities: *IBM, Maxtor-Quantum, Seagate, Fujitsu, Hitachi-HGST*. Universal utility quickly diagnoses any damaged Hard Disk Drive and determines how to repair it. Specialized utilities test this HDD in the factory mode and recover service information from the Hard Disk Drive, they are unique for each HDD manufacturer.



## Data Extractor SCSI

### ▶ What is Data Extractor SCSI?

Data Extractor SCSI is the professional software tool for data recovery, a part of PC-3000 SCSI Professional system, intended for data recovery from SCSI/SAS Hard Disk Drives.



- ▶ SAS (Serial Attached SCSI), SCSI-2, Ultra SCSI, Ultra2 SCSI, Ultra 160 SCSI, Ultra 320 SCSI are supported
- ▶ FAT, NTFS, EXT2 (3), HFS+, UFS1 and UFS2 are supported
- ▶ possibility to recover data from damaged drives, which no other software can do
- ▶ extended possibilities of HDD control while recovering data
- ▶ non-standard reading
- ▶ possibility to read data from HDD on heads excluding the damaged ones
- ▶ instruments to make full or partial copy of data
- ▶ possibility to build head map

### DATA EXTRACTOR SCSI HELPS YOU AT:

- ▶ physical damages:
  - multiple BAD-sectors caused by damaged surfaces or damaged heads
  - "knocking sound" at reading (damaged heads or servo-marks)
  - HDDs which do not work "on logical parameters" - they are not detected in BIOS
  - data recovery after HOT-SWAP
  - unstably reading HDDs (shifted HSA or HDA caused by HDD shocks)
  - recovery from HDDs with corrupted dynamic translator
- ▶ logical damages:
  - damaged partition table
  - damages in partition data structures (FAT, MFT, INODE tables etc.)
  - user data are deleted
  - partition is formatted or deleted etc.
  - viruses attacks
- ▶ combination of physical and logical damages.

### Full or partial copy of user data

- ▶ "Data Extractor SCSI" enables to make the full or partial copy of data (only necessary data) from one damaged drive to another good drive or do it in the form of image files. If you use the logical recovery tools included into PC-3000 SCSI Professional system, you can create background copy.

User data are read and copied selectively which helps to significantly decrease the volume of the data read from the damaged drive, correspondingly, reduce the load on the damaged drive and make shorter the time necessary for data recovery.

We do not know any other tool that allows to recover data from SCSI and SAS HDD as efficiently as Data Extractor SCSI can do!

→ More information on [www.ancelaboratory.com](http://www.ancelaboratory.com)

## ▶ Data Extractor SCSI features

### Extraction of user data from SCSI/SAS drives

- ▶ Data Extractor SCSI is the essential add-on to PC-3000 for SCSI which enables to recover user data from SCSI/SAS Hard Disk Drives. The joint work of Data Extractor SCSI together with PC-3000 for SCSI produces the most efficient data recovery results both at physically and logically damaged SCSI/SAS HDD.

### Physically damaged SCSI HDD

- ▶ In most cases Data Extractor SCSI software enables to read data successfully even from physically damaged HDD if the surfaces or head stack assembly are seriously damaged.

Moreover, you can do extended control of reading process, read data without CRC control, build and use the map of distribution of sectors on the drive heads during data recovery process.

- ▶ If there are problems with the "translator", the program helps to build a map of data shifts that have appeared and copy the necessary data from the damaged drive according to the built map.
- ▶ Data Extractor SCSI has the unique possibility to build map of used physical heads that enables to read user data from the drive only on the good heads (excluding for the damaged heads) without replacing HSA.

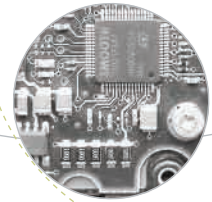
- ▶ While extracting user data you can control the reading mode: repeating, reading forward and backward, reading ahead (cash function) disabling, reading with autorelocation disable, reading in factory mode.

### Logically damaged SCSI HDD

- ▶ After physical restoration of HDD you cannot very often get the access to the user data because of the logical damages. Specialized modes help to get data at logical damages:

- **"Explorer" mode:** to get the access to damaged partitions, catalogues and files. This mode is specially easy-to-use and very convenient for data recovery at simple and medium damages of file systems;
- **"Raw recovery" mode:** to recover data in case of disaster/catastrophic damages of file system. For it, you may use the map of used and unused space;
- **"Object map" mode:** to work with fragmented structures;
- and many other modes.

- ▶ Data Extractor SCSI specialized modes provide effective system of searching for data (user data, metadata), viewing and editing data structures of various file systems.



*Our long-term experience and dedication to PC-3000 data recovery technology helped us to make difficult things easy. For PC-3000 Portable, we have chosen only those features which will be useful to begin data recovery simpler, make easy data recovery cases directly at customer' office and enter data recovery business with lower budget.*

*PC-3000 Portable – the best stepping stone into data recovery.*

## PC-3000 Starter system

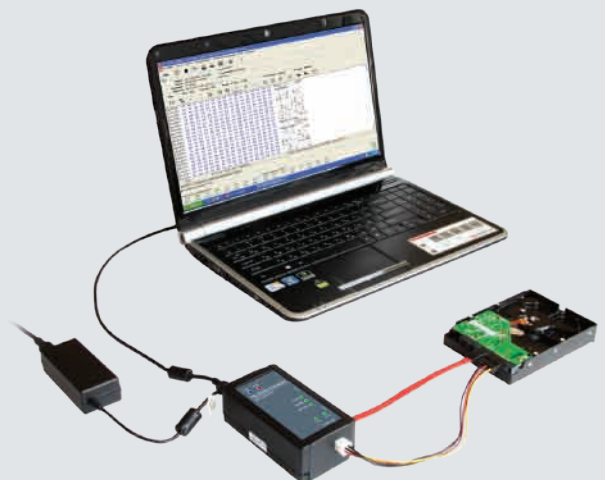
### PC-3000 Portable

#### ▶ What is PC-3000 Portable?

PC-3000 Portable is the first professional mobile tool for quick diagnosis and recovering data from Hard Disk Drives at simple and not too complex damages.

It supports most of popular modern Hard Disk Drives WESTERN DIGITAL, SEAGATE, SAMSUNG, TOSHIBA, HITACHI, FUJITSU, MAXTOR which have

interfaces PATA and SATA  
capacity from 20 Gb up to unlimited capacity  
form-factor 3.5", 2.5" and 1,8"



PC-3000 Portable is just connected to any computer via USB interface. No tedious installations inside your computer - it is the first user-friendly advantage that helps to tackle your data recovery cases immediately.

- ▶ Multiple automatic modes help beginners in data recovery
- ▶ No special education, experience or skills are demanded
- ▶ Mobile solution - easy to use it with laptops
- ▶ Useful for forensic purposes - you can make data recovery at customer's office
- ▶ PC-3000 Portable user manual is indeed a true ABC textbook for beginners in data recovery - no analogues of such guide anywhere in the world
- ▶ Low-cost tool to save your investments

#### PC-3000 Portable can recover data from damaged HDD in these cases:

- ▶ service area problems:
  - translator is damaged
  - logs overflow
- ▶ electronic failures:
  - problems with PCB and HDA compatibility
- ▶ more:
  - HDD locked passwords
  - SMART overflow
  - creation of full disk copy
  - explorer mode at data copying
- ▶ surface or head problems:
  - multiple BAD-sectors
  - selective reading of data by particular head of platter
  - "knocking sound"

#### ▶ PC-3000 Portable features

##### **Easier system to recover data at not too serious damages**

- ▶ PC-3000 Portable performs quicker diagnosis and data restoration if your Hard Disk Drive is not severely damaged. You may begin handling your first data recovery cases even if you don't have any experience in data recovery. All-round solution, smart manual and devoted Technical Support team will make your start on data recovery much easier.

##### **Mobile solution**

- ▶ PC-3000 Portable hardware-software is installed into any PC compatible computer with two USB2.0 ports. We recommend to use laptop for mobile usage.
- ▶ Of course, there are many limitations of making data recovery in customer's office. That's why we offer to make only Hard Drive Diagnostics on-site with PC-3000 Portable and try to recover data at the simple and medium cases of Hard Disk damage or/and data loss. For example, you can recover damaged modules in HDD service area, regenerate translator, unlock password, read data from corrupted surfaces, recover files from damaged partitions, clone the drives and do other operations depending on HDD damage type.

**Automatic modes**

- ▶ It is very easy to launch and use the product – you just connect your damaged Hard Disk Drive to PC-3000 USB adapter-tester, run application and choose HDD auto recovery mode. The program will make all necessary diagnostics, analyze the result and give recommendations how to recover your disk.

**Wider opportunities with some manual modes**

- ▶ Experienced users can opt for manual mode of launching technological utilities. In this case they will need to choose HDD family, model and diagnosis mode themselves.
- ▶ PC-3000 Portable has only those manual modes which do not require deep knowledge about Hard Disk Drives.

**Universal and specialized utilities**

- ▶ PC-3000 Portable tool has a suite of specialized technological utilities and set of adapters which make the work with each certain model of hard drives easier. Besides specialized utilities PC-3000 Portable has PC-3000AT universal utility. It works according to ATAPI standard and it is compatible with any modern hard drive.

**In-built features of Data Extractor**

- ▶ After making a hard drive functioning well again, user data which are stored on this HDD are often turned out to be damaged. Data Extractor which is a part of PC-3000 Portable product can aid in this case. With its help, you can create image file, create sector-by-sector copy or partially copy only those data you need.

**Main operation modes**

- ▶ Key philosophy of PC-3000 Portable product is the solution of DR cases with slight and not too complex malfunctions. That's why the list of available operation modes does not have such methods as heads stack replacement, spindle motor seizure disengagement etc. Here you can see the main operation modes of PC-3000 Portable:
  - Test the drive in the Technological/Kernel/Safe modes
  - Test and recover service information of the drive
  - Test the magnetic heads of HDD
  - Read and write the contents of Flash ROM of the drive
  - Load program of access to LDR service information
  - View defect tables P-List, G-list, T-List, A-List
  - Hide defects found on the surfaces of magnetic disk
  - Regenerate translator
  - Change configuration parameters
  - Clear S.M.A.R.T. of drive
  - Unlock HDD (view, open, clear the installed ATA password)
  - Change identification parameters of HDD (Name of model, Serial number and other)\*

\* – The list of parameters depends on the certain model of HDD

### Less operation modes – simpler work

- ▶ We have modified the modes which demand deep knowledge about principles of HDD operation and the modes which can easily damage the drive if used incorrectly. List of supported HDD contains the most popular modern models of HDD.

### Data recovery operation modes

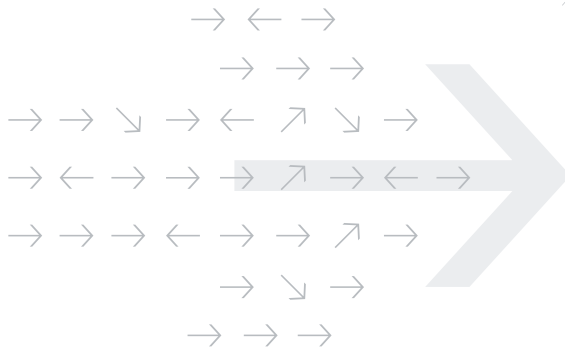
- ▶ Data Extractor has only the easiest and most automated modes - «Explorer mode», «Head Map» and «Data copy creation». In fact, these are the most important and required modes at data recovery.



If you were searching for a mobile data recovery solution to start data recovery easier and quicker, you have found it – this is PC-3000 Portable!

→ More information on [www.pc-3000portable.com](http://www.pc-3000portable.com)

## → PROFESSIONAL DATA RECOVERY TOOLS FOR SUCCESSFUL BUSINESS



*Flash memory drives are the essential part of everybody's life – small flash drives like USB pen drives and various memory cards are now much more popular than ever before. At the same time Solid State Drives are gaining far-reaching importance.*

*More and more companies and individuals keep larger volumes of data on NAND based flash memory drives thus chances to lose vital information are rapidly increasing. And what is more, it is becoming more complicated to recover data successfully from these drives – you need an intellectual device for it.*



## PC-3000 FLASH SSD EDITION

### ► What is PC-3000 Flash SSD Edition?

PC-3000 Flash SSD Edition is the newest professional hardware-software solution for recovering data from all types of Flash memory based storage devices (*USB Flash, SD, MS, xD, MMC, CF, VoiceRecorder, iPhone, and SSD - Solid State Drives*) when data can't be accessed through standard interface.

Physical and logical malfunctions of these flash memory based drives lead to damages in file system structure and service information. Playing the role of software translator when accessing the data, our solution emulates the algorithm of flash controller and restores the initial structure of data as a user has written it.

- PC-3000 Flash **SSD Edition** is the first and the most efficient tool in the world that recovers data from Solid State Drives - SSD - and almost all models of flash drives quickly, easy and professionally.





- ▶ It is the most automatic tool to successfully recover data from damaged flash memory devices during the minimal time period. Also if you wish and you have sufficient knowledge, you may throughly solve these cases in the manual mode.
- ▶ You will recover data from SSD and flash drives not alone - data recovery specialists have already uploaded a great number of ready solutions for many popular flash memory data recovery cases into our **Global Solution Centre**. Thus you can just choose the necessary solution and give back the data of your customer in 3-5 minutes!

### ▶ PC-3000 Flash SSD Edition features

#### **Recovering data from Solid State Drives and Flash Drives**

- ▶ PC-3000 Flash SSD Edition is the Professional hardware-software system that extracts data from damaged flash drives and Solid State Drives (SSD), the storage devices which are going to replace Hard Disk Drives (HDD) within the coming years.
- ▶ PC-3000 Flash SSD Edition utility allows to read the data directly from memory chip omitting the native flash controller and reconstruct the model of the virtual controller which allows to catch the user data.

#### **PC Flash Reader**

- ▶ A high-precision specialized reading device PC Flash Reader enables to quickly read raw data from the memory chips identified in the automatical mode. You also can activate the function of reading check.
- ▶ *ECC Data Correction mode* allows to correct all reading errors in automatic mode.

#### **Global Solution Centre**

- ▶ **PC-3000 Flash SSD Edition Global Solution Centre** is the place where you can find and share the most efficient ways to solve your flash media data recovery cases. You don't need to spend your valuable time for solving many cases, you just automatically find the solutions proposed by the data recovery professionals. The solutions are ranked in order of their efficiency. That helps you to get the quickest and most reliable way to recover data of your customers. Our Global Solution Centre is available on <http://www.pc-3000flash.com/solbase/>

#### **Software controller emulation**

- ▶ PC-3000 Flash SSD Edition software emulates controller actions and sets the data to readable format.

#### **AUTOMATIC AND MANUAL MODES**

While recovering data you can use both automatical and manual modes, that gives you the multi-possibilities to obtain user data and dramatically increase the number of successful cases.

### Automatic modes

- ▶ *Global Solution Centre & Recovery via controller*  
You just need to indicate the type of the flash controller in "Recovery via controller" mode or GSC. So all operations necessary to restore the correct access to the user data will be done automatically, and you'll get the disk image with the user data.
- ▶ *Controller algorithm autodetection*  
If the controller is unknown, you may use this mode that will try to determine the necessary transformations to access data in the automatic mode. As a result you will get the probability model of flash memory device translator. This mode is very effective when you work with the newest or rare flash storage drives.

### Manual modes

- ▶ *Standard manual mode*  
In this classical mode you can do all the operations manually where all the results of transformations are displayed. The mode does not depend on any controller or any flash storage device models, but the user needs the deepest knowledge in this field.
- ▶ *Graphical manual mode*  
Graphical editor of operations enables to make the necessary transformations in the visual mode and view all the results displayed. This mode is convenient if the flash memory device consists of several dumps or microchips. Also you can use Graphical manual mode to study the service information more thoroughly.

### Databases

- ▶ Database with ready solutions is intended to automatically recover data via controller.
- ▶ Database of NAND memory chips allows you to make the reading process automatic.

Both databases are regularly updated.

### Support

- ▶ Besides guidelines how to work with PC-3000 Flash SSD Edition, the detailed user manual shows the main principles how the flash memory drives function and gives direct recommendations on the data recovery from them.
- ▶ Technical Support department is always available to provide you help for recovery process.

Mastering new must-know technology with the best solution will open new horizons in your business!



→ More information on [www.pc-3000flash.com](http://www.pc-3000flash.com)

- ▶ *Product updates*
- ▶ *Individual attention*
- ▶ *Help when all other ways don't work*
- ▶ *Tips on latest technologies*
- ▶ *Help till complete solution of your data recovery case*

## PROFESSIONAL TECHNICAL SUPPORT

### ACE Laboratory Technical Support service

We do not leave you alone with sophisticated many-featured products after you buy PC-3000. We have a department of qualified, highly experienced Technical Support engineers who are available all business days to help you solve as many data recovery cases as ever possible.

You can get individual support by E-mail, MSN, Skype, Phone and by Emergency 24/7 Mobile Phone. Our engineers will put all efforts to solve your case individually instead of giving general answers. There are bonus periods of Free Technical Support which you get after buying any PC-3000 products.

Our Technical Support service has already helped thousands of data recovery specialists worldwide to use PC-3000 products more efficiently and we will be glad to help you achieve higher results with our tools.

**Qualified help greatly increases your success rate!**

→ More information on <http://www.ancelaboratory.com/mainsupport.php>



- ▶ *Comprehensive approach to training*
- ▶ *Individual care of each student*
- ▶ *Official certificates on completion of "ACE training"*
- ▶ *Must-know data recovery theory strengthened by hands-on experience*
- ▶ *First-hand knowledge and experience from the founders of professional data recovery technology*

## PROFESSIONAL TRAINING

### ACE Laboratory Training Seminars

Owing to constant dramatical increase in volumes of data stored on all types of storage media, storage technology and consequently data recovery technology are getting more and more complex. Generally, it can be harder for specialists worldwide to get started in data recovery business and stay competitive. Now together with the most efficient tools, in-depth KNOWLEDGE is a must-have for the success in data recovery.

That's why it is so vital for everybody who does data recovery to get more and more data recovery knowledge. ACE Laboratory has devoted more than 20 years to developing the most powerful data recovery technologies and we are ready to share our know-how with you.

We invite you to take first-hand knowledge and experience from the very founders in professional data recovery technology at the unprecedented of "PC-3000 Technology for HDD Data Recovery" and "Most Efficient NAND Recovery Technology" training seminars.

**Be smarter than your competitors, know more!**

→ More information on <http://www.ancelaboratory.com/training.php>

## ACE Laboratory

### Postal address:

ACE Laboratory Ltd., 5th floor, Maxima Gorkogo str. 130,  
Rostov-on-Don, Rostov region, Russia, 344010

### Phone/fax:

- ▶ +7.863.2015.006
- ▶ +7.863.2015.007
- ▶ +7.863.2015.008

### Emergency

#### Technical Support:

- ▶ +7.909.435.8999

### E-mail:

info@acelaboratory.com

### Web-sites:

- ▶ [www.acelaboratory.com](http://www.acelaboratory.com)
- ▶ [www.pc-3000flash.com](http://www.pc-3000flash.com)
- ▶ [www.pc-3000portable.com](http://www.pc-3000portable.com)

## CONTACT US

### ▶ Your contact for PC-3000:

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

Search for your local representative in <http://www.acelaboratory.com/resellers.php>

Russia  
Rostov-on-Don  
[www.ancelaboratory.com](http://www.ancelaboratory.com)

**ACE Laboratory** PRODUCT CATALOGUE  
**2012**