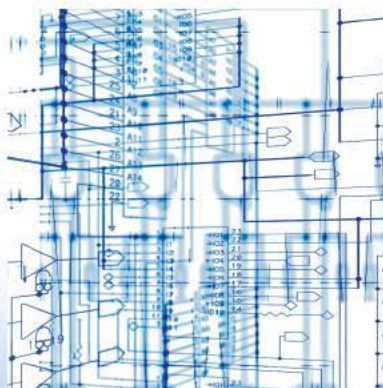




ALTRON

SECURITY SYSTEMS
DEVELOPMENT AND PRODUCTION



AMUR

Recording
of all communications
from voice and data networks



ABOUT THE COMPANY

Altron CJSC is a high-tech company that creates effective complex solutions for security management. We provide our customers with the professional solutions designed on the basis of the modern methodology using the latest technologies in the field of security.

At present we have carried out a lot of successful implementations in government institutions of Ukraine (the Ministry of Internal Affairs, the Air Forces, the Ministry of Emergency Measures), as well as in commercial enterprises. Our company contributes to the strengthening of the national security by means of development of the domestic technologies.



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AMUR systems make it possible to solve both local operative tasks on recording data from communication network and to work out large solutions for solving global tasks.

Digital recorders of the audio information «AMUR» are intended for:

- automatic registration of data from various signal resources;
- next detailed analysis of these data;
- long term storage.

Types of the recorded information:

- analog sources of signal;
- digital channels;
- IP-telephony.

Advantages of use:

- large list of digital ATS (the information circulating in these lines is recorded);
- flexible system of access rights;
- API that allows easy integration with software-hardware solutions of outside manufacturing;
- the equipment is certified (UkrSEPRO);
- good value for money.

We have created the team that values the following characteristics:

- Professionalism
- Liability
- Zeal
- Innovation
- Honesty
- Readiness to share the own experience and knowledge
- Partnership with customers, suppliers and with each other
- Kindness
- Mutual support

We believe that following our principles we are doing a considerable contribution to the common mission — ensuring security of life and labour of our citizens.

Service:

All products and decisions are covered by warranty service and technical support. The production of Altron CJSC is certified by the national certification system UkrSEPRO.

Services:

- Customized designing.
- Equipment fitting for Customer's problems solving.
- Equipment mounting.
- Equipment operation testing on the Customer's object.
- Training of users and technicians.
- Post-warranty repair of equipment.
- Delivery of equipments across the territory of Ukraine and abroad.

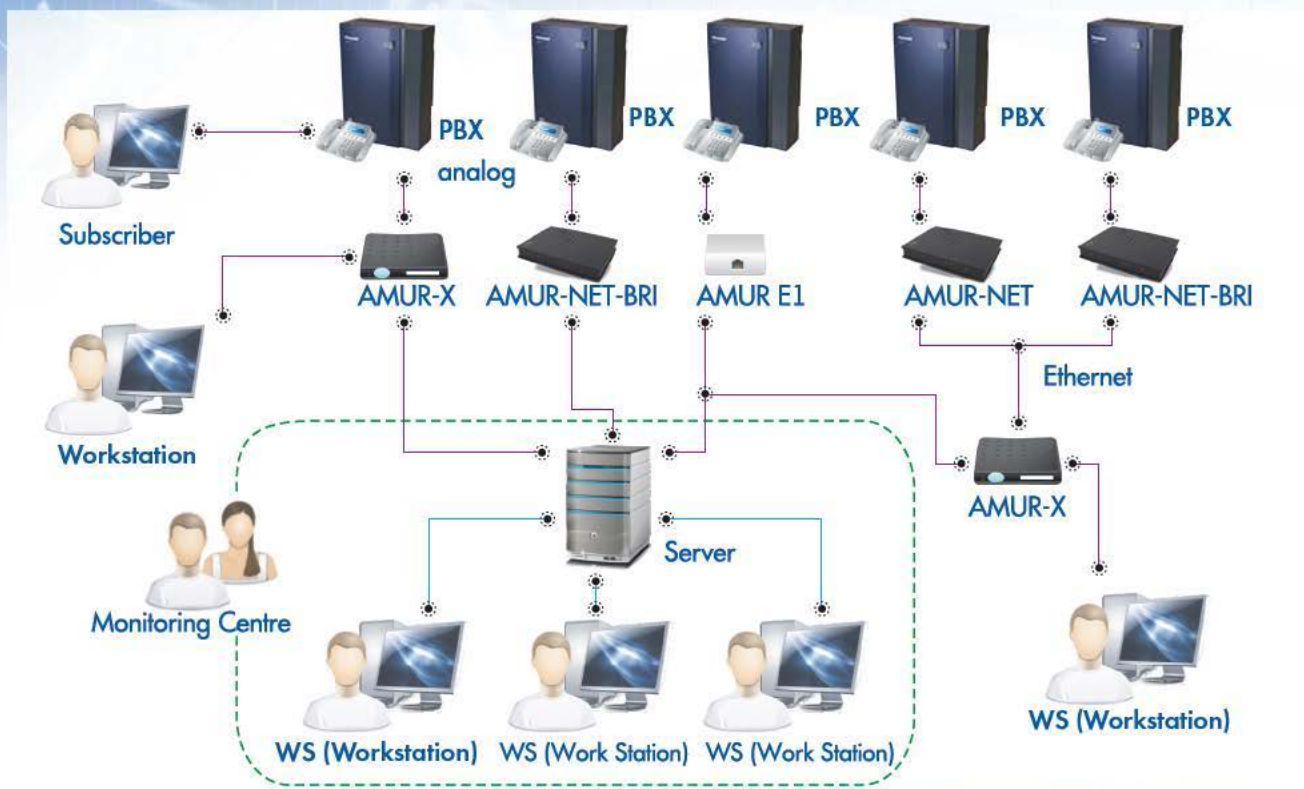
At present we have successfully carried out a number of implementations into government institutions of Ukraine (the Ministry of Internal Affairs, Security Service of Ukraine, the Air Forces, the Ministry of Emergency Situations, MTS) and into commercial organizations.



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ORGANIZATION OF MULTILEVEL NETWORK FOR AUDIO INFORMATION MONITORING

Example



AMUR-X devices allow carrying out registration of the information coming from analog lines and BRI digital lines with the further transfer of the data through Ethernet networks to the monitoring centre. AMUR-X is a special device on the basis of the single-board computer, and does not demand constant service and is intended for long work without external intervention. The device includes internal data store.

AMUR-X

Purpose:

«AMUR-X» is a hardware-software complex intended for high-quality multichannel record, long-term storage, reproduction and processing of the information circulating from the analog and digital sources of signal.

Sources of signals:

Any analog linear audio output (phone, microphone, radio station, dispatching board, tape recorder, telemetry), any digital office automatic telephone exchange, primary access.

Capacity:

from 1 to 2 PCI printed-circuit-board AMUR

Main features:

«AMUR-X» is an autonomous recorder that does not require a computer for recording and reproduction of the information. Unlike recorders designed on the basis of computer, «AMUR-X» is rather compact and reliable.

Specifications:

- It is designed on the basis of a specialised platform for the built-in system;
- The chassis is performed from metal, colour - black;
- The sizes: 20 sm x 20 sm x 15 sm;
- System board mini-ITX based on the processor with low level of power consumption (is characterized by high fault tolerance, compact dimensions, sufficient productivity);
- In-built stereo- loudspeaker ;
- There is no necessity in active means of cooling (non-ventilatory system);
- Adapter
- OS: Windows XP Embedded;
- On the front panel there is a liquid-crystal display and 4 control buttons of record and reproduction allowing to make adjustment of the recording system and to work with base of records;
- Cost of the chassis without cost of AMUR PCI-printed-circuit-board does not exceed cost of the common personal computer.





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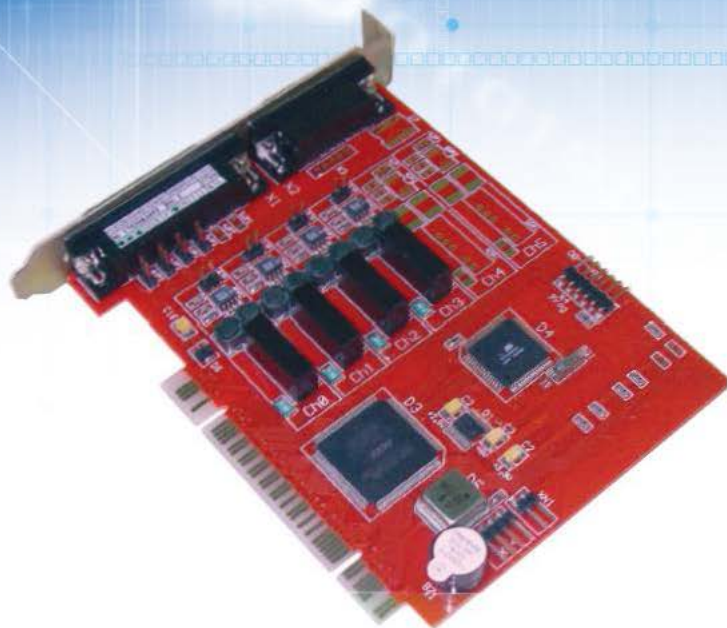
AMUR-PCI-EI-3

Purpose:

Hardware-software complex «AMUR-PCI-EI-3» is a hardware-software complex designed on the basis of universal EI printed-circuit-board that is mounted to computer PCI slot. It allows recording the speech information circulating in 1 up to 2 or 3 PRI EI streams, at parallel connection to the monitored lines. Each mounted printed-circuit-board provides recording and controlling of up to 90 duplex channels.

Structure

The structure of the recorder includes PCI printed-circuit-board «AMUR BRI» with software (CD-ROM).



Specifications:

Quantity of channels:	Up to 90 (30 channels per one EI flow)
Recording density of one timeslot without compression	<- 57,6 MB/h
Type of signaling:	OKC7, DSSI, V5.2, R2, R1S, R1
Input resistance:	
DC	not less than 100 MOhm
AC	not less than 2,5 kOhm
Complete galvanic isolation	
Specialize control program	
Indication of the communication session at each channel	
Parallel connecting to the communication lines	
Maximum length of cable that is connected to the flow	EI - 3 metres
Length of cable when one extender is connected	EI - 300 metres

AMUR-NET-BRI-6



Purpose:

Hardware-software complex «AMUR-NET-BRI-6» is intended for connection to the digital telephone lines ISDN BRI for the purpose of accumulation, transformation and transfer of the speech information to the external recorder by means of the Ethernet network. Up to 12 telephone channels are monitored.

Structure

The structure of the recorder consists of external Ethernet device «NET-BR» with software (CD-ROM).



Specifications:

Quantity of maintained digital telephone channels	Up to 6
Connection to the Ethernet network 10/100 Mbit with automatic determination of the connection speed	
Indication of the network connection activation and speed	
Connection to the digital telephone line	parallel
DC input resistance	not less than 1 MOhm
AC input resistance	not less than 10 kOhm
The length of the cable for connecting to the digital telephone line	up to 10 m
Galvanic isolation between input, output and power supply	
The maximal tested voltage between input and output	1 kV
The maximal tested voltage between input and supply:	630 V
Supply voltage of the equipment	direct, 5 V 1,5 A
Consumption current in the established mode	Up to 900 mA
The maximal power consumption	8 W



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AMUR-NET-A-6

Purpose:

It is intended for connection to analogue telephone lines for the purpose of accumulation, processing and transfer of the speech information to the external device of registration by means of the Ethernet network. The complex is capable to register simultaneously up to 6 channels. There is a possibility to connect a module of voice compression for the purpose of decreasing of volume of data transferring through the Ethernet network.

Structure:

The structure of the recorder consists of external Ethernet device «AMUR-NET-A-6» with software (CD-ROM).



Specifications:

Quantity of maintained digital telephone channels	up to 6
Connection to the Ethernet network 10/100 Mbit with automatic determination of the connection speed	
Indication of the network connection activation and speed	
Connection to the digital telephone line	parallel
DC input resistance	not less than MOhm
AC input resistance	not less than 10 kOhm
The length of the cable for connecting to the digital telephone line	up to 1000 m
Galvanic isolation between input, output and power supply	
The maximal tested voltage between input and output:	1 kV
The maximal tested voltage between input and supply:	630 V
Supply voltage of the equipment	direct, 9 V 0,5 A
Consumption current in the established mode	up to 300 mA
The maximal power consumption	3W

AMUR-PCI-A-18

Purpose:

Hardware-software complex of digital registration of the audio information «AMUR» is intended for automated digital data record, their next detailed analysis and long-term storage. The sources of signal can be telephone and any analog lines or sensors.. The complex can register up to 18 channels.

Structure

The recorder can be delivered independently or to be a part (as a subsystem) of the multichannel automatic audio recorder «AMUR».

The structure of the registrar includes PCI printed-circuit board with the software (CD-ROM). On request of the customer we choose the personal computer (PC) on which the few/multichannel recorder is established. The Data recording is made on a personal computer hard disk. There is a low profile variant of a PCI printed-circuit board with number of channels up to 8. It is AMUR-PCI-A-08-LP (for installation into 2U and Slim cases)



Specifications:

Quantity of channels on the printed-circuit board.	2-18 channels per one printed-circuit-board (The quantity of printed-circuit-boards in one system block is limited by the quantity of PCI.
Type of trunk:	PCI
Record channels have the universal galvanic isolation between that makes it possible to connect any sources of signals with program presetting.	
Recorded and reproduced frequency band, Hz, at base digitization frequencies, kHz:	8000 Hz.....от 200 Hz до 3400 Hz 16000 Hz.....от 200 Hz до 7600 Гц 32000 Гц.....от 200 Гц до 14200 Гц
Crosstalk attenuation between channels, dB:	not less than 80 dB
Complete weighed signal-to-noise ratio at the linear output, dB:	not less than 90 dB
Dynamic frequency band of record-playback channel, dB:	not less than 90 dB (not less than 60 dB in the whole dynamic frequency band with allowance for the maximum amplifying for microphones
Harmonic factor in operating frequency band:	not more than 0,1%
Input circuit, symmetrical galvanically isolated universal inputs Connecting to the control channels	parallel
DC input resistance	not less than 1 Mohm
Operation threshold of parallel protection	270 V \pm 30 V
Full level of the input signals	100-7000 mV (is changed with the help of the amplification coefficient of the input amplifier program)



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AMUR-PCI-BRI-6

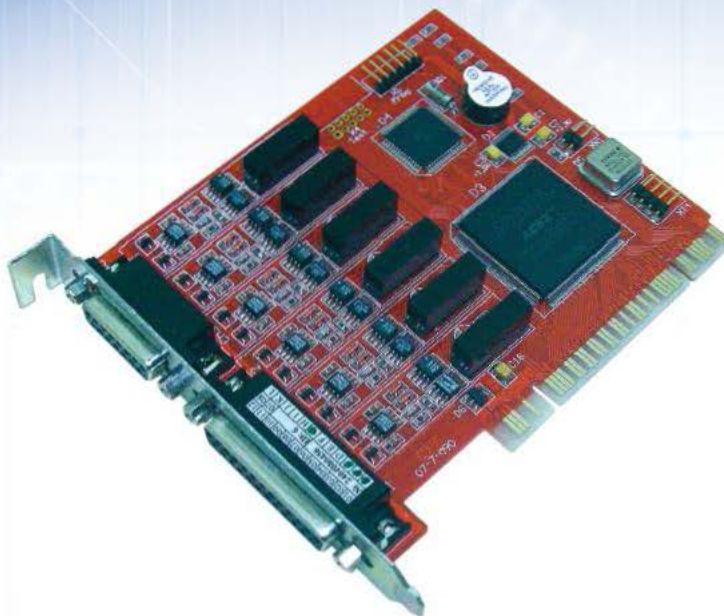
Purpose:

Multichannel digital recorder «AMUR-PCI-BRI-6 is a hardware-software complex that provides recording on the hard disk of a personal computer, reproducing and processing of the audio information circulating in the digital exchange system. The complex is mounted into the computer. Up to six 2B-ID (1B-ID) lines are connected to one printed-circuit-board Up to 12 telephone channels are monitored. Information recording is made in a stereo mode (separately for each subscriber).

It allows to separate each subscriber for the purpose of carrying out person identification, and also to carry out automatic leveling of signals of near and distant subscribers.

Structure

The structure of the recorder includes PCI printed-circuit-board «AMUR BRI» with software (CD-ROM).



Specifications:

It is connected to ISDN parallel digital two-wire telephone line	
Quantity of the two-wire lines connected to the recorder	6
Quantity of channels of recording for ISDN 2BID two-wire communication lines	12
Quantity of channels of recording for ISDN four-wire communication lines	6
Full galvanic isolation with a digital telephone line	
Input resistance of telephone adapters (AC):	not less than 10 kOhm
Input resistance of telephone adapters (DC):	not less than 1 MOhm
There is a balance adjustment on each low-frequency analogue telephone channel	
There is an alarm system about presence of synchronization with ISDN digital channel	
There is an alarm system about communication session activation	
There is a circuit changer of the communication session activation in incoming and outgoing directions and on the D-channel	
There is a network configuration for integrating of several AMUR-ISDN complexes	

ATRIS-PCI-A-12



Purpose:

Notifying of the set quantity of subscribers with a confirmation of a message receipt. High quality recording, long term storing, listening and processing the information coming from analog sources of audio signal. It provides the function of a standard answering machine. It provides the function of an active answering machine.

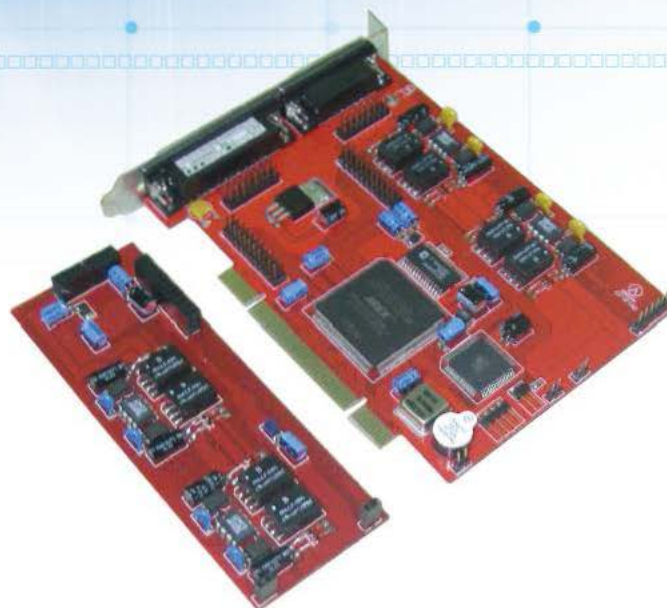
Sources of signals:

Any analog linear audio output (phone, microphone, radio station, dispatching board, tape recorder, telemetry).

From 2 to 132 channels per one system block.

Features:

The multipurpose printed-circuit board allows solving of a great variety of problems: information registration, notification of subscribers, automatic recording of incoming calls, and filtration of mistaken incoming calls. Up to 12 channels on one printed-circuit board.



Specifications:

Type of the trunk:	PCI		
Quantity of channels on one printed-circuit-board	2,4,6,8,10,12		
Maximum quantity of printed-circuit-boards in one system block	11		
Types of channels:	Analog telephone, linear		
Type of connection:	Parallel/ consistent		
	With transformer galvanic isolation		
ADC type:	16- digit		
ADC changeable frequency of digitization:	8,16,32, 64 kHz		
AGC type:	Program		
Frequency band of the telephone lines coordination block:	0,27,6 kHz		
ADC frequency band is defined by digitization frequency	8000 Hz	from 200 Hz	to 3400 Hz
	16000 Hz	from 200 Hz	to 7600 Hz
	32000 Hz	or 200 Hz	Δ0 14200 Hz
Input resistance of telephone adapters (DC):	more than 9 MOm		
Input resistance of telephone adapters (AC):	more than 10 kOm		



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AMUR-USB-A-6

Purpose:

It is intended for a high quality recording, storing and reproducing of the audio information. The source of signals can be telephone or any other analogue communication channels. The complex is capable to record simultaneously up to 6 channels. The recorder can be supplied autonomously or to be a part of multichannel digital recording system «AMUR».

Structure:

The structure of the recorder consists of external «AMUR USB» device with software (CD-ROM).



Specifications:

Type of the trunk:	USB
Quantity of channels on one printed-circuit-board:	2,4,6
Types of channels:	Analog telephone, linear
Type of connection:	parallel
With transformer galvanic isolation	
ADC type	16-digit
AGC type: Frequency band of the telephone lines coordination block:	Program 0.2 7,6 kHz
	8000 kHz from 200 kHz to 3400 kHz
	16000 Hz from 200 Hz to 7600 Hz
	32000 Hz from 200 Hz to 14200 Hz
Input resistance of telephone adapters (DC):	More than 9 MOhm
Input resistance of telephone adapters (AC):	More than 10 kOhm
The device for linear voltage measurement on a telephone line for program installation of an actuation level when a telephone receiver is picked up:	+
Telephone line adapter electronic protection against excess voltage	Above 270 V
Current limiting supply protection +5V and 12V:	500 mA

USS-COM-A

Purpose:

USS (Universal Switchboard of signals) is intended for switching of analogue and digital communication lines. Allows switching almost of any quantity of input lines for 1 - 16 input channels. Expansion of input lines is achieved due to connection of all the switchboards into the integrated switching field. The quantity of output lines cannot be more than 16.



Specifications:

Quantity of inputs:	32 (3168 when 99 blocks are connected)
Quantity of outputs:	from 1 up to 16
Type of switched line	Symmetric
Frequency band	0-15 MHz
Switching current	100 mA
Switched signal amplitude	0 - 250 V
Transient resistance	60 Ohm
The unit control	distantly - RS232, RS485, Ethernet
Input sockets	RJ45
Output sockets	DB25
Power supply	100-240 B 50-60 Hz
Length of connecting cables:	10 M
Length of control cables:	10 M
Size	19* 1U
Case material	steel
Color	black
Indication of input lines connection	At direct component level of above 5V



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