ООО «Информционные технологии безопасности полётов»

“Flight safety information technologies” LLC.

WinArm

MOSCOW 2018

FLIGHT SAFETY INFORMATION TECHNOLOGIES

The "Flight Safety Information Technologies" LLC (FSIT) is a company specializing in the development and delivery of software and hardware for readout, processing and analyzing of the flight recorders data, as well as technologies aimed at investigating accidents and incidents, maintaining safe operation of aviation equipment as an integral part of the Flight Safety Management Systems (SMS).

The main products of “ITBP” LLC is the software package for processing of flight information **WinArm32** and its components, readout modules, express-analysis software modules, data analysis within FDM / FDA programs, maintenance of safe fleet operation, data visualization.

WinArm32 is a high-tech dynamically developing software and hardware product, competitive in the Russian and world markets. Constant support, the release of updates and additions to the software package, provide him with leading positions in the market in the field of innovation and an integrated approach to the problem of ensuring the flight safety.

WinArm32 fully supports all Microsoft operating systems supported by the vendor, such as Windows XP/ 7/ 8/ 10.

The **WinArm32** software package is a product with an open architecture in terms of developing and upgrading Data Frames, lists of registered parameters, algorithms for express analysis, which earned well-deserved respect from design bureaus, repair and overhaul plants, large airlines.

Providing the possibility of instant synchronization of various information flows, including voice recorders, is unique, both for the Russian and foreign markets.

The software complex provides a wide range of tasks to improve the flight safety level as part of the FDM / FDA / FOQA programs as part of the SMS, enabling the accumulation and statistical analysis of processed data.

FSIT is very constructive in responding to criticism and requests from customers, promptly making changes to the algorithms for rapid data analysis of various aircraft, developing new information processing tools, such as data output for monitoring programs for degradation of aircraft and engine’s characteristics (for B-737, A-320 and etc.), evaluation of the parameters of the engines (B-737, ATR-42/72 and etc.), maintaining the airworthiness of Ka-32, Mi-8, Mi-26 helicopters, etc.

FSIT provides information and technical support to airlines, design offices, accident investigation agencies and incidents in the field of data processing and analysis of airborne recorders.

A flexible pricing policy of the **FSIT** allows companies to save substantial funds in purchasing the FDA/FDM product fully in compliance with the national and ICAO regulations by customizing and scaling the product exactly to feet the requirements of the customer, considering the size of the business, fleet size and staff number.

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Overview of the WINARM32

*The **WinArm32** software is a package of programs for the automated readout, processing, analysis and presentation of the flight recorders data implemented for IBM-compatible PC running MS Windows XP/ 7/ 8/ 10.*

*The **WinArm32** software package can be used to copy information from FDRs and to work with parametric flifgt information using third-party means of readout and processing of the data.*

The information readout from the tape-based FDRs is available via the portable data input module with a USB interface that does not require the installation of interface cards in a personal computer and allows processing information of all magnetic tape-based FDRs manufactured in the USSR and Russia.

The complex allows processing information of modern solid-state recorders of different designers and manufacturers.

The user can customize a large number of elements of the program interface and select a language (Russian or English).

The program is officially included in the "Register of Special Software for Flight Information Processing Systems Permitted for Use in Aviation Enterprises of the Russian Federation" (letter of the Ministry of Transport of the Russian Federation dated July 12, 04, # 5.10 - 84HA).

The WinArm32 provides the customer with a solution fully compatible with the ICAO and IATA standards and acceptable as an essential instrument within the airliners SMS by civil aviation administrations.

*Unlike some brand-dependent competitors the **WinArm32** provides the customer with an unbiased approach to the flight safety and airworthiness issues, covering all the fleet of the customer and making available going up without new significant funding while fleet expanding or business model changes.*

*Providing the necessary functional minimum for such systems, the **WinArm32** complex has a number of undeniable competitive advantages.*

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- ***INTEGRITY***.

  The system is built as a universal complex system that can cover almost all the operator's needs for processing of the FDR information. The system allows you to process the information of the vast majority of FDRs, regardless of the country of design and manufacture and the type of aircraft or helicopter on which the FDR is installed. The complex solves the whole complex of tasks, starting from the information readout, ending with automated processing, express analysis, statistical processing of data and presentation of presentable material.

- ***OPENNESS and FLEXIBILITY.***

  The system is opened in terms of development and editing of cycloramas (databases) of aircraft, as well as the creation and completion of express-analysis algorithms.
  Development of express-analysis algorithms is carried out with the help of a convenient and intuitive interpreter of algorithms, which even a person without programming skills can master.
  The dynamic bilingual graphical interface (Russian and English) of the program, the variety and convenience of the forms of information output in graphic and digital form, are still beyond competition.
  Flight data and work results are available for export in standard formats of information provision.

- ***INNOVATION***.

  The user is given the opportunity to calculate the flight path in the vertical and horizontal planes with overlaying cartographic information and using the complete navigation database of airports, navigation points and routes, entering their own calculation parameters.
  The data format has been implemented to display the flight path in conjunction with the Google Maps© geo-information and also in the Google Earth™ application.
  The possibility of viewing the flight-related meteorological information METAR has been introduced.
  The ability to use MS Flight Simulator 2004™ and X-Plane in conjunction with WinArm32, as a full-fledged 3D flight demonstrator (optional), is our know-how and makes the system unique in realism and unparalleled.
  WinArm32 - the only complex in the CIS area, capable of processing information in the ARINC-767 data format of the Boeing 787 aircraft.

- ***TECHNOLOGY***.

  Support work both in a local network with a single database of accumulated flight information, and with a remote server. System of archiving and data exchange via e-mail or FTP.
  The ability to accumulate rapid analysis results in the database with a single click (optional) makes the system complete and satisfies the requirements of ICAO FDM / FDA / FOQA programs, providing the operator with the ability to statistically analyze data and develop measures to improve flight safety and improve flight operations and

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operation of aviation equipment, both on the basis of standard criteria, and using their own approaches and algorithms for secondary automated data processing.

- ***UNIVERSALITY***.

  Work is carried out with various data formats imported from the files of FDRs designed by companies NPO "PRIBOR", OKB "Aviaavtomatika", JSC "Izmeritel", Honeywell, L3 Communications, Avionica, Universal Avionics, Teledyne, SFIM, ...

  The format of the FDRED data exchange (ARINC 647A-1) has been implemented.

  Fast synchronization of various information streams, including textual information, with convenient display on the screen and the printer is ensured.

  It supports the import and synchronization of audio information with the ability to bind text "radio" for complex analysis of flights and analysis of the development of special situations.

- ***SECURITY***.

  The system provides protection against unauthorized access at the password level, as well as at the hardware level using HASP keys. Flight data can also be encrypted using the same keys, which makes their receipt by third parties useless and protects the information from undesirable use. The deidentification of the data is supported as well.

- ***SUPPORT AND DEVELOPMENT***.

  The functionality of the complex is fully documented, the user's guide is available on the WinArm website.

  During the year the system receives about 5 essential updates and additions.

  System updates are obtained automatically from the WinArm website.

  Information and technical support is provided throughout the whole operation of the complex on demand.

  Within the framework of the complex, protocols for data exchange with programs for assessing the degradation of flight performance of aircraft (Boeing and Airbus), monitoring parameters of power plants, oil consumption, etc. have been developed and maintained.

- ***AN EXPERIENCE***.

  Developers of the complex with 35 years of experience in the field of processing and analysis of flight information have accumulated more than a rich experience, which made it possible to create a complex that ensures the processing of the data of almost all aircraft operated in the Russia, CIS states and abroad. For many types of aircraft express-analysis programs have been developed, which were tested at the State Center "Air Transport Flight Safety".

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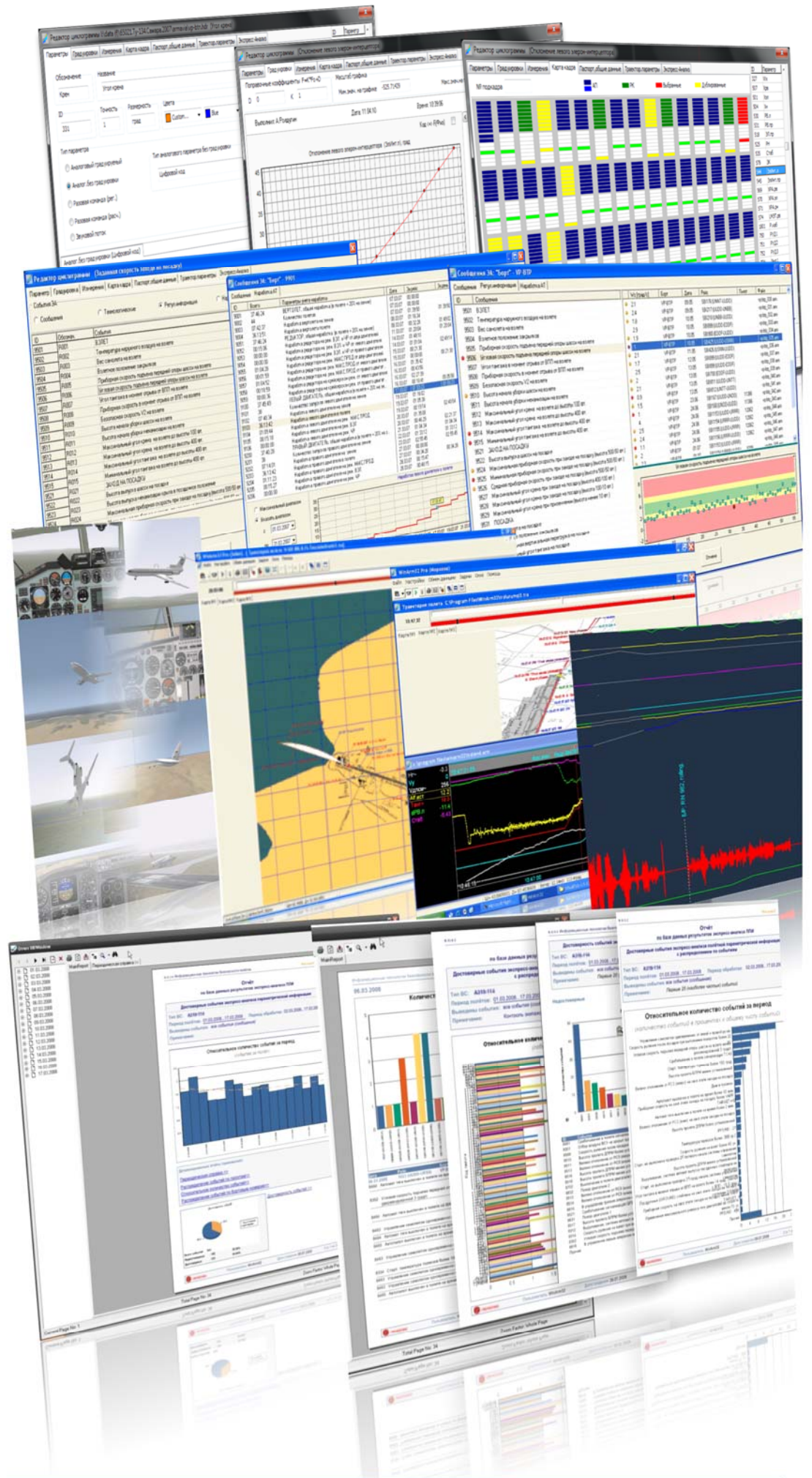

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A-310


A-319/320/321


A-330


A-340*


A-350*


A-380*


ATR-42/42-500


ATR-72/72-500


An-12


An-24/26


An-28


An-32


An-38


An-72/74


An-140


An-148


An-178*


An-124-100


BAe-125/HS-125


Beachcraft-350


B-737


B-737-NG


B-747/747-400


B-757


B-767


B-777


B-787


MD-11


Cessna-208


CL-600


DA-40


DA-42


ERJ-135


ERJ-145


Gulfstream G-IV/V


Gulfstream G650


Falcon-7X


LET-410-UVP-E


Pilatus PC-6


Pilatus PC-12

IL-18/38

IL-62

IL-76Т/ТД

IL-86

IL-96

IL-114

Tu-134А/Б

Tu-154Б/М

Tu-204

Yak-40

Yak-42

RRJ-95 (SSJ-100)

Mi-8T/MTB/AMT

Mi-26/T

Ka-32A/A-11BC

Ka-226/226Т

AW-139

Bell-429

EC-145

EC-155

** planned*

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The delivery integration of the WINARM32.

The WinArm32 software package is delivered as an installation kit ready for use on the Customer's personal computers. Together with the software, you receive keys for protection against unauthorized use. At the request of the customer, the complex can also be delivered together with a personal computer, laptop or a protected (rugged) laptop. Also, the delivery package may include readout modules with interface cables. In accordance with the needs of the customer, the system can be supplied in different versions:

- **Professional Kit (Pro)** is a full version of the program designed for developers of express-analysis algorithms, as well as for experienced users interested in expanding the functionality of the information processing system and improving the program for monitoring the operation of aviation equipment, including within the FDM / FDA programs / FOQA. Using this kit, the user can access absolutely all the functions of the program, including the ability to develop new and modify existing algorithms for express-analysis (FDA).
- **Standard Kit (Std)** is the most commonly used kit. In this configuration, the function of developing and modifying the express-analysis algorithms is not available, although it is possible to execute algorithms supplied with the system. The user also has the ability to build flight paths and use all other capabilities of the system. Access to the resources (functions) of the program is determined by the system administrator, which specifies the names of users and their passwords, and also determines the order of access, depending on the level of the user.
- **Network Kit (NET)** is designed for large business with personal computers, integrated into the local computer network and provides full licensed use of the software complex on 10 computers of the Customer simultaneously in the functional version of Standard.

To readout of the magnetic-tape FDRs is available via the series of units:

- **MVD** - allows copying the information of the magnetic FDRs of the MSRP-64, MSRP-256, MSRP-A, BUR-1, BUR-3, TESTER systems using ground-based tape-drive mechanisms BVS-3, UVZ-5M, -3M, OBZOR-MS.
- **MVD-U** - allows copying the information of the magnetic FDRs in the volume provided by the MVD module, and also copying the information of the TESTER systems directly from the crash-protected module (2T-3M, ...) and from the aircraft through the connector - testing equipment (currently the module is discontinued).
- **MVD-23** - this unique data input module is intended for readout of the information of the magnetic-tape FDRs of the MSRP-64-M5, MSRP-256, MSRP-A, BUR-1, BUR-3 systems with the ZBN-1 series directly from the MLP units.

The **WinArm32** package supports the import of data from modern FDRs and QARs storage devices such as ZBN-1-3 ser.3 (BUR-1-2 ser.2, ...), BUR-SL, BUR-LK, TBN-K, RPI-2-02, MBR, SBI Accord, BARS-2M, EBN-T, iAero, PGS, ... and all data in the ARINC 573/717 formats.

The WinArm32 today supports the processing of the data for more than 60 typs of aircraft and rotorcraft

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The production of the company since 1995 is in operation in more than 80 airliners and customers in more than 15 states around the world.

WinArm and WinArm32 customers:

Avia Ltd.
CAA China (Китай)
А/к «Air Bridge Cargo»
А/к «Akagi Heli» (Япония)
А/к «Avia Management Group»
А/к «Berkut» (Казахстан)
А/к «Cubana» (Куба)
А/к «Enimex» (Эстония)
А/к «Faasa aviation» (Испания)
А/к «Heli Portugal» (Португалия)
А/к «Helisur» (Перу)
А/к «Heliswiss» (Швейцария)
А/к «Premier Avia»
А/к «Royal Flight»
А/к «RusAir»
А/к «RusJet»
А/к «S7» (S7 Engineering)
А/к «Skyone Airways» (Индия)
А/к «Somon Air»
А/к «Uzbekiston havo yullari»
А/к «САР» (UHY Узбекистан)
А/к «VIH Logging Ltd.» (Канада)
А/к «Авиалифт Владивосток»
А/к «Ак Барс Аэро»
А/к «Алроса»
А/к «Аэросервис»
А/к «Аэрофлот»
А/к «Бизнес Аэро»
А/к «Вельталь-авиа»
А/к «Волга-Днепр»
А/к «Восток»
А/к «Газпромавиа»
А/к «Интеравиа»
А/к «Красавиа»
А/к «Меридиан»
А/к «Нижневартовскавиа»
А/к «Норд-Авиа»
А/к «Оренбургские авиалинии»
А/к «ПКАП»
А/к «Северсталь»
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ЗАО «АТЭК»
ЗАО «Техпромсервис»
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ОАО «УУАЗ»
ОАО «Прибор»
ОАО «Радар»
ЗАО «ТРАНЗАС»
ОАО ПО «Стрела»
ООО «РемТест»
ООО «Авиаконтакт»
ООО «Акрос»
Орион Инжиниринг
Pars Aviation Service Company (Иран)
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Сасовское ЛУ ГА
С-Петербургский ГУГА
Ульяновское ВАУ ГА
ФГУ "ПКАП"
ФСНСТ РФ

Additional information is available at www.fsit.ru and ***www.winarm.ru.***

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