



Advanced NMEA Data Logger

1		1
1	Advanced NMEA Data Logger	1
2	.....	2
2	,	4
1	.....	4
2	.....	5
3	.....	5
4	.....	6
3		6
1	.....	6
2	.....	7
4		7
1	.....	7
2	.....	9
3	.....	11
4	.....	12
5	.....	12
5		13
1	.....	13
	(COM)	13
2	.....	18
	TCP/IP	18
3	.....	25
	.....	25
	.....	27
	.....	29
4	-	30
	-	30
	-	33
	.....	35
5	.....	36
	.....	36
	OPC	40
	NMEA	43
	.....	43

		44
	(talkers).....	44
	(sentences).....	45
	.....	53
	.....	54
	.....	55
	NMEA	60
6	.....	62
	.....	62
	.....	64
	.....	65
	Windows 2000	66
	.....	66
	Windows Vista	69
	.....	70
6	RS-232	0
1	RS-232	0
2	DB9 (9 pin) RS-232	0
3	DB25 (25 pin) RS-232	0
4	RS-232	0
5	RS-232	0
7	?	71
1	.....	71

1

1.1 Advanced NMEA Data Logger

Advanced NMEA Data Logger NMEA GPS
 NMEA , Excel, Access,
 Windows. Advanced NMEA Data Logger
 NMEA.

Advanced NMEA Data Logger

Windows - DDE (Dynamic Data
 Exchange), ODBC, OLE.

Advanced NMEA Data Logger:

-
- (talkers) (GPS, . .);
- (sentences) NMEA
- Garmin, SiRF StarLink;
- ;
- ;
- ;
- ;
- MS Excel;
- ODBC- (MS SQL, Oracle, MS Access,
- dBase);
- Advanced NMEA Data Logger DDE OPC
- Advanced NMEA Data Logger can use direct connection (use OLE) to Microsoft Excel and write data directly to rows or columns;
- ;
- ;
- ;
- Windows 9x/Me/NT/2000/XP/Vista, x86 x64.

Advanced NMEA Data Logger

Advanced NMEA Data Logger

Windows NT/2000/XP,

Advanced NMEA Data Logger
NMEA

-
-
-

: <http://www.aggsoft.ru/>
: <http://www.aggsoft.ru/nmea-data-logger.htm>

1.2

ASCII - ASCII -

Windows
ASCII. ASCII *.TXT (

README.TXT).

Binary File - ASCII (0 255).

Bytes () -

Bit () - : 0 1. 8
8 ()

Baud Rate - BPS
(),
600 , 2400 bps (),

Cable () -

COM port -
4 , IBM IBM-
COM1, COM2, COM3 COM4.

Client/Server (/) - (, , . .)

() .

Data bits - (),

DNS (Domain Name System) - DNS

(TCP/IP)

DNS

() IP .
198.63.211.24.

www.aggsoft.com

Flow control -

" "

()

Handshaking -

Internet () -

TCP/IP

IP, Internet Protocol () - Internet Protocol,

TCP/IP,

IP

IP

'xx.xx.

xx.xx'.

IP (Internet Protocol) -

TCP/IP.

IP

IP

. IP

: 198.63.211.24.

LAN (Local Area Network) -

NIC, Network Interface Card () -

turbochannel, nuBus, .)

(

(PCI,
, 10baseFL).

PC () -

Personal Computer (

).

Ports () -

Protocol () -

RS232, RS423, RS422 RS485 -

RS232, RS423, RS422, RS485,

Electronics Industry Association (EIA)

EIA "RS" (recommended standard).
"EIA".

Stop bits () -
1 2.

TCP/IP, Transport Control Protocol / Internet Protocol - TCP IP

TCP/IP
Internet.

(Log file) - (. log) —

2

2.1

Copyright © 1999-2016 AGG Software.
All Rights Reserved

1. Advanced NMEA Data Logger -
- 2.
3. Advanced NMEA Data Logger ,
4. ,
5. Advanced NMEA Data Logger sales@aggsoft.ru
6. Advanced NMEA Data Logger , ,
Advanced NMEA Data Logger .
7. **Advanced NMEA Data Logger "AS IS".**

8.

9.

Advanced NMEA Data Logger

10.

Advanced NMEA Data Logger
Advanced NMEA Data Logger.

2.2

shareware-

[5](#)

21

2.3

shareware-

[4](#)

Internet,

2.4

Advanced NMEA Data Logger	support@aggsoft.ru
	support@aggsoft.ru
	sales@aggsoft.ru

3

3.1

- Windows 2000 Professional SP 4;
- Windows 2000 Server;
- Windows XP x86 x64;
- Windows 2003 Server x86 x64;
- Windows Vista () x86 x64.
- Windows 7 () x86 x64.
- Windows 2008 Server () x86 x64.
- Windows 8 () x86 x64.

COM-

3.2

Advanced NMEA Data Logger.

, Advanced NMEA Data Logger "\Programs
Files\Advanced NMEA Data Logger"

Advanced NMEA Data Logger

4

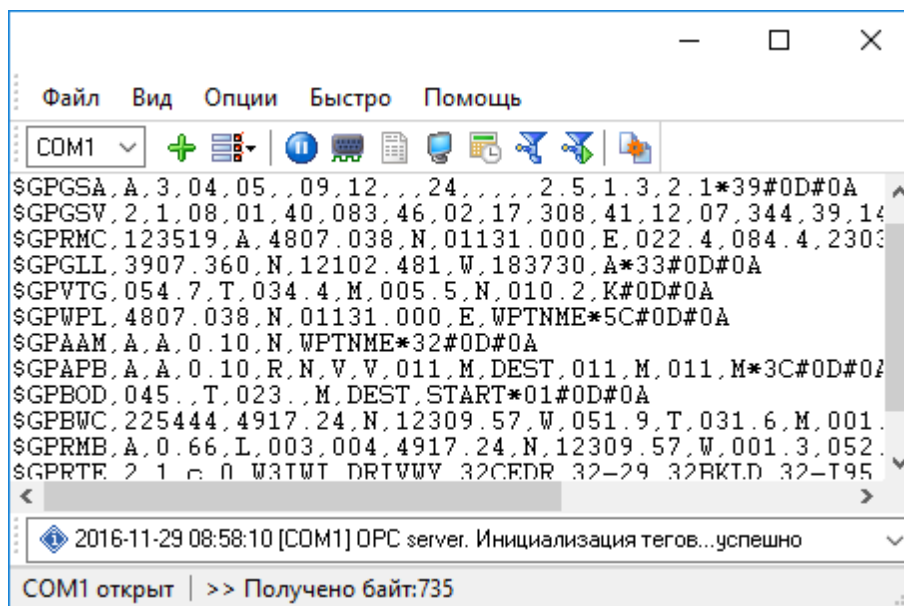
4.1

Advanced NMEA Data Logger

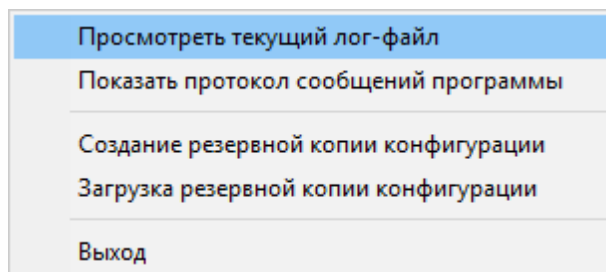
Advanced NMEA Data Logger " "

(. 1.1.1),

1.1.2) (" - ..."), " " (.



. 1.1.1.



. 1.1.2.

C:\... 9

1-2-3-4

1.

" " :
 _____ 13 " COM "

2.

().
 " " ()
)

3.

_____ 36

4. Advanced NMEA Data Logger

Advanced NMEA Data Logger

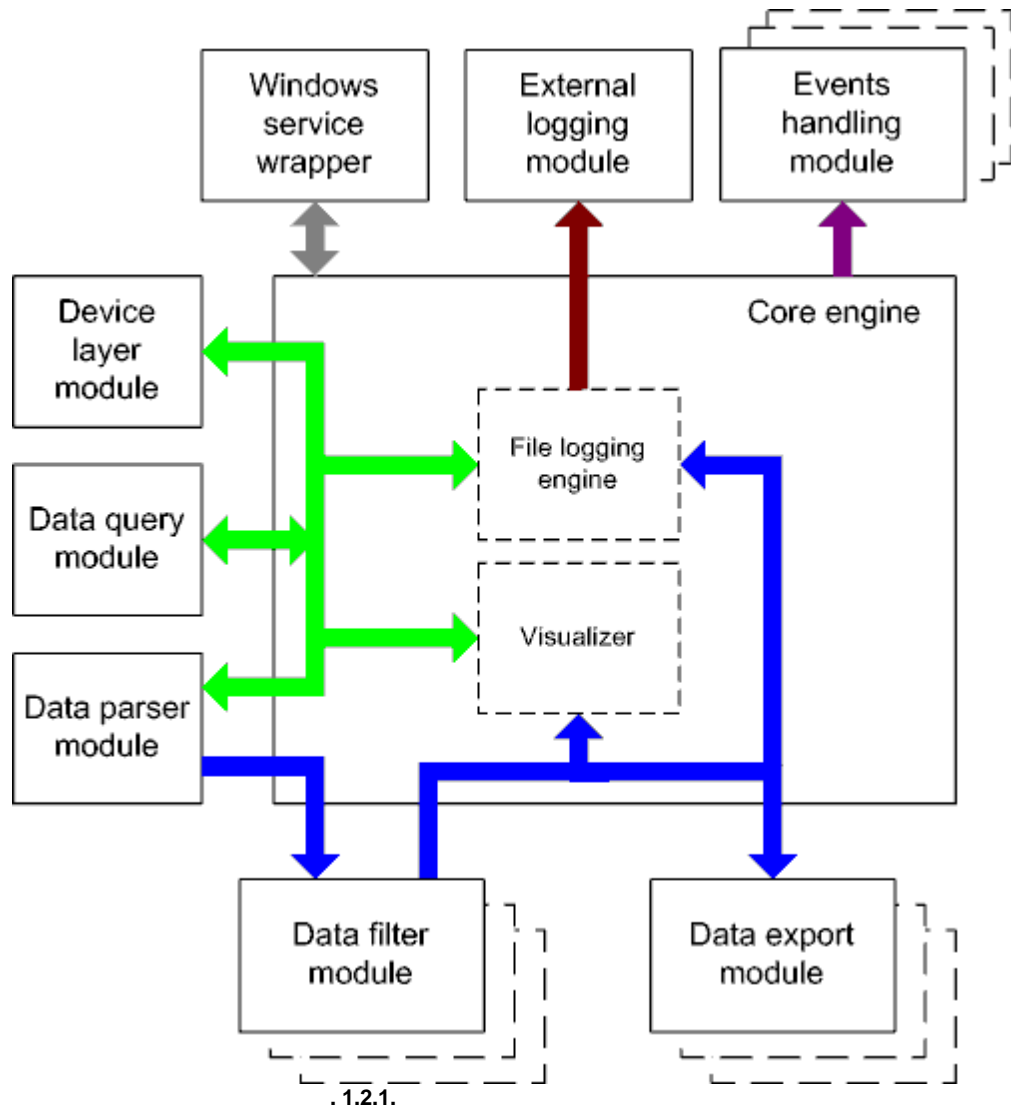
4.2

- RS-232
- RS-485
- COM -

13

- Advanced NMEA Data Logger (NIC), IP
- Advanced NMEA Data Logger IP
- Advanced NMEA Data Logger DHCP, IP
- IP 0.0.0.0.

4.3



- Core engine -

- Device layer module -
- Data query module -
- Data parser module -
- Data filter module -
- Data export module -
- Visualizer -
- File logging engine -
- Windows service wrapper -
- External logging module -
- Events handling module -

4.4

Windows. / COM-

4.5

1.

2.

1.

2.

regedit.exe

Windows x64

HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\AGG Software\Advanced NMEA Data Logger

Windows x32

HKEY_LOCAL_MACHINE\SOFTWARE\AGG Software\Advanced NMEA Data Logger

3.

- Ctrl+S -
- Ctrl+D -
- Ctrl+P -
- Ctrl+L -

Ctrl+R -
Ctrl+E -
Ctrl+M -

Windows;

4.

.. -

5.

INI

6.

10

5

5.1

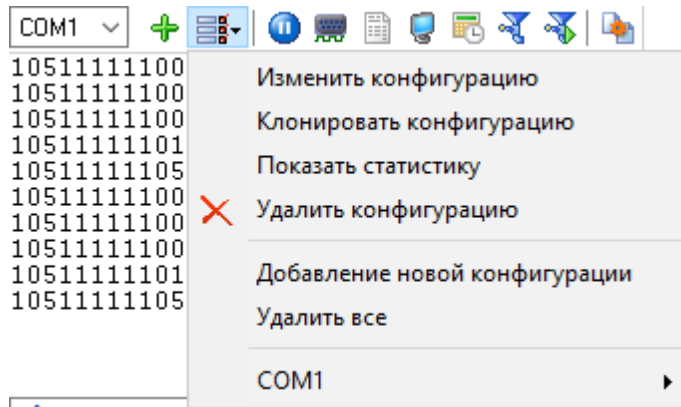
5.1.1

(COM)

(. 1.1.1 | 7)

(. 2.1.2).
COM

(. 2.1.1).



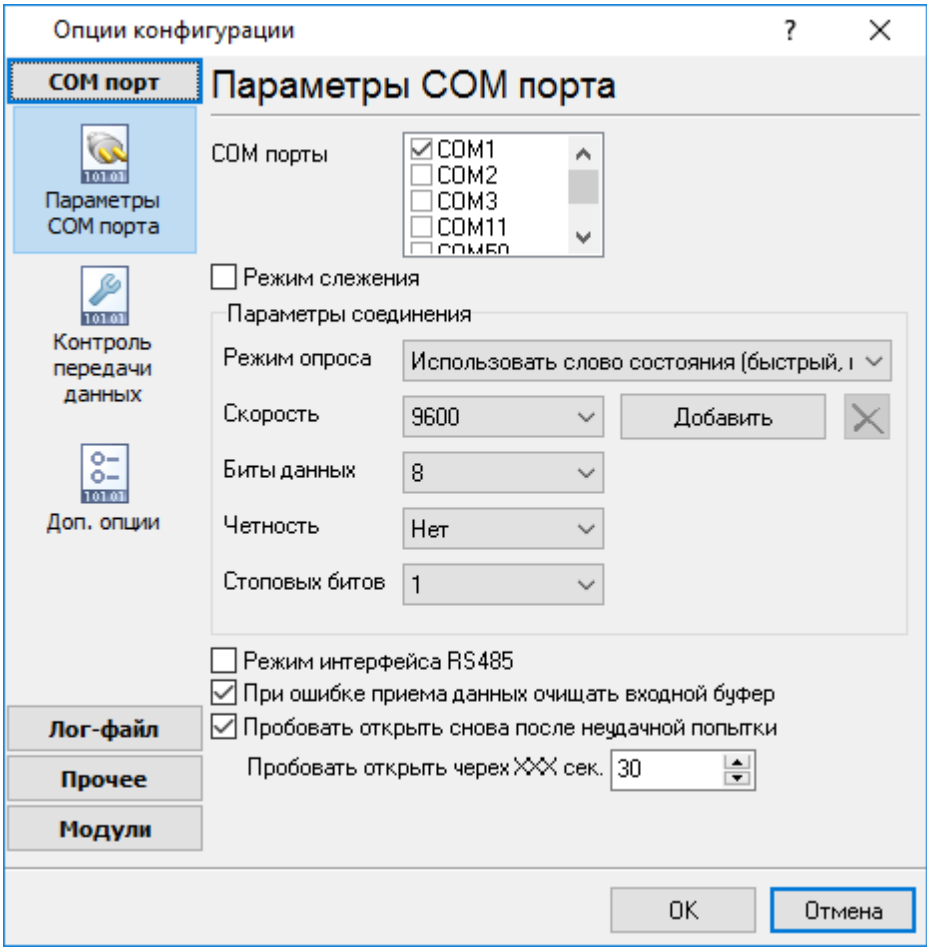
. 2.1.1.

COM-

COM-

COM-

(. 2.1.1).



. 2.1.2. COM-

RS-485

RTS-

API- Windows / : API- Windows.

API,

Windows

API

API - . Advanced NMEA

Data Logger

(WRPI.DRV

Advanced NMEA Data Logger

(2.1.3).

"

"

"

"

RTS" / "

DTR"

(RTS / DTR)

90%

10%

CTS" / "

DSR"

Windows

(CTS / DSR).

RTS CTS
DTR DSR.

"

"

"

"

10 % Xoff " " " " " "

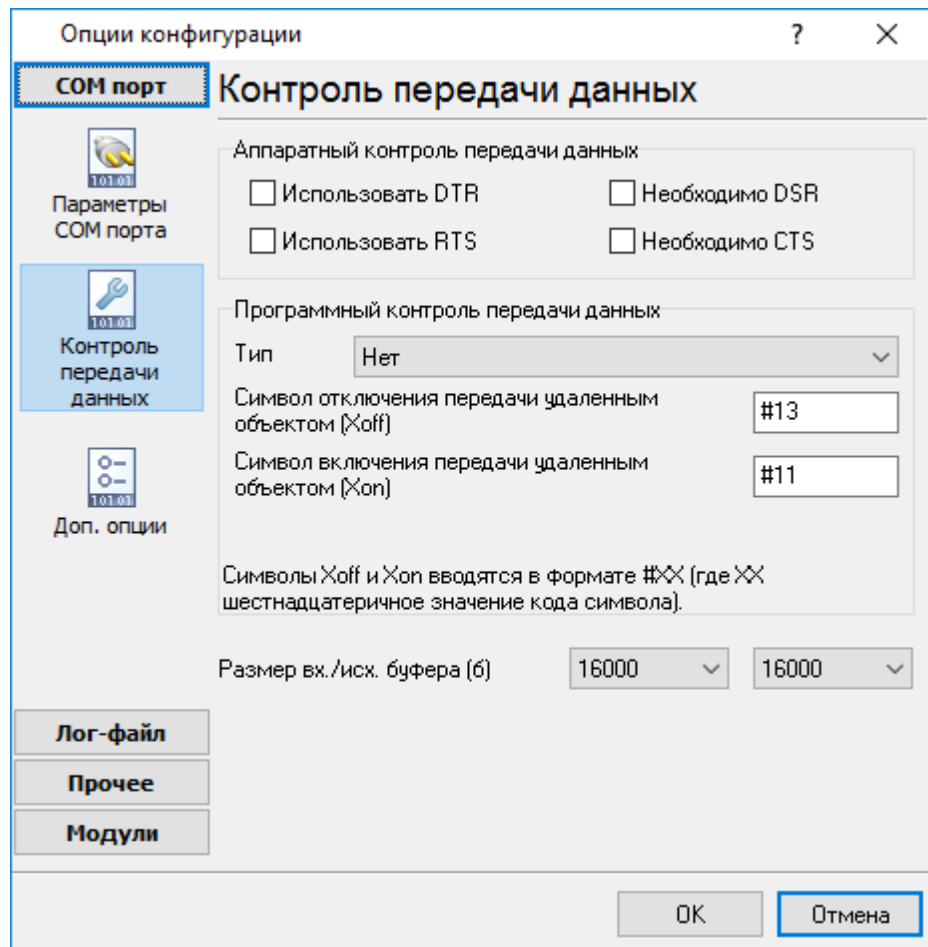
10% Xon.

10% 90% Xoff.

Xon

) (-

0x13 - COM- 0x11



. 2.1.3

/ . COM

Advanced NMEA Data Logger

COM-

COM-

Advanced NMEA Data Logger,
COM-

Advanced NMEA Data Logger.

UDP Instant Messaging, IP.

Advanced NMEA Data Logger

TCP/IP

(TCP/IP) Advanced NMEA Data Logger

1. IP TCP/IP, Advanced NMEA Data Logger (www.yourserver.com) . IP

"Plant1" IP IP "Plant1", IP

Advanced NMEA Data Logger

2. IP ; IP Advanced NMEA Data Logger (NIC), IP Advanced NMEA Data Logger

IP Microsoft Windows, TCP/ IP IP

Advanced NMEA Data Logger "OK" TCP/IP.

NMEA Data Logger IP Advanced

Advanced NMEA Data Logger

([.1.1.1](#) | 77).

([.1.1.1](#) | 77) " " (.2.2.2). IP"

TCP/IP

" " (. 2.2.1).

0.0.0.7777

1051111110026#0
1051111110019#0
1051111110033#0
1051111110123#0
1051111110521#0
1051111110026#0
1051111110019#0
1051111110033#0
1051111110123#0
1051111110521#0

- Изменить конфигурацию
- Клонировать конфигурацию
- Показать статистику
- Удалить конфигурацию
- Добавление новой конфигурации
- Удалить все

0.0.0.7777

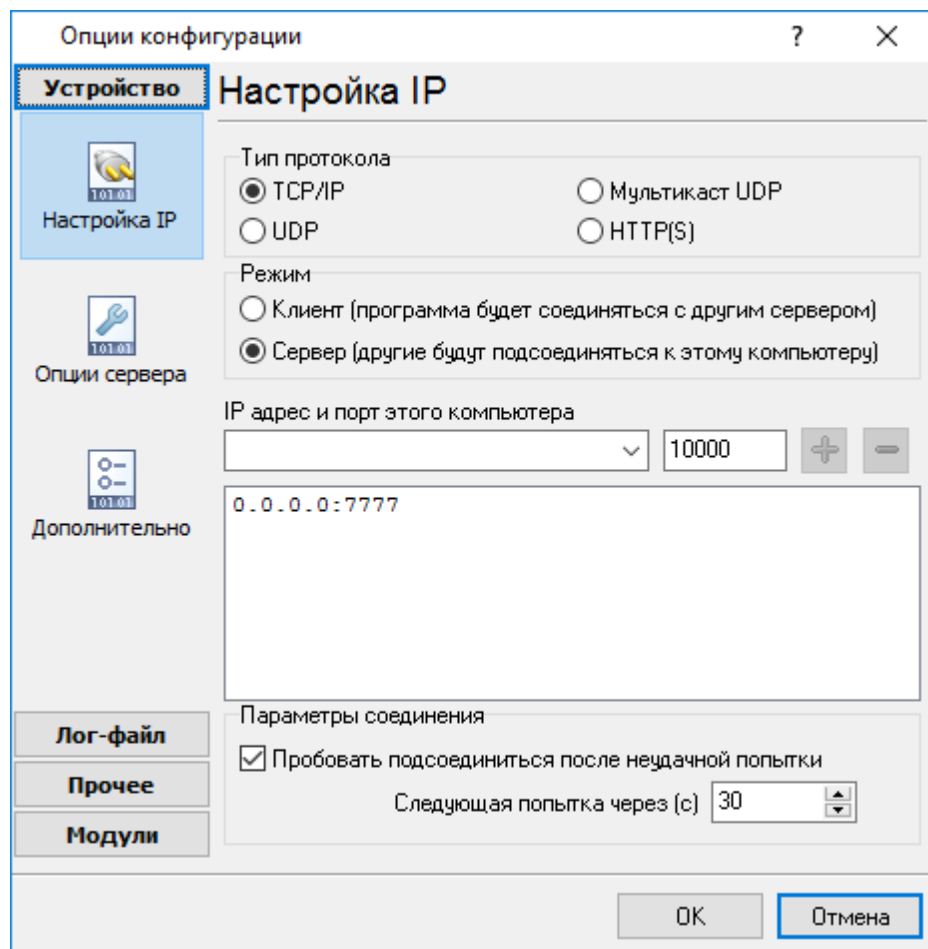
. 2.2.1.

IP: IP

" IP"

" IP"

TCP/



. 2.2.2.

TCP/IP

IP , , , .

SMTP - 25, the telnet - 23, NNTP -

119, . . . ,

SERVICES, Windows (Windows NT

WINNT\SYSTEM32\DRIVERS\ETC). SERVICES - ,

Advanced NMEA Data Logger

(,)

(,) .

IP (socket).

IP
IP
()

()
" Advanced NMEA Data Logger
(c)" N
IP

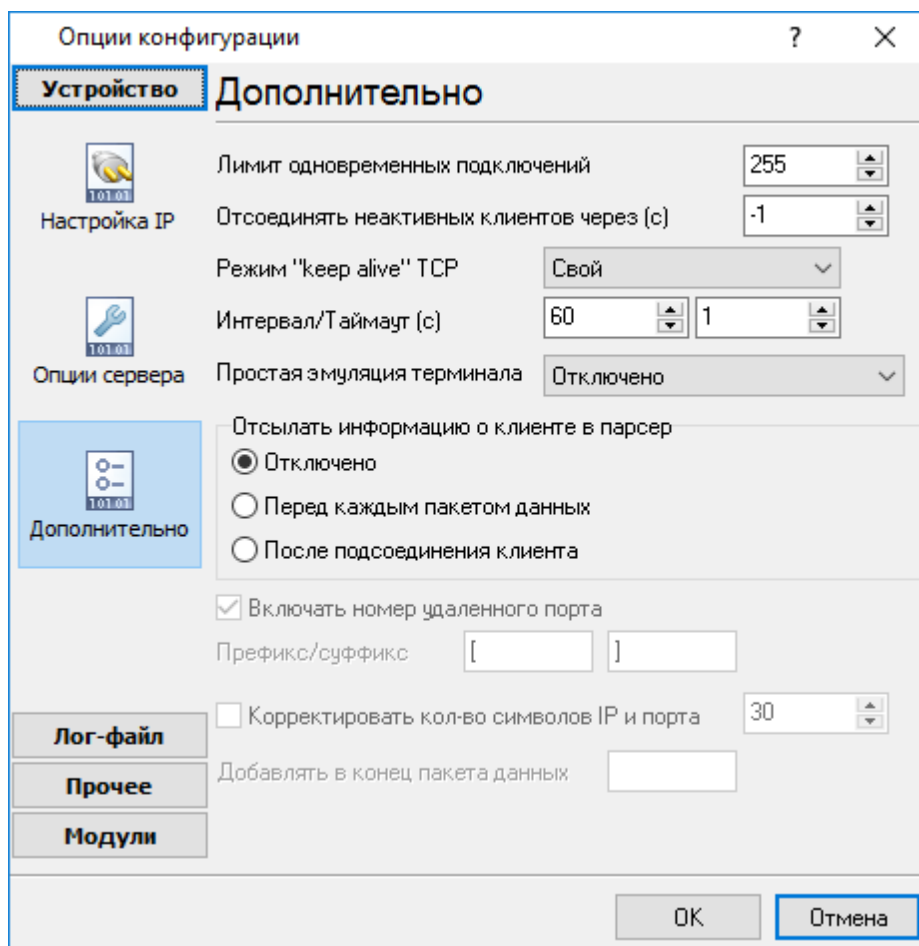
Advanced NMEA Data Logger
IP

(firewall)

Data Logger
Microsoft Windows XP SP2
Windows Firewall, Advanced NMEA
Windows Firewall
(Security Alert).

() -

"-1",



. 2.2.4.

TCP/IP

keep-alive TCP () -

keep-alive,

Windows.

keep-alive

(TCP

UDP):

5.3

5.3.1

3.1.1):

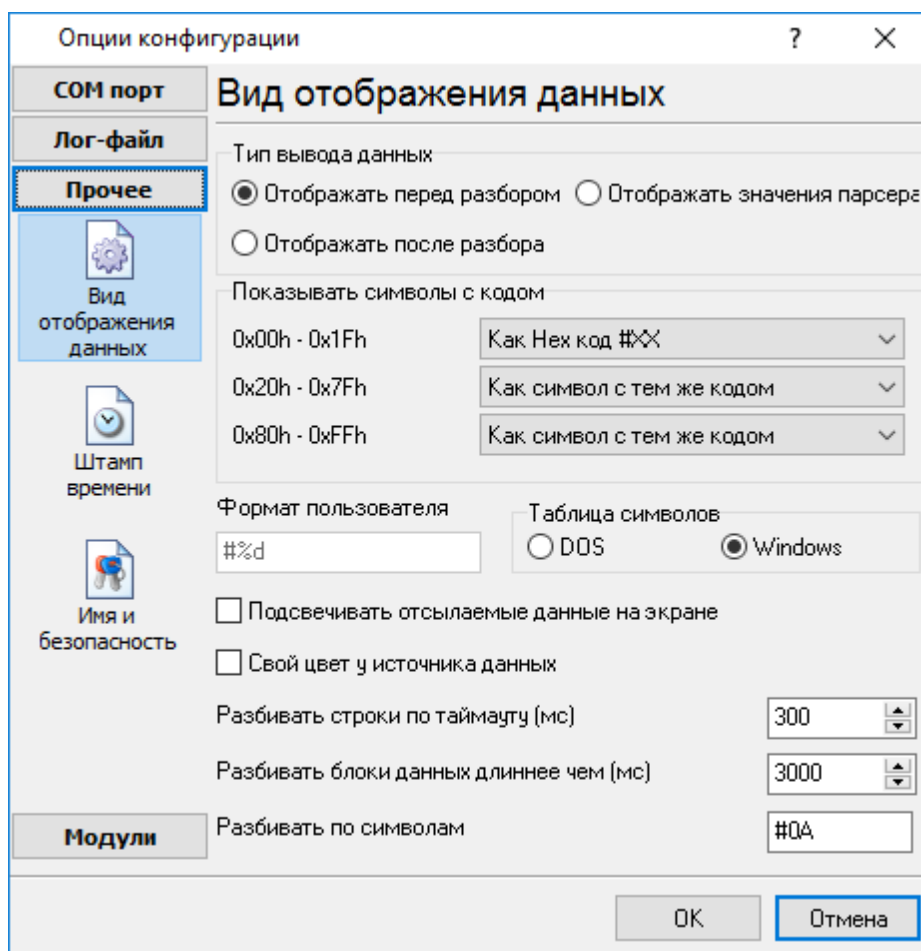
1.

2.

[\(1.1.1.1\)](#) (7)

2

(



. 3.1.1.

" (. 3.1.1)

Hex-

,%d

,%x -

: Windows DOS

(OEM).

0,

0,

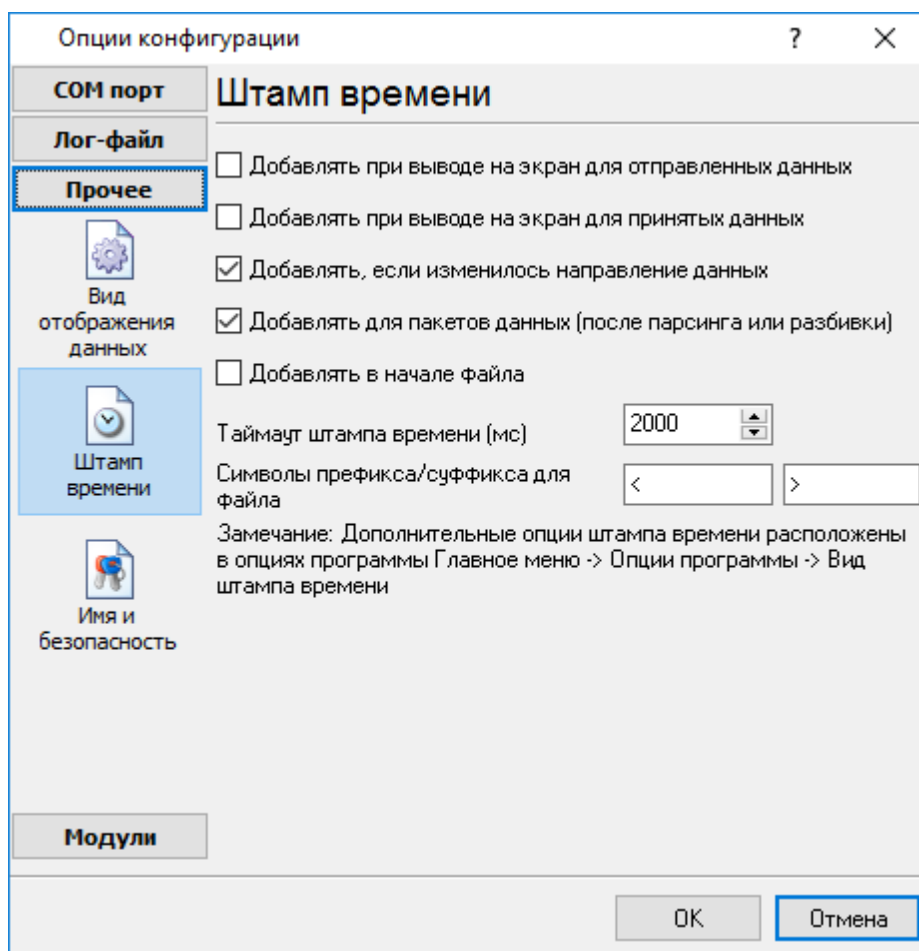
. 3.1.1

5.3.2

(. 3.2.1)

()

 64.



. 3.2.1.

:>#0D#0A

5.3.3

(. 3.3.1) :

-

"

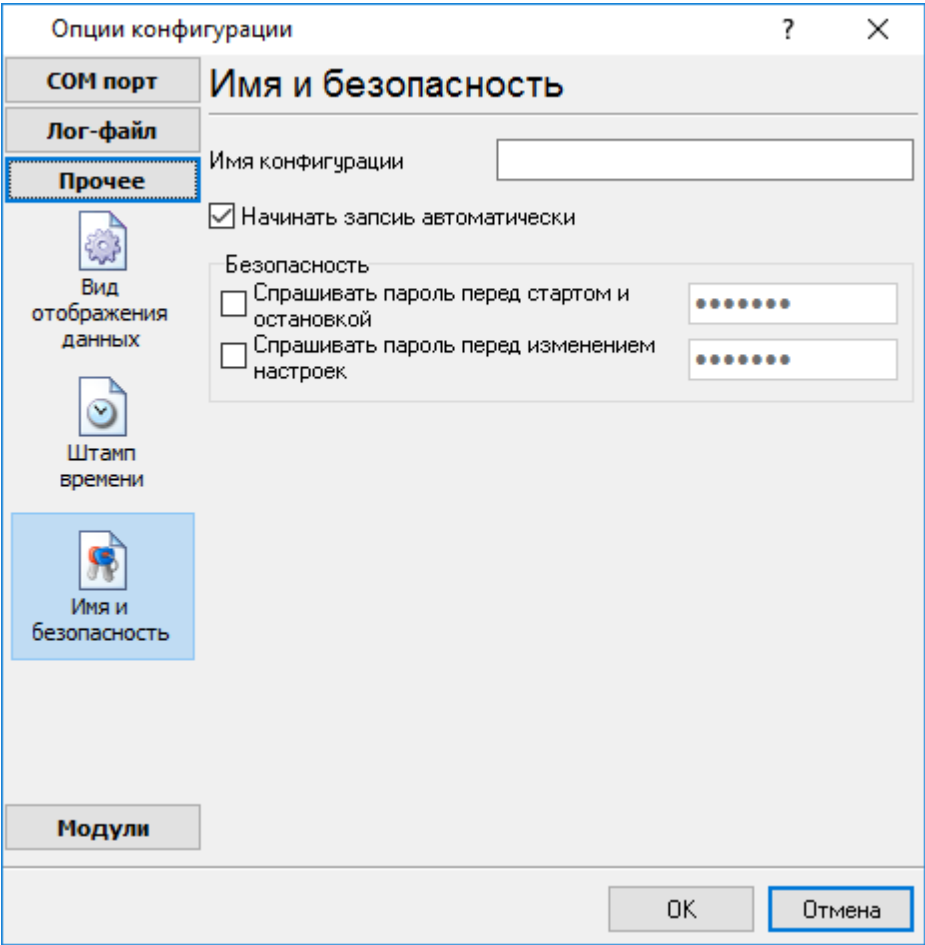
"

70

"

/

"

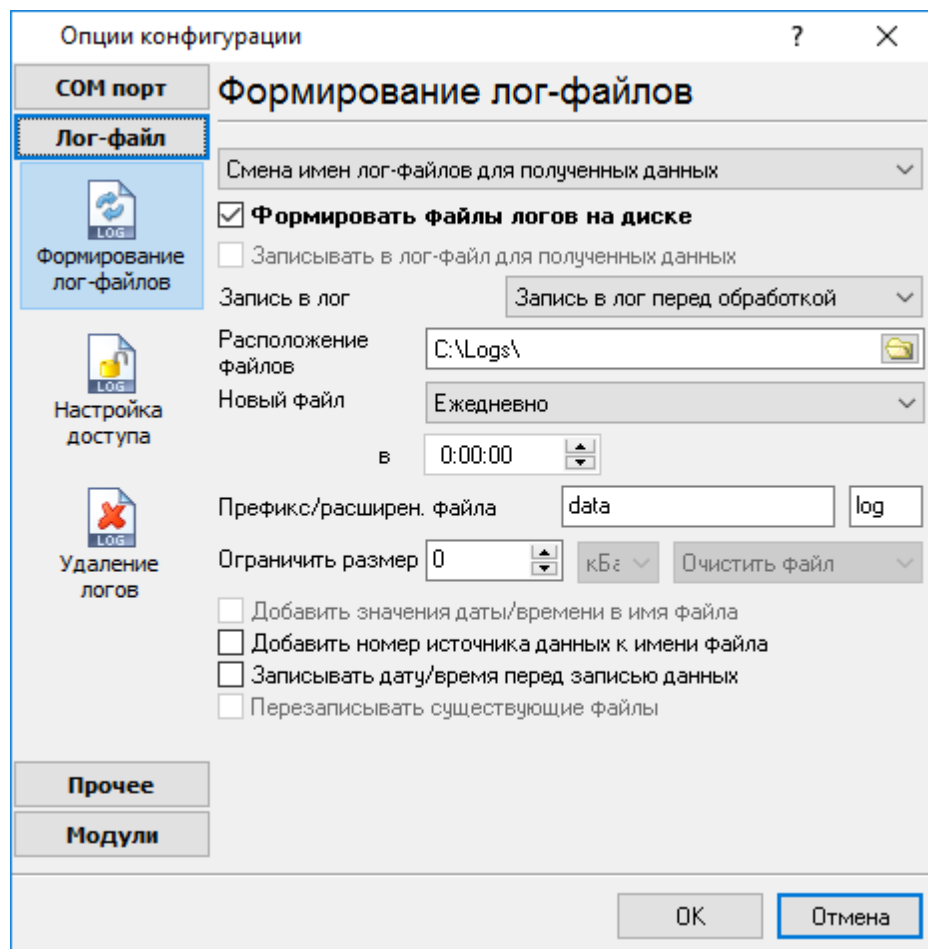


. 3.3.1.

5.4 -

5.4.1 -

(. 4.1.1).



. 4.1.1.

"OK".

Advanced NMEA Data Logger

"sample",

"log ",

"log". 21- " 2003 - "sampleYYYYMMDD.
"sample20030321.log".

().
" " :

1. - , .
DDMMYYYY, DD - , MM -
YYYY - ;
2. - .
MMYYYY;

3. -
YYYYMMDD;

4. -
: sample00000001.log.

5. - ;
6. - .
WWYYYY, WW -

, YYYY -
;

7. - ;
8. - .
HHDDMMYYYY;

9. - -
- -

, .
:

d - , (1 - 31);
dd - , (01 - 31);
ddd - (-) ,

dddd - (-)
;

m - , (1 - 12);
mm - , (01 - 12);
mmm - (-) ,

mmmm - (-) ,
;

yy - (00 - 99);
yyyy - (0000 - 9999);
h - , (0 - 23);

```

hh - , (00 - 23);
n - , (0 - 59);
nn - , (00 - 59);
s - , (0 - 59);
ss - , (00-59).

: "sample_log", "txt".

: = sample_log_, = txt ( !).
HHDDMMYYYY.

4 7 /

, COM1-

sample20030321.log.

/

4 7.

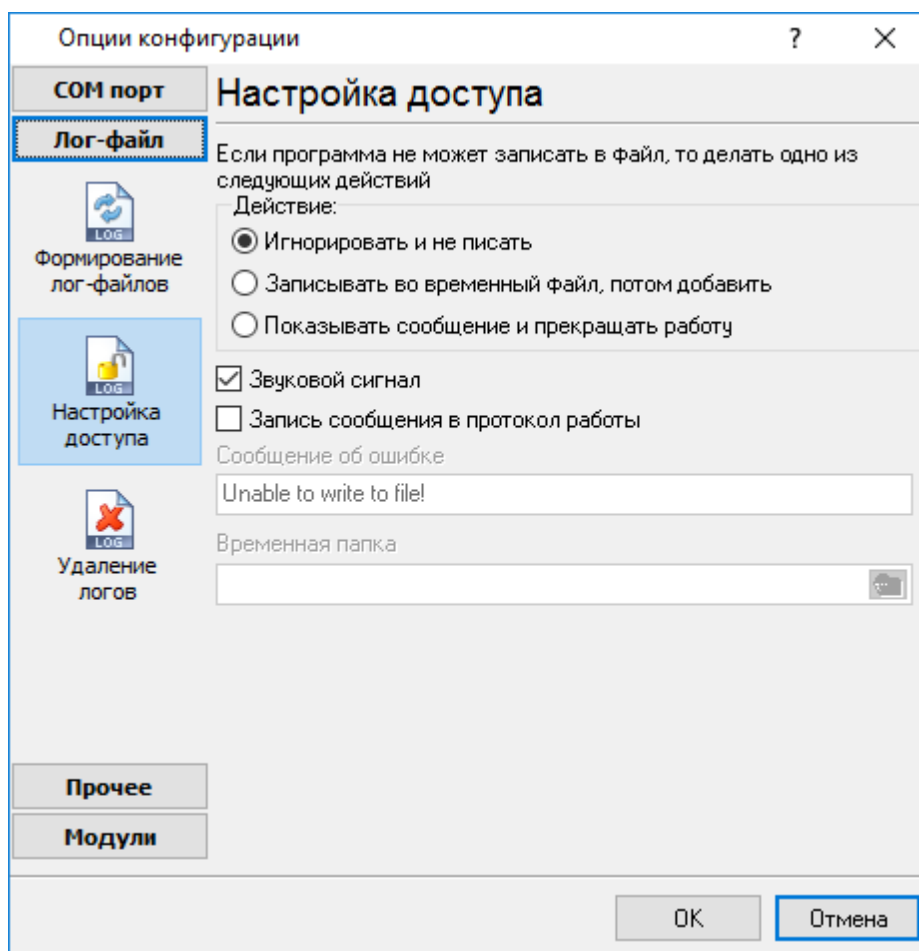
"

1.
2.
3. ( ) -
4. ( ).

```

5.4.2

Microsoft Office (, Microsoft Word),
Advanced NMEA Data Logger



. 4.2.1.

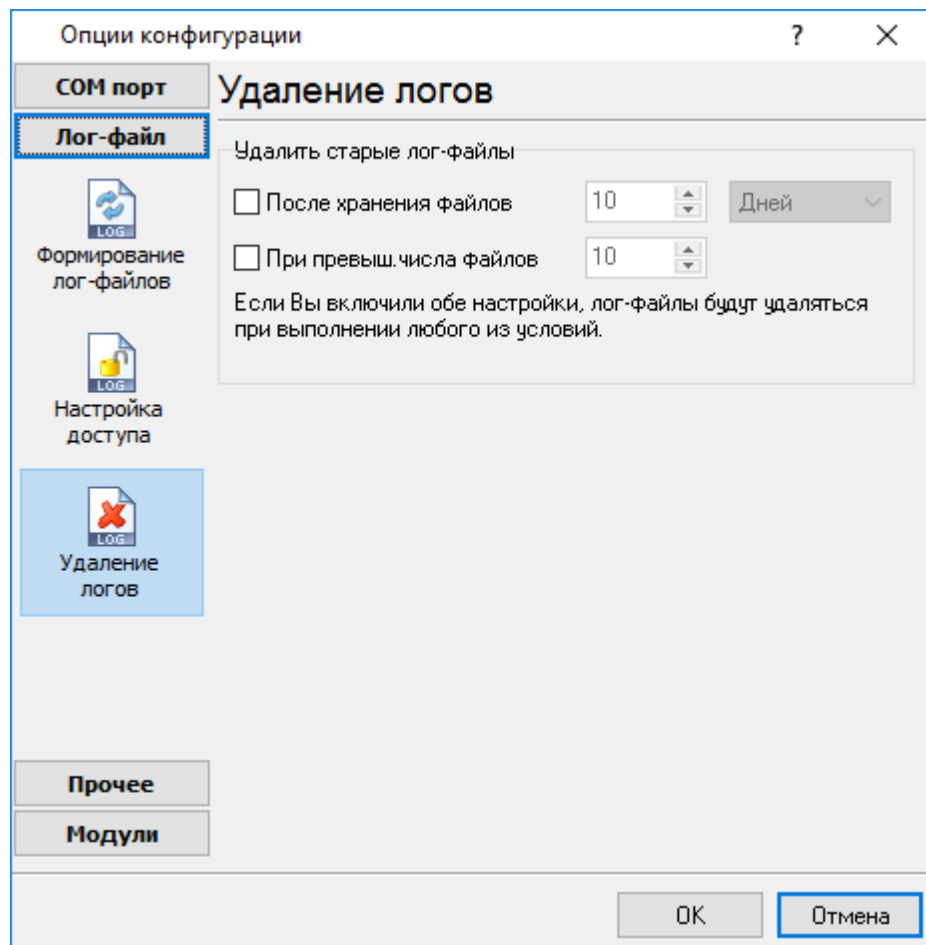
Advanced NMEA Data Logger

(. 4.2.1),

-
-
-

5.4.3

(. 4.3.1).



. 4.3.1.

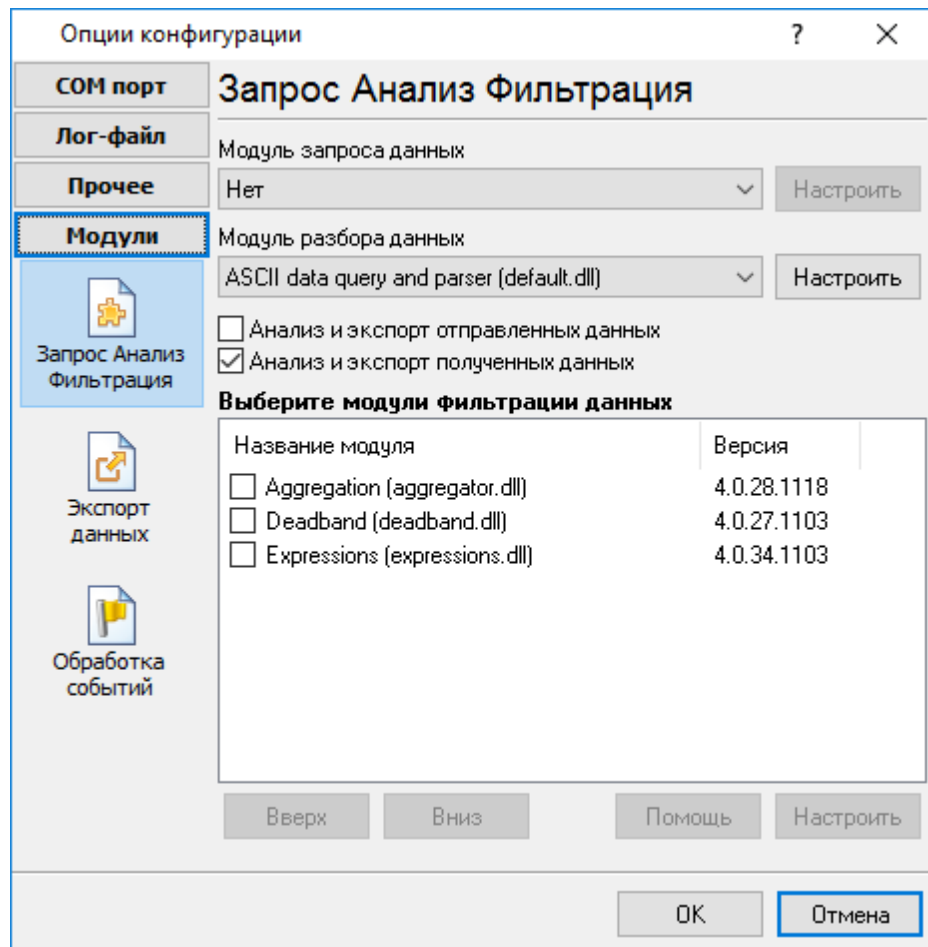
5.5

5.5.1

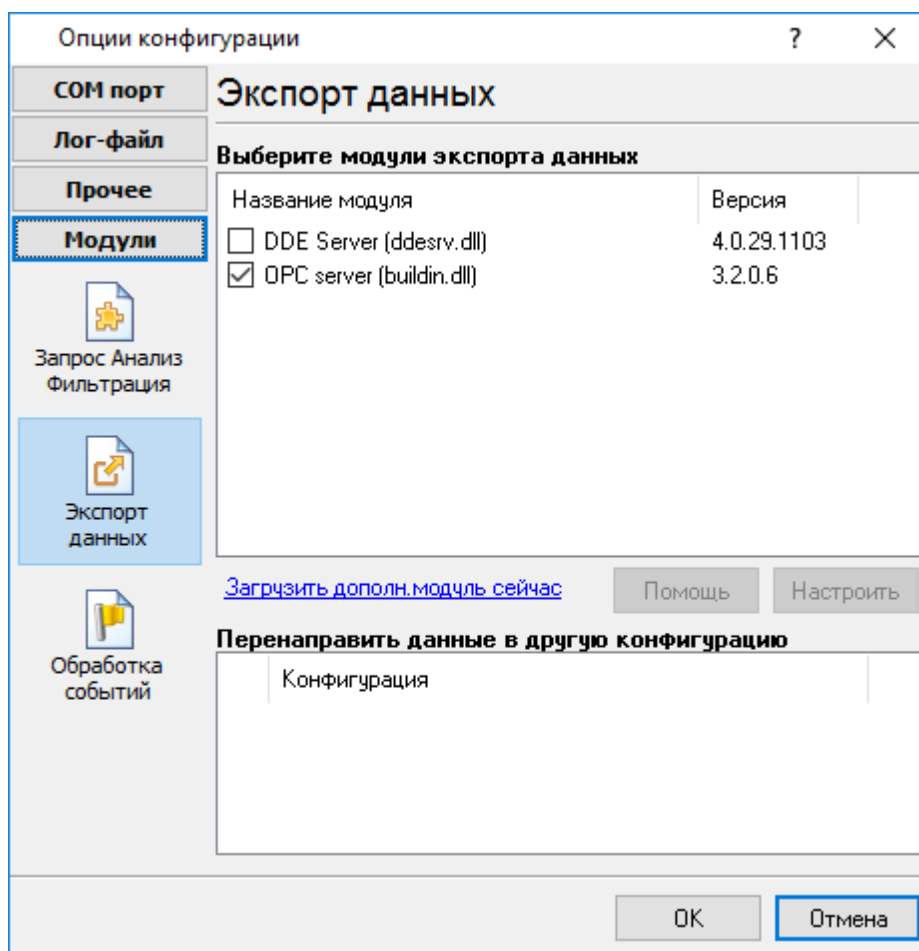
Advanced NMEA Data Logger (. 5.1.1 - 5.1.3).

Advanced NMEA Data Logger :

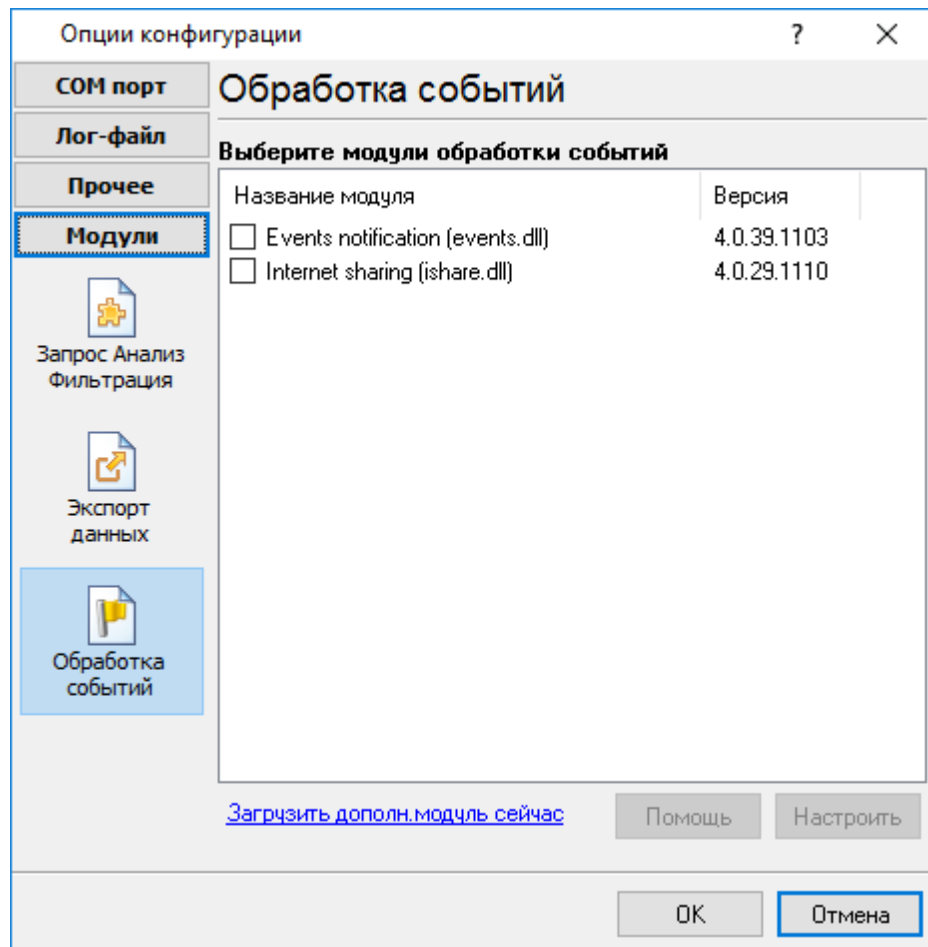
- - ; (, ,) - () , ;
- - ;
- - ;
- - , Excel ;
- (. 5.1.3) - Advanced NMEA Data Logger. , " - " " , "



. 5.1.1.



. 5.1.2.

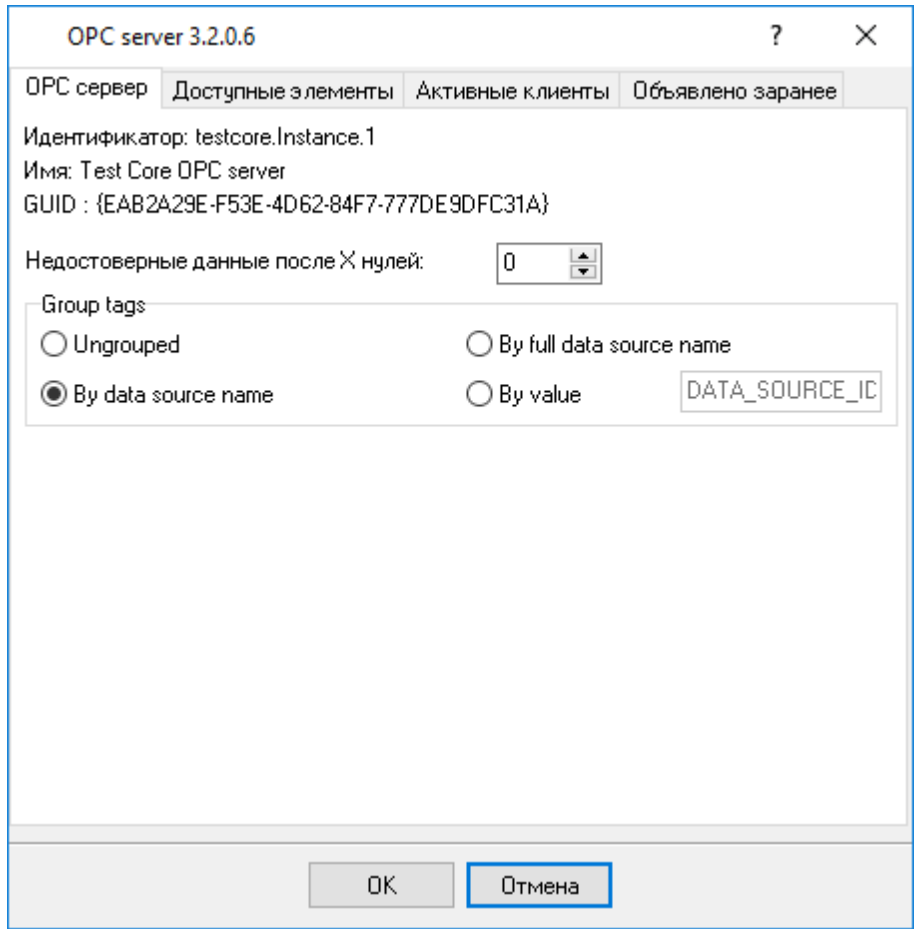


. 5.1.3.

"OK".

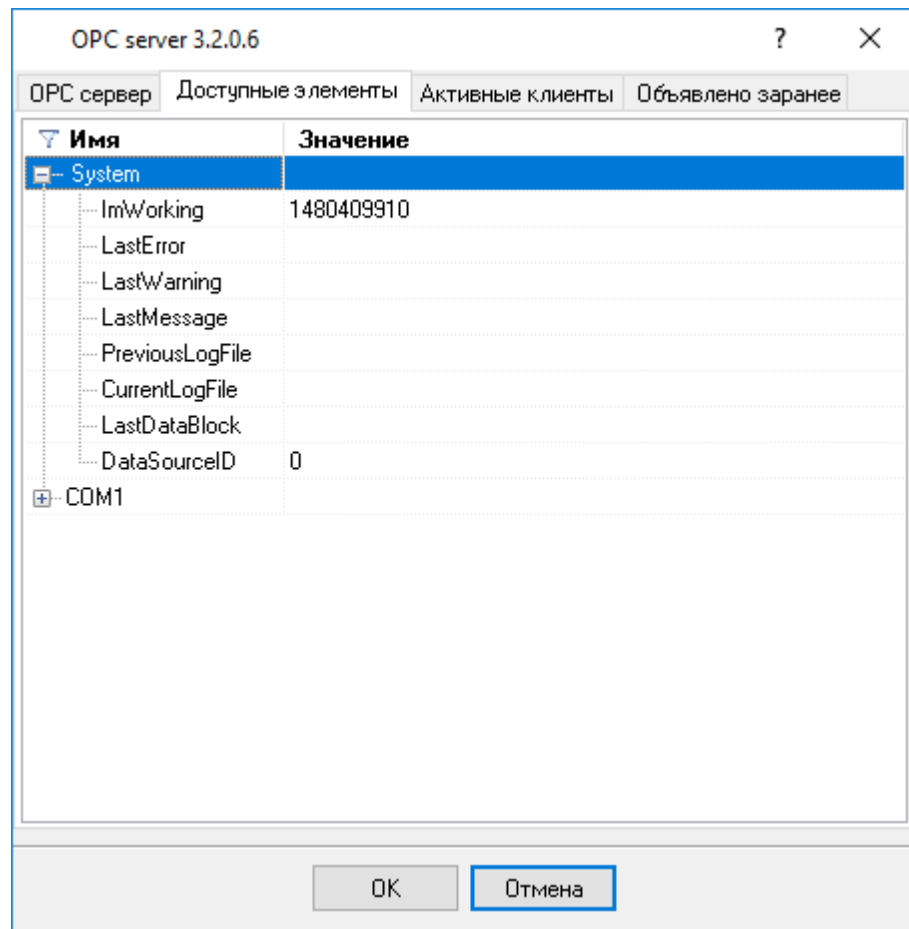
5.5.2 OPC

Advanced NMEA Data Logger OPC, Advanced NMEA
Data Logger OPC
(. 5.2.1).
OPC Core Components Redistributable www.opcfoundation.org (
OPC OPC



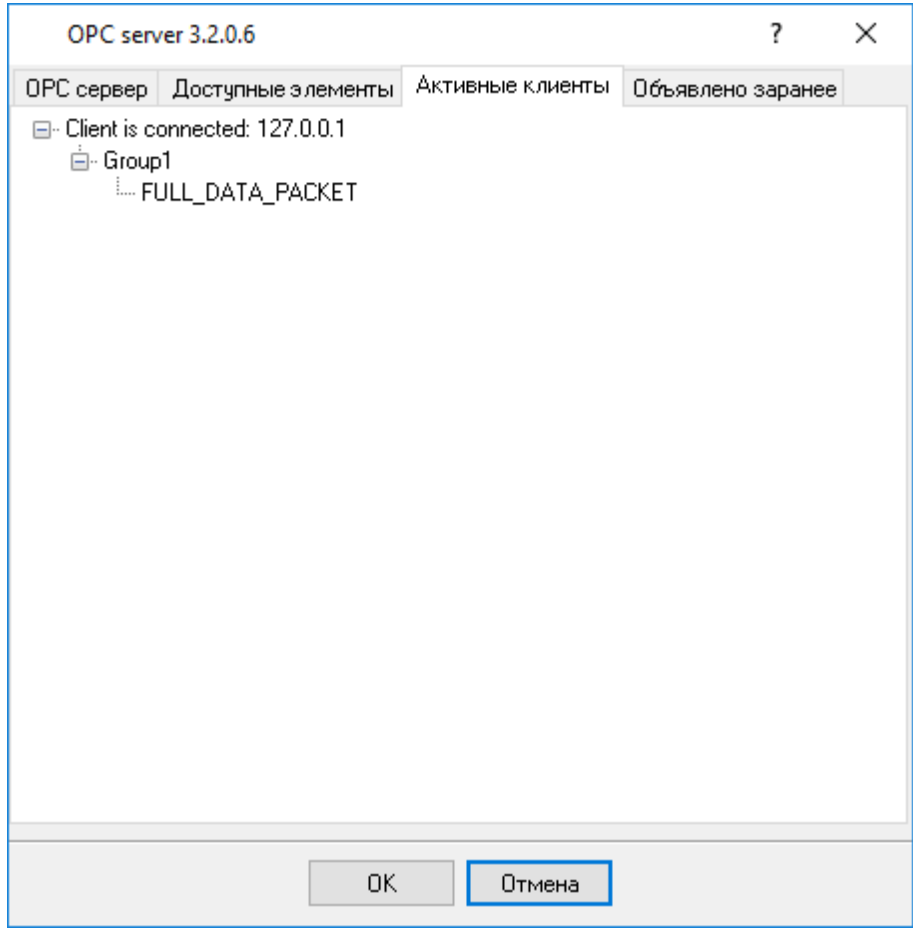
. 5.2.1. OPC

Advanced NMEA Data Logger, OPC (.2). OPC



. 5.2.2.

OPC



. 5.2.3.

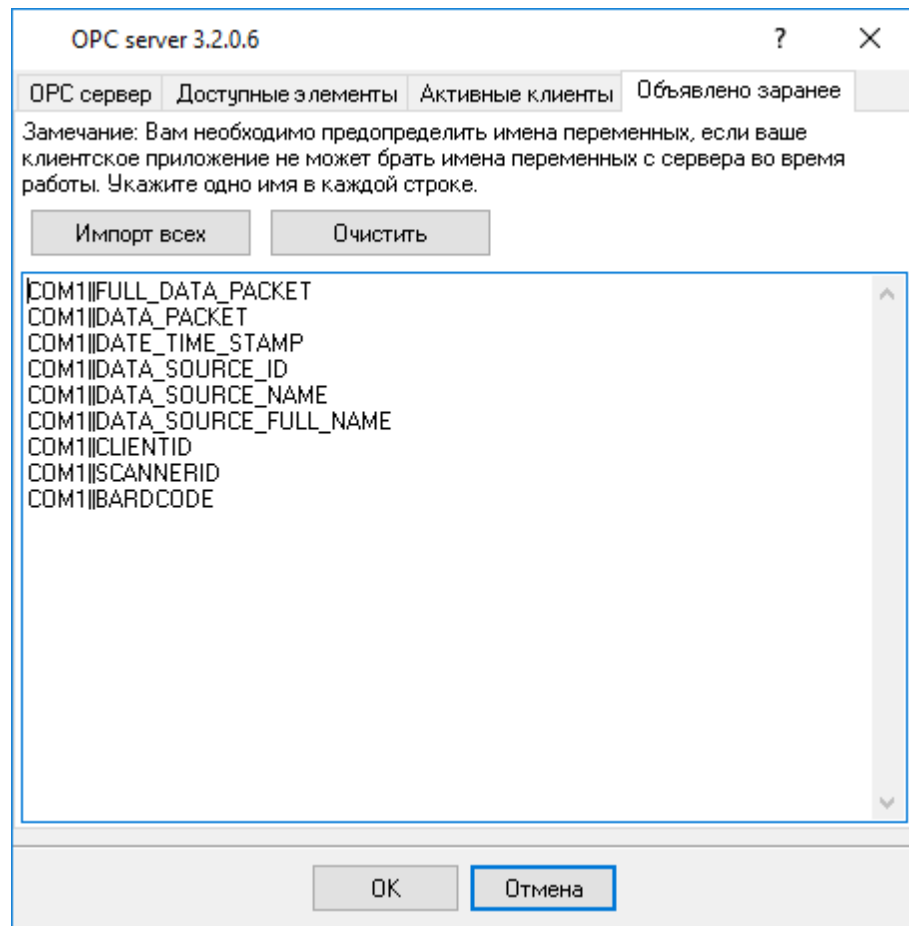
Advanced NMEA Data Logger

" " . Advanced NMEA Data Logger

OPC

(.4).

OPC
OPC



. 5.2.4.

5.5.3

NMEA

5.5.3.1

(NMEA)

NMEA

(

NMEA 0183 talkers () listeners

: 8 (7 = 0), : 1 (), : 4800,

: NMEA 0183

GPS

GPS NMEA NMEA

(sentence),

GPS GP, NMEA
 (proprietary sentences) P,
 3 PGRM Magellan - Garmin
 PMGN.
 '\$' CRLF (/).
 ASCII
 3 4

5.5.3.2

5.5.3.2.1

(talkers)

AG - Autopilot - General
 AP - Autopilot - Magnetic
 CD - Communications – Digital Selective Calling (DSC)
 CR - Communications – Receiver / Beacon Receiver
 CS - Communications – Satellite
 CT - Communications – Radio-Telephone (MF/HF)
 CV - Communications – Radio-Telephone (VHF)
 CX - Communications – Scanning Receiver
 DF - Direction Finder
 EC - Electronic Chart Display & Information System (ECDIS)
 EP - Emergency Position Indicating Beacon (EPIRB)
 ER - Engine Room Monitoring Systems
 GP - Global Positioning System (GPS)
 HC - Heading – Magnetic Compass
 HE - Heading – North Seeking Gyro
 HN - Heading – Non North Seeking Gyro
 II - Integrated Instrumentation
 IN - Integrated Navigation
 LC - Loran C

P - Proprietary Code
RA - RADAR and/or ARPA
SD - Sounder, Depth
SN - Electronic Positioning System, other/general
SS - Sounder, Scanning
TI - Turn Rate Indicator
VD - Velocity Sensor, Doppler, other/general
DM - Velocity Sensor, Speed Log, Water, Magnetic
VW - Velocity Sensor, Speed Log, Water, Mechanical
WI - Weather Instruments
YX - Transducer
ZA - Timekeeper – Atomic Clock
ZC - Timekeeper – Chronometer
ZQ - Timekeeper – Quartz
ZV - Timekeeper – Radio Update, WWV or WWVH

5.5.3.2.2

(sentences)

:
NMEA. ,

AAM - Waypoint arrival alarm

AAM_ARIV_ENT - Arrival circle entered
AAM_PERP_PASS - Perpendicular passed
AAM_CIRCLE_RAD - Circle radius
AAM_CIRCLE_RAD_UNIT - Circle radius units
AAM_WPTNAME - Waypoint name

ALM - GPS Almanac data

ALM_SENT_NUM - Number of sentences
ALM_SENT_CNT - Sentence count
ALM_PRN_ID - Satellite PRN number
ALM_WEEK_NO - GPS week number
ALM_SV_HEALTH - SV health
ALM_ECCENTRICITY - Eccentricity
ALM_REF_TIME - Almanac reference time
ALM_INC_ANGLE - Inclination angle
ALM_RA_RATE - Rate of right ascension
ALM_AXIS_ROOT - Root of semi-major axis
ALM_PREGREE_ARG - Argument of perigee
ALM_NODE_LONG - Longitude of ascension node
ALM_MEAN_ANN - Mean anomaly
ALM_F0_CLOCK - F0 clock parameter
ALM_F1_CLOCK - F1 clock parameter

APA - Auto pilot A sentence

APA_STATUS1 - Loran-C blink/SNR warning, general warning
APA_STATUS2 - Loran-C cycle warning
APA_CROSS_TRACK_RAD - Cross-track error distance
APA_STEER - Steer to correct
APA_CROSS_TRACK_RAD_UNIT - Cross-track error units
APA_ARIV_ALRM_C - Arrival alarm - circle
APA_ARIV_ALRM_P - Arrival alarm - perpendicular

APA_MAG_BEAR_OD - Magnetic bearing, origin to destination
APA_MAG_BEAR_OD_UNIT - Magnetic bearing unit
APA_DEST_WPTID - Destination waypoint ID

APB - Auto pilot B sentence
APB_STATUS1 - Loran-C blink/SNR warning, general warning
APB_STATUS2 - Loran-C cycle warning
APB_CROSS_TRACK_RAD - Cross-track error distance
APB_STEER - Steer to correct
APB_CROSS_TRACK_RAD_UNIT - Cross-track error units
APB_ARIV_ALRM_C - Arrival alarm - circle
APB_ARIV_ALRM_P - Arrival alarm - perpendicular
APB_MAG_BEAR_OD - Magnetic bearing, origin to destination
APB_MAG_BEAR_OD_UNIT - Magnetic bearing unit
APB_DEST_WPTID - Destination waypoint ID
APB_MAG_BEAR_PD - Magnetic bearing, present position to destination
APB_MAG_BEAR_PD_UNIT - Magnetic bearing unit
APB_MAG_BEAR_HS - Magnetic heading to steer
APB_MAG_BEAR_HS_UNIT - Magnetic heading unit

BEC - Bearing and distance to waypoint – dead reckoning
BEC.UTC - UTC time of fix
BEC_WPT_LAT - Latitude of waypoint
BEC_WPT_LAT_H - Latitude hemisphere
BEC_WPT_LONG - Longitude of waypoint
BEC_WPT_LONG_H - Longitude hemisphere
BEC_BEARING - Bearing to waypoint
BEC_BEAR_TYPE - Bearing to waypoint type
BEC_DIST - Distance to waypoint
BEC_DIST_UNIT - Distance to waypoint units
BEC_WPTID - Waypoint ID

BOD - Bearing origin to destination
BOD_BEARING - Bearing from START to DEST, degrees
BOD_BEAR_TYPE - Bearing from START to DEST type
BOD_DEST_WPTID - Destination waypoint ID
BOD_ORIG_WPTID - Origin waypoint ID

BWC - Bearing using great circle route
BWC_DEPTH - Depth
BWC_DEPTH_UNIT - Depth unit

DBS - Depth below surface
DBS_DEPTH - Depth, meters
DBS_OFFSET - Offset from transducer

FSI - Frequency set information
FSI_TX_FREQ - Transmitting frequency
FSI_RX_FREQ - Receiving frequency
FSI_COMM_MODE - Communications mode
FSI_POWER_LEVEL - Power Level

GGA - GPS fix data
GGA_TAKEN_AT - Fix taken at
GGA_LATITUDE_DEG - Latitude
GGA_LATITUDE_DEG_H - Latitude hemisphere
GGA_LONGITUDE_DEG - Longitude
GGA_LONGITUDE_DEG_H - Longitude hemisphere
GGA_QUALITY - Fix quality

- GGA_SAT_NUM** - Number of satellites being tracked
- GGA_HOR_DIL** - Horizontal dilution of position
- GGA_ALTITUDE** - Altitude above mean sea level
- GGA_ALTITUDE_UNIT** - Altitude units
- GGA_HEIGHT_OF_GEOID** - Height of geoid (mean sea level) above WGS84 ellipsoid
- GGA_HEIGHT_OF_GEOID_UNIT** - Height of geoid units
- GGA_TIME_SNC_DGPS** - Time in seconds since last DGPS update
- GGA_DGPS_ID** - DGPS station ID number
- GLC** - Geographic position, Loran-C
 - GLC_GRI_MS** - GRI Microseconds
 - GLC_TOA_MS** - Master TOA microseconds
 - GLC_TOA_STATUS** - Master TOA signal status
 - GLC_TIME_DIFF_MS** - Time difference in microseconds
 - GLC_TIME_DIFF_STATUS** - Time difference signal status
- GLL** - Geographic position, lat/lon data
 - GLL_LATITUDE_DEG** - Latitude
 - GLL_LATITUDE_DEG_H** - Latitude hemisphere
 - GLL_LONGITUDE_DEG** - Longitude
 - GLL_LONGITUDE_DEG_H** - Longitude hemisphere
 - GLL_TAKEN_AT** - Fix taken at
 - GLL_STATUS** - Status
- GSA** - Overall satellite data
 - GSA_AUTO_SEL** - Auto selection of 2D or 3D fix
 - GSA_3D_FIX** - 3D fix
 - GSA_SAT_PRN** - Sat used for fix
 - GSA_PDOP** - Dilution of precision
 - GSA_HDOP** - Horizontal dilution of precision
 - GSA_VDOP** - Vertical dilution of precision
- GSV** - Detailed satellite data
 - GSV_SENT_NUM** - Number of sentences
 - GSV_SENT_CNT** - Sentence count
 - GSV_SAT_IN_VIEW** - Number of satellites in view
 - GSV_SAT_PRN** - Satellite PRN number
 - GSV_ELEVATION** - Elevation, degrees
 - GSV_AZIMUTH** - Azimuth, degrees
 - GSV_SNR** - SNR - higher is better
- GTD** - Geographic location in time differences
 - GTD_TIME_DIFF** - Time difference
- HDG** - Heading, deviation and variation
 - HDG_MAG_HEAD** - Magnetic sensor heading in degrees
 - HDG_MAG_DEV** - Magnetic deviation in degrees
 - HDG_MAG_DEV_DIR** - Magnetic deviation direction
 - HDG_MAG_VAR** - Magnetic variation in degrees
 - HDG_MAG_VAR_DIR** - Magnetic variation direction
- HDM** - Heading, magnetic
 - HDM_HEADING** - Heading in degrees
 - HDM_HEADING_UNIT** - Heading unit
- HDT** - Heading, true
 - HDT_HEADING** - Heading in degrees
 - HDT_HEADING_UNIT** - Heading unit
- LCD** - Loran-C signal data
 - LCD_GRI_MS** - GRI Microseconds

LCD_MR_SNR - Master relative SNR
LCD_MR_ECD - Master relative ECD
LCD_TIME_DIFF_MS - Time difference in microseconds
LCD_TIME_DIFF_STATUS - Time difference signal status

MSK - Send control for a beacon receiver
MSK_FREQ - Frequency
MSK_FREQ_MODE - Frequency mode
MSK_BITRATE - Bitrate
MSK_BITRATE_MODE - Bitrate mode
MSK_FREQ_STATUS - Frequency for MSS message status

MSS - Beacon receiver status information
MSS_SIGNAL_S - Signal strength in dB
MSS_SIGNAL_N - Signal to noise ratio in dB
MSS_BEACON_FREQ - Beacon frequency in KHz
MSS_BEACON_BITRATE - Beacon bitrate in bps

MTW - Water temperature
MTW_DEGREES - Degrees
MTW_DEGREES_UNIT - Unit of measurement

MWV - Wind speed and angle
MWV_ANGLE - Wind angle
MWV_REF - Reference
MWV_SPEED - Wind speed
MWV_SPEED_UNIT - Wind speed unit
MWV_STATUS - Status

OSD - Own ship data
OSD_HEADING - Heading true, degrees
OSD_STATUS - Status
OSD_VESSEL - Vessel course true, degrees
OSD_VESSEL_REF - Course reference
OSD_VESSEL_SPEED - Vessel speed
OSD_SPEED_REF - Speed reference
OSD_VESSEL_SET - Vessel set true, degrees
OSD_VESSEL_DRIFT - Vessel drift true, degrees
OSD_VESSEL_DRIFT_UNIT - Vessel drift unit

ROO - Waypoints in active route
ROO_WPT_ID - Waypoint identifier

RMA - Recommended minimum navigation information
RMA_STATUS - Status
RMA_LATITUDE_DEG - Latitude
RMA_LATITUDE_DEG_H - Latitude hemisphere
RMA_LONGITUDE_DEG - Longitude
RMA_LONGITUDE_DEG_H - Longitude hemisphere
RMA_TIME_DIFF_A - Time difference A
RMA_TIME_DIFF_B - Time difference B
RMA_SPEED - Speed over the ground in knots
RMA_TRACK_ANGLE - Track angle in degrees
RMA_MAGN_VAR - Magnetic variation
RMA_MAGN_VAR_H - Magnetic variation hemisphere

RMB - Recommended minimum navigation information
RMB_STATUS - Status
RMB_CROSS_TRACK_ERR - Cross-track error
RMB_CROSS_TRACK_ERR_DIR - Cross-track error steer

RMB_ORIG_WPTID - Origin waypoint ID
RMB_DEST_WPTID - Destination waypoint ID
RMB_WPT_LAT - Latitude of destination waypoint
RMB_WPT_LAT_H - Latitude hemisphere
RMB_WPT_LONG - Longitude of destination waypoint
RMB_WPT_LONG_H - Longitude hemisphere
RMB_RANGE - Range to destination, nautical miles
RMB_BEAR - True bearing to destination
RMB_VELOCITY - Velocity towards destination, knots
RMB_ARIV_ALARM - Arrival alarm

RMC - Recommended minimum navigation information
RMC_TAKEN_AT - Fix taken at
RMC_STATUS - Status
RMC_LATITUDE_DEG - Latitude
RMC_LATITUDE_DEG_H - Latitude hemisphere
RMC_LONGITUDE_DEG - Longitude
RMC_LONGITUDE_DEG_H - Longitude hemisphere
RMC_SPEED - Speed over the ground in knots
RMC_TRACK_ANGLE - Track angle in degrees
RMC_DATE - Date
RMC_MAGN_VAR - Magnetic variation
RMC_MAGN_VAR_H - Magnetic variation hemisphere

ROT - Rate of turn
ROT_RATE_OF_TURN - Rate of turn, degrees per minute
ROT_STATUS - Status

RPM - Revolutions
RPM_SOURCE - Source
RPM_NUM - Engine or shaft number
RPM_SPEED - Speed, revolutions per minute
RPM_PITCH - Propeller pitch, % of maximum
RPM_STATUS - Status

RSA - Rudder sensor angle
RSA_SR_SENSOR - Starboard (or single) rudder sensor
RSA_STATUS - Starboard rudder sensor status
RSA_PR_SENSOR - Port rudder sensor
RSA_STATUS - Port rudder sensor status

RSD - Radar system data
RSD_CURSOR_RANGE - Cursor range from own ship
RSD_CURSOR_BEARING - Cursor bearing CW from zero, degrees
RSD_RANGE_SCALE - Range scale
RSD_RANGE_UNIT - Range units

RTE - Route message
RTE_SENT_NUM - Number of sentences
RTE_SENT_CNT - Sentence count
RTE_TYPE - Type
RTE_TYPE_NAME - Type name
RTE_ID - Route identifier
RTE_WPT_ID - Waypoint identifier

SFI - Scanning frequency information
SFI_SENT_NUM - Number of sentences
SFI_SENT_CNT - Sentence count
SFI_FREQ - Frequency

SFI_MODE - Mode

STN - Multiple data ID

STN_ID - Talker ID number

TTM - Tracked target message

TTM_TARGET_NUM - Target number

TTM_TARGET_DIST - Target distance

TTM_BEARING - Bearing from own ship

TTM_BEAR_TYPE - Bearing units

TTM_TARGET_SPEED - Target speed

TTM_TARGET_COURSE - Target course

TTM_COURSE_UNIT - Course units

TTM_DIST_CPA - Distance of closest-point-of-approach

TTM_TIME_CPA - Time until closest-point-of-approach '-' means increasing

TTM_SIGN - '-' means increasing

TTM_TARGET_NAME - Target name

TTM_TARGET_STATUS - Target status

TTM_REF_TARGET - Reference target

VBW - Dual ground/water speed

VBW_WATER_LONG_SPEED - Longitudinal water speed

VBW_WATER_TRAV_SPEED - Transverse water speed

VBW_WATER_STATUS - Water speed status

VBW_GROUND_LONG_SPEED - Longitudinal ground speed

VBW_GROUND_TRAV_SPEED - Transverse ground speed

VBW_GROUND_STATUS - Ground speed status

VDR - Set and drift

VDR_DEGRESS - Degress

VDR_DEGRESS_TYPE - Degress type

VDR_SPEED - Speed

VDR_SPEED_UNIT - Speed units

VHW - Water speed and heading

VHW_DEGRESS - Degress

VHW_DEGRESS_TYPE - Degress type

VHW_SPEED - Speed

VHW_SPEED_UNIT - Speed units

VLW - Distance traveled through water

VLW_TOTAL - Total cumulative distance

VLW_TOTAL_UNIT - Total cumulative distance unit

VLW_RESET - Distance since Reset

VLW_RESET_UNIT - Distance since Reset unit

VPW - Speed, measured parallel to wind

VPW_SPEED - Speed

VPW_SPEED_UNIT - Speed units

VTG - Vector track an speed over the ground

VTG_MAG_TRACK - Track made

VTG_MAG_TRACK_TYPE - Track made type

VTG_SPEED - Ground speed

VTG_SPEED_UNIT - Ground speed units

VWR - Relative wind speed and angle

VWR_WIND_DIR - Wind direction magnitude in degrees

VWR_WIND_DIR_TYPE - Wind direction type

VWR_SPEED - Speed

VWR_SPEED_UNIT - Speed units

WCV - Waypoint closure velocity
 WCV_VELOCITY - Velocity
 WCV_VELOCITY_UNIT - Velocity units
 WCV_WPT_ID - Waypoint identifier

WNC - Distance, waypoint to waypoint
 WNC_DISTANCE - Distance
 WNC_DISTANCE_UNIT - Distance units
 WNC_DEST_WPTID - Destination waypoint ID
 WNC_ORIG_WPTID - Origin waypoint ID

WPL - Waypoint information
 WPL_LATITUDE_DEG - Latitude
 WPL_LATITUDE_DEG_H - Latitude hemisphere
 WPL_LONGITUDE_DEG - Longitude
 WPL_LONGITUDE_DEG_H - Longitude hemisphere
 WPL_WPTNAME - Waypoint name

XDR - Multiple cross rack error, dead reckoning
 XDR_TRANS_TYPE - Transducer type
 XDR_MEASURE_DATA - Measurement data
 XDR_MEASURE_UNIT - Measurement data units
 XDR_TRANS_NAME - Name of transducer

XTE - Measured cross track error
 XTE_GEN_WARN - General warning flag
 XTE_LORAN_LOCK - Loran-C cycle lock flag
 XTE_CROSS_TRACK_DIST - Cross track error distance
 XTE_STEER - Steer
 XTE_DIST_UNIT - Distance units

XTR - Cross rack error, dead reckoning
 XTR_TRANS_TYPE - Transducer type
 XTR_MEASURE_DATA - Measurement data
 XTR_MEASURE_UNIT - Measurement data units
 XTR_TRANS_NAME - Name of transducer

ZDA - Date and Time
 ZDA_TIME - Time
 ZDA_DAY - Day
 ZDA_MONTH - Month
 ZDA_YEAR - Year
 ZDA_ZONE_HOUR - Local zone hours
 ZDA_ZONE_MIN - Local zone minutes

ZFO - UTC and time to destination waypoint
 ZFO_TIME - Time
 ZFO_TIME_REMAIN - Time remaining
 ZFO_WPT_ID - Waypoint identifier

GRMC - Sensor configuration information
 GRMC_MODE - Fix mode
 GRMC_ALT - Altitude above/below mean sea level
 GRMC_DATUM_INDEX - Earth datum index
 GRMC_DATUM_AXIS - User earth datum semi-major axis
 GRMC_DATUM_FACTOR - User earth datum inverse flattening factor
 GRMC_DATUM_DELTA_X - User earth datum delta x earth centered coordinate
 GRMC_DATUM_DELTA_Y - User earth datum delta y earth centered coordinate
 GRMC_DATUM_DELTA_Z - User earth datum delta z earth centered coordinate
 GRMC_DIFF_MODE - Differential mode

- GRMC_BAUD_RATE** - NMEA Baud rate
- GRMC_FILTER_MODE** - Filter mode
- GRMC_PPS_MODE** - PPS mode
- GRME** - Estimated position error
 - GRME_HPE** - Estimated horizontal position error (HPE)
 - GRME_HPE_UNIT** - HPE units
 - GRME_VPE** - Estimated vertical error (VPE)
 - GRME_VPE_UNIT** - VPE units
 - GRME_OSEPE** - Overall spherical equivalent position error (OSEPE)
 - GRME_OSEPE_UNIT** - SEPE units
- GRMF** - Position fix sentence
 - GRMF_WEEK_NO** - GPS week number
 - GRMF_SEC_NUM** - GPS seconds
 - GRMF_UTC_DATE** - UTC date of position fix
 - GRMF_UTC_TIME** - UTC time of position fix
 - GRMF_LEAP_SEC_NUM** - GPS leap second count
 - GRMF_LATITUDE_DEG** - Latitude
 - GRMF_LATITUDE_DEG_H** - Latitude hemisphere
 - GRMF_LONGITUDE_DEG** - Longitude
 - GRMF_LONGITUDE_DEG_H** - Longitude hemisphere
 - GRMF_MODE** - Mode
 - GRMF_FIX_TYPE** - Fix type
 - GRMF_SPEED** - Speed over ground, km/h
 - GRMF_COURSE** - Course over ground, degrees
 - GRMF_DIL_POS** - Position dilution of precision
 - GRMF_TIME_DIL_POS** - Time dilution of precision
- GRMI** - Sensor initialisation information
 - GRMI_LATITUDE_DEG** - Latitude
 - GRMI_LATITUDE_DEG_H** - Latitude hemisphere
 - GRMI_LONGITUDE_DEG** - Longitude
 - GRMI_LONGITUDE_DEG_H** - Longitude hemisphere
 - GRMI_UTC_DATE** - Current UTC date
 - GRMI_UTC_TIME** - Current UTC time
- GRMM** - Map datum
 - GRMM_DATUM** - Currently active horizontal datum
- GRMO** - Output sentence enable/disable
 - GRMO_NAME** - Target sentence description
 - GRMO_MODE** - Target sentence mode
- GRMV** - 3D velocity
 - GRMV_EAST_VEL** - True east velocity
 - GRMV_NORTH_VEL** - True north velocity
 - GRMV_UP_VEL** - Up velocity
- GRMZ** - Altitude information
 - GRMZ_ALT** - Altitude
 - GRMZ_ALT_UNIT** - Altitude units
 - GRMZ_POS_FIX_DIM** - Position fix dimensions
- SLIB** - Differential GPS beacon receiver control
 - SLIB_FREQ** - Frequency
 - SLIB_BITRATE** - Bit rate
 - SLIB_REQ_TYPE** - Request type
- SRF150** - OK to send
 - SRF150_STATUS** - Status

SRF161 - OK to send
 SRF161_ANT_STATUS - Antenna status
 SRF161_AGC - AGC

5.5.3.2.3

(.2).

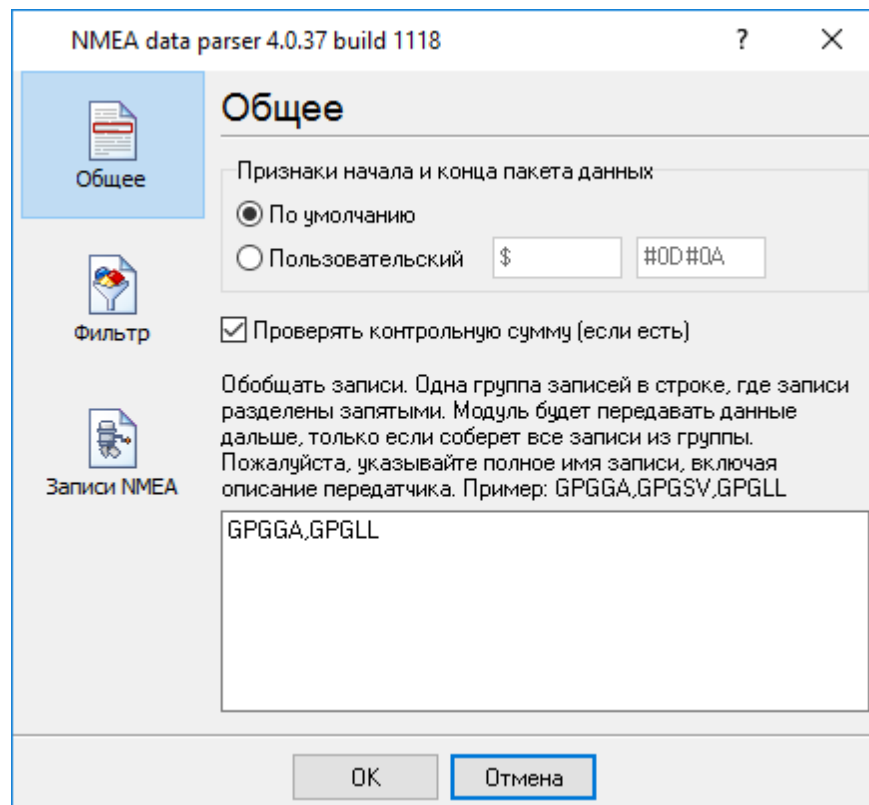
1.

2.

NMEA;

M,46.9,M,,*47

: GPGGA,123519,4807.038,N,01131.000,E,1,08,0.9,545.4,



.1.

(. . .2).





5.5.3.2.4

Фильтр

Правила фильтра (на уровне пакетов данных)

Состояние	Тип	Выражение	Действие
Содержит	Текст	Data	Игнориров
Содержит	Текст	data	Игнориров

Минимальный интервал между пакетами (мс)

 Добавить  Удалить  

.1

5.5.3.2.5

Introduction

Regular Expressions are a widely-used method of specifying patterns of text to search for. Special **metacharacters** allow You to specify, for instance, that a particular string You are looking for occurs at the beginning or end of a line, or contains **n** recurrences of a certain character.

Regular expressions look ugly for novices, but really they are very simple, handy and powerful tool.

Let's start our learning trip!

Simple matches

Any single character matches itself, unless it is a **metacharacter** with a special meaning described below.

A series of characters matches that series of characters in the target string, so the pattern "bluh" would match "bluh" in the target string. Quite simple, eh ?

You can cause characters that normally function as **metacharacters** or **escape sequences** to be interpreted literally by 'escaping' them by preceding them with a backslash "\", for instance: metacharacter "^" match beginning of string, but "\^" match character "^", "\\" match "\" and so on.

Examples:

```
fooBar           matchs string 'foobar'
\^FooBarPtr     matchs '^FooBarPtr'
```

Escape sequences

Characters may be specified using a **escape sequences** syntax much like that used in C and Perl: "\n" matches a newline, "\t" a tab, etc. More generally, \xnn, where nn is a string of hexadecimal

digits, matches the character whose ASCII value is nn. If You need wide (Unicode) character code, You can use `\x{nnnn}`, where 'nnnn' - one or more hexadecimal digits.

```

\xnn      char with hex code nn
\x{nnnn} char with hex code nnnn (one byte for plain text and two bytes for Unicode)
\t        tab (HT/TAB), same as \x09
\n        newline (NL), same as \x0a
\r        car.return (CR), same as \x0d
\f        form feed (FF), same as \x0c
\a        alarm (bell) (BEL), same as \x07
\e        escape (ESC), same as \x1b

```

Examples:

```

foo\x20bar    matches 'foo bar' (note space in the middle)
\tfoo\bar     matches 'foobar' predefined by tab

```

Character classes

You can specify a **character class**, by enclosing a list of characters in [], which will match any **one** character from the list.

If the first character after the "[" is "^", the class matches any character **not** in the list.

Examples:

```

fooob[aeiou]r    finds strings 'foobar', 'foober' etc. but not 'foobbr', 'foobcr' etc.
fooob[^aeiou]r  find strings 'foobbr', 'foobcr' etc. but not 'foobar', 'foober' etc.

```

Within a list, the "-" character is used to specify a **range**, so that a-z represents all characters between "a" and "z", inclusive.

If You want "-" itself to be a member of a class, put it at the start or end of the list, or escape it with a backslash. If You want "]" you may place it at the start of list or escape it with a backslash.

Examples:

```

[-az]          matches 'a', 'z' and '-'
[az-]          matches 'a', 'z' and '-'
[a\ -z]        matches 'a', 'z' and '-'
[a-z]          matches all twenty six small characters from 'a' to 'z'
[\n-\x0D]      matches any of #10,#11,#12,#13.
[\d-t]         matches any digit, '-' or 't'.
[] - a]        matches any char from ']'.. 'a'.

```

Metacharacters

Metacharacters are special characters which are the essence of Regular Expressions. There are different types of metacharacters, described below.

Metacharacters - line separators

<code>^</code>	<i>start of line</i>
<code>\$</code>	<i>end of line</i>
<code>\A</code>	<i>start of text</i>
<code>\Z</code>	<i>end of text</i>
<code>.</code>	<i>any character in line</i>

Examples:

<code>^f oobar</code>	<i>matches string 'foobar' only if it's at the beginning of line</i>
<code>f oobar \$</code>	<i>matches string 'foobar' only if it's at the end of line</i>
<code>^f oobar \$</code>	<i>matches string 'foobar' only if it's the only string in line</i>
<code>f oob. r</code>	<i>matches strings like 'foobar', 'foobbr', 'foob1r' and so on</i>

The `^` metacharacter by default is only guaranteed to match at the beginning of the input string/text, the `$` metacharacter only at the end. Embedded line separators will not be matched by `^` or `$`.

You may, however, wish to treat a string as a multi-line buffer, such that the `^` will match after any line separator within the string, and `$` will match before any line separator.

The `.` metacharacter by default matches any character.

Note that `^.*$` (an empty line pattern) does not match the empty string within the sequence `\x0D\x0A`, but matches the empty string within the sequence `\x0A\x0D`.

Metacharacters - predefined classes

<code>\w</code>	<i>an alphanumeric character (including "_")</i>
<code>\W</code>	<i>a nonalphanumeric</i>
<code>\d</code>	<i>a numeric character</i>
<code>\D</code>	<i>a non-numeric</i>
<code>\s</code>	<i>any space (same as [\t\n\r\f])</i>
<code>\S</code>	<i>a non space</i>

You may use `\w`, `\d` and `\s` within custom **character classes**.

Examples:

<code>f oob\d r</code>	<i>matches strings like 'foob1r', 'foob6r' and so on but not 'foobar', 'foobbr' and so on</i>
<code>f oob[\w s] r</code>	<i>matches strings like 'foobar', 'foob r', 'foobbr' and so on but not 'foob1r', 'foob=' and so on</i>

Metacharacters - iterators

Any item of a regular expression may be followed by another type of metacharacters - **iterators**. Using this metacharacters You can specify number of occurrences of previous character, **metacharacter** or **subexpression**.

<code>*</code>	<i>zero or more ("greedy"), similar to {0,}</i>
<code>+</code>	<i>one or more ("greedy"), similar to {1,}</i>
<code>?</code>	<i>zero or one ("greedy"), similar to {0,1}</i>
<code>{ n }</code>	<i>exactly n times ("greedy")</i>
<code>{ n, }</code>	<i>at least n times ("greedy")</i>

<code>{ n, m }</code>	<i>at least n but not more than m times ("greedy")</i>
<code>* ?</code>	<i>zero or more ("non-greedy"), similar to <code>{0,}?</code></i>
<code>+ ?</code>	<i>one or more ("non-greedy"), similar to <code>{1,}?</code></i>
<code>??</code>	<i>zero or one ("non-greedy"), similar to <code>{0,1}?</code></i>
<code>{ n } ?</code>	<i>exactly n times ("non-greedy")</i>
<code>{ n, } ?</code>	<i>at least n times ("non-greedy")</i>
<code>{ n, m } ?</code>	<i>at least n but not more than m times ("non-greedy")</i>

So, digits in curly brackets of the form `{n,m}`, specify the minimum number of times to match the item `n` and the maximum `m`. The form `{n}` is equivalent to `{n,n}` and matches exactly `n` times. The form `{n,}` matches `n` or more times. There is no limit to the size of `n` or `m`, but large numbers will chew up more memory and slow down r.e. execution.

If a curly bracket occurs in any other context, it is treated as a regular character.

Examples:

<code>f oob. * r</code>	<i>matches strings like 'foobar', 'foobalkjdfllkj9r' and 'foobr'</i>
<code>f oob. + r</code>	<i>matches strings like 'foobar', 'foobalkjdfllkj9r' but not 'foobr'</i>
<code>f oob. ? r</code>	<i>matches strings like 'foobar', 'foobbr' and 'foobr' but not 'foobalkj9r'</i>
<code>f ooba{ 2 } r</code>	<i>matches the string 'foobaar'</i>
<code>f ooba{ 2, } r</code>	<i>matches strings like 'foobaar', 'foobaaaar', 'foobaaaaar' etc.</i>
<code>f ooba{ 2, 3 } r</code>	<i>matches strings like 'foobaar', or 'foobaaaar' but not 'foobaaaaar'</i>

A little explanation about "greediness". "Greedy" takes as many as possible, "non-greedy" takes as few as possible. For example, `'b+'` and `'b*'` applied to string `'abbbbc'` return `'bbbb'`, `'b+?'` returns `'b'`, `'b*?'` returns empty string, `'b{2,3}?'` returns `'bb'`, `'b{2,3}'` returns `'bbb'`.

Metacharacters - alternatives

You can specify a series of **alternatives** for a pattern using `|` to separate them, so that `fee|fie|foe` will match any of "fee", "fie", or "foe" in the target string (as would `f(e|i|o)e`). The first alternative includes everything from the last pattern delimiter (`"(", "[",` or the beginning of the pattern) up to the first `|`, and the last alternative contains everything from the last `|` to the next pattern delimiter. For this reason, it's common practice to include alternatives in parentheses, to minimize confusion about where they start and end.

Alternatives are tried from left to right, so the first alternative found for which the entire expression matches, is the one that is chosen. This means that alternatives are not necessarily greedy. For example: when matching `foo|foot` against `"barefoot"`, only the `"foo"` part will match, as that is the first alternative tried, and it successfully matches the target string. (This might not seem important, but it is important when you are capturing matched text using parentheses.)

Also remember that `|` is interpreted as a literal within square brackets, so if You write `[fee|fie|foe]` You're really only matching `[feio]`.

Examples:

<code>f oo(bar | f oo)</code>	<i>matches strings 'foobar' or 'foofoo'.</i>
--------------------------------	--

Metacharacters - subexpressions

The bracketing construct `(...)` may also be used for define r.e. subexpressions.

Subexpressions are numbered based on the left to right order of their opening parenthesis. First subexpression has number '1'

Examples:

`(f oobar) { 8, 10}` *matches strings which contain 8, 9 or 10 instances of the 'foobar'*
`f oob([0- 9] | a+) r` *matches 'foob0r', 'foob1r', 'foobar', 'foobaar', 'foobaar' etc.*

Metacharacters - backreferences

Metacharacters \1 through \9 are interpreted as backreferences. \<n> matches previously matched **subexpression** #<n>.

Examples:

`(.) \ 1+` *matches 'aaaa' and 'cc'.*
`(. +) \ 1+` *also match 'abab' and '123123'*
`([' "] ?) (\ d+) \ 1` *matches "'13" (in double quotes), or '4' (in single quotes) or 77 (without quotes) etc*

Modifiers

Modifiers are for changing behaviour of parser.

There are many ways to set up modifiers.

Any of these modifiers may be embedded within the regular expression itself using the (?...) construct.

i

Do case-insensitive pattern matching (using installed in you system locale settings).

m

Treat string as multiple lines. That is, change "^" and "\$" from matching at only the very start or end of the string to the start or end of any line anywhere within the string.

s

Treat string as single line. That is, change "." to match any character whatsoever, even a line separators, which it normally would not match.

g

Non standard modifier. Switching it Off You'll switch all following operators into non-greedy mode (by default this modifier is On). So, if modifier /g is Off then '+' works as '+?', '*' as '*?' and so on

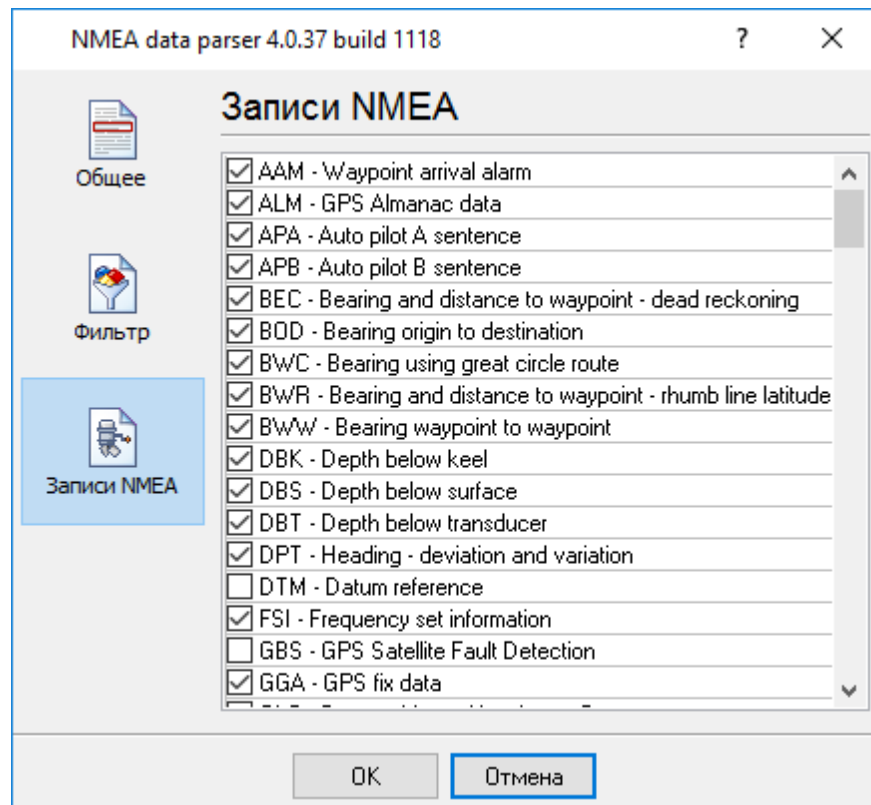
x

Extend your pattern's legibility by permitting whitespace and comments (see explanation below)

.

The modifier /x itself needs a little more explanation. It tells the parser to ignore whitespace that is neither backslashed nor within a character class. You can use this to break up your regular expression into (slightly) more readable parts. The # character is also treated as a metacharacter introducing a comment, for example:

```
(
  (abc) # comment 1
  |    # You can use spaces to format r.e. - parser ignores it
  (efg) # comment 2
```

.1. NMEA.

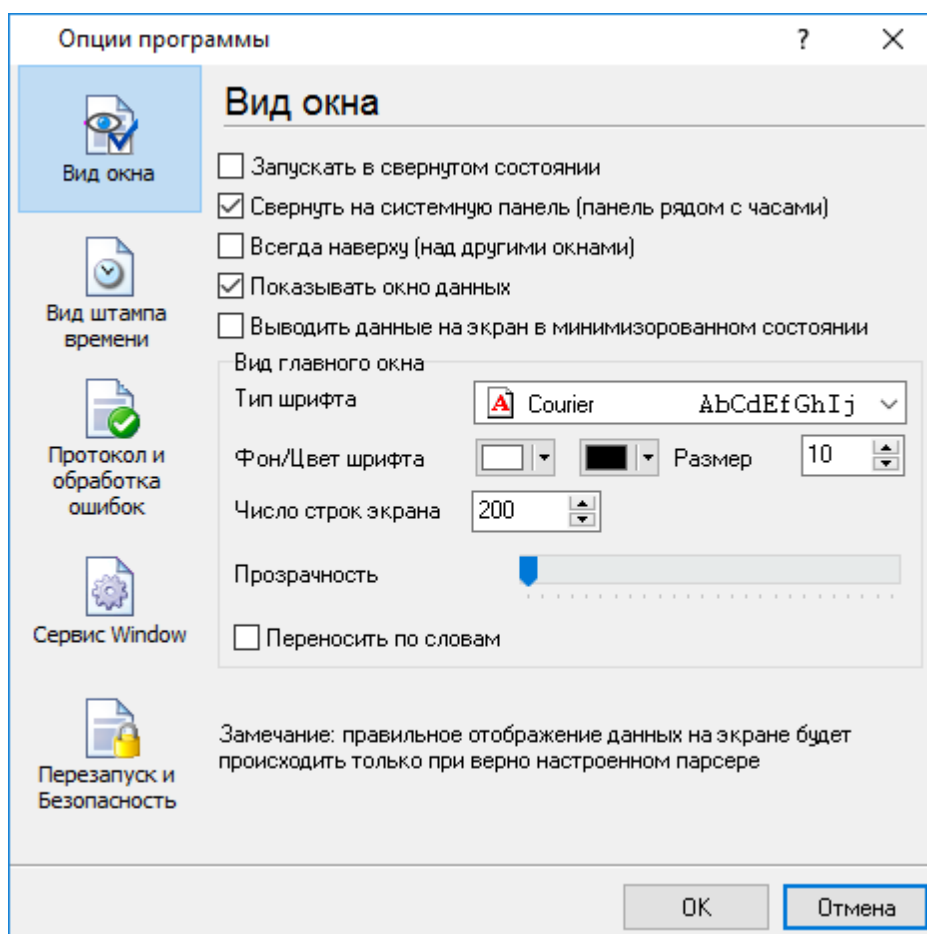
NMEA, _____ 45.

- **String** - _____ ;
- **Boolean** - (True/False) - 0 1;
- **Float** - _____ : -2.9 x 10⁻³⁹ .. 1.7 x 10³⁸
- **Integer** - _____ : -2147483648..2147483647;
- **DateTime** - _____

DateTime.

5.6

5.6.1

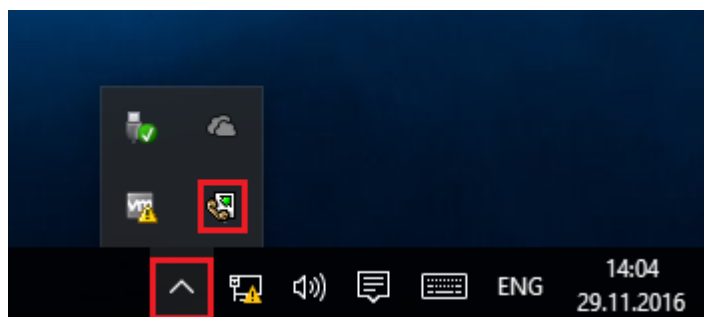


. 6.1.1.

" (. 6.1.1) :

- Advanced NMEA Data Logger

(. 6.1.2) ;



. 6.1.2.

-

(. 6.1.2) -

Advanced NMEA Data Logger

;

-

;

-

/

.

.

-

,

.

;

-

(

,

,

);

-

.

;

- Windows 2000

.

-

,

-

.

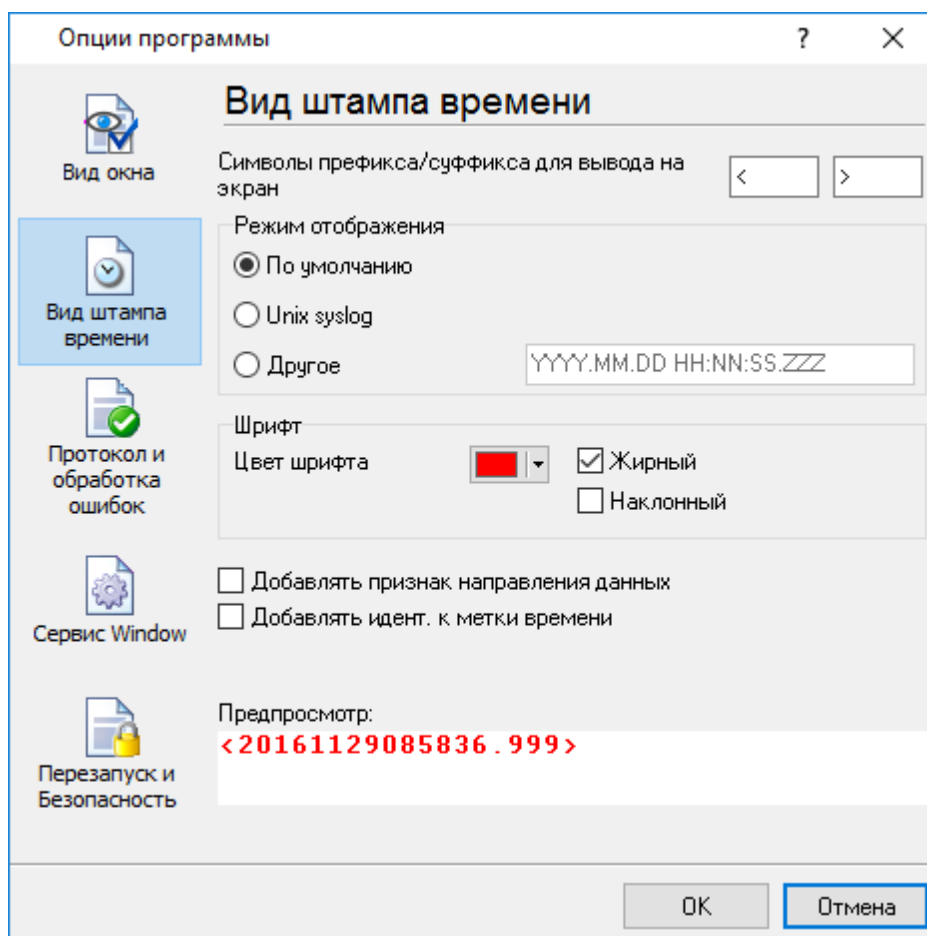
-

,

.

5.6.2

(. 6.2.1)



. 6.2.1.

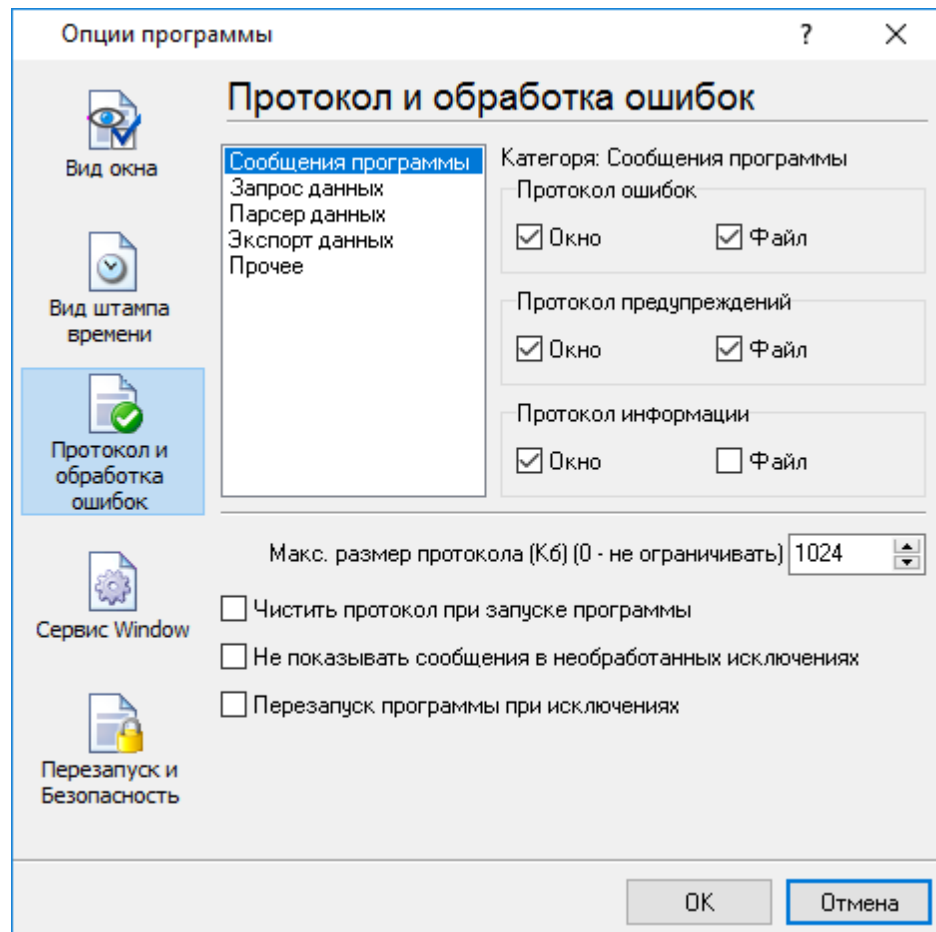
27

TX

RX

, COM1.

5.6.3



. 6.3.1.

Advanced NMEA Data Logger

3-

-
-
-

- ; - ,
- - , ;
- - , ;
- - , ;

/

Advanced NMEA Data Logger

5.6.4
5.6.4.1

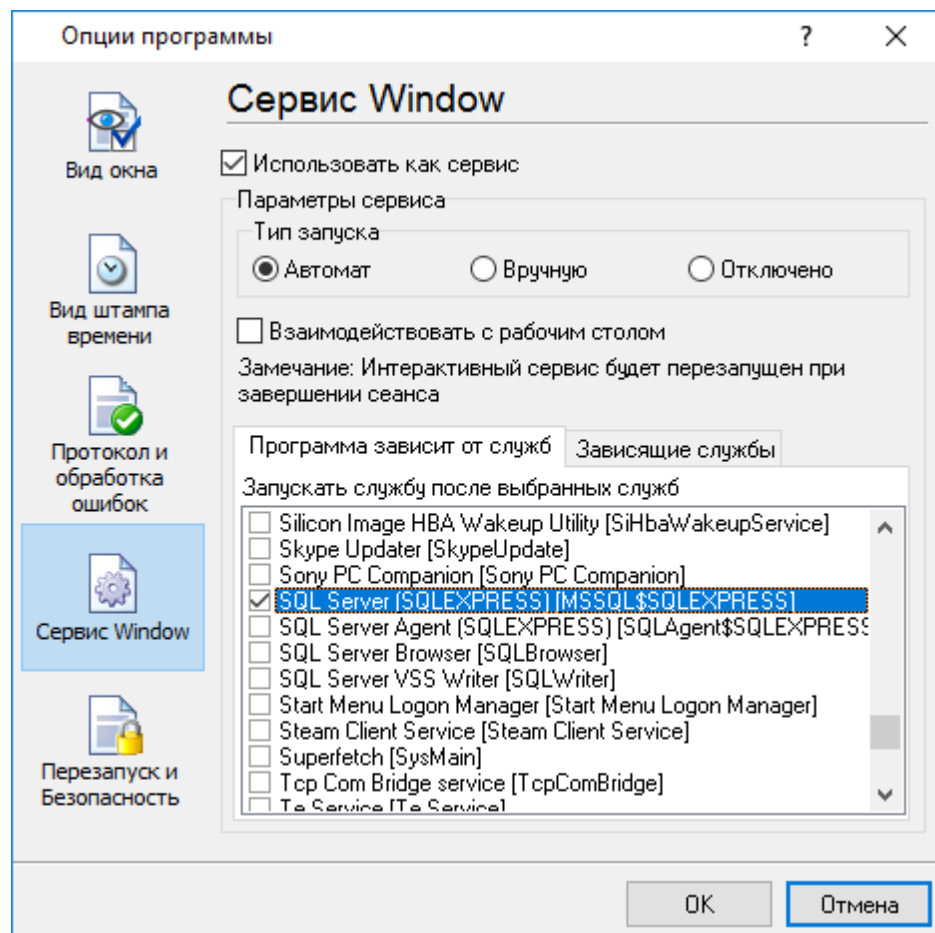
Windows 2000

() Windows :

- 2000); (Windows
- - ();
- ; ,
- ;

). (Windows Vista
 (elevated) .

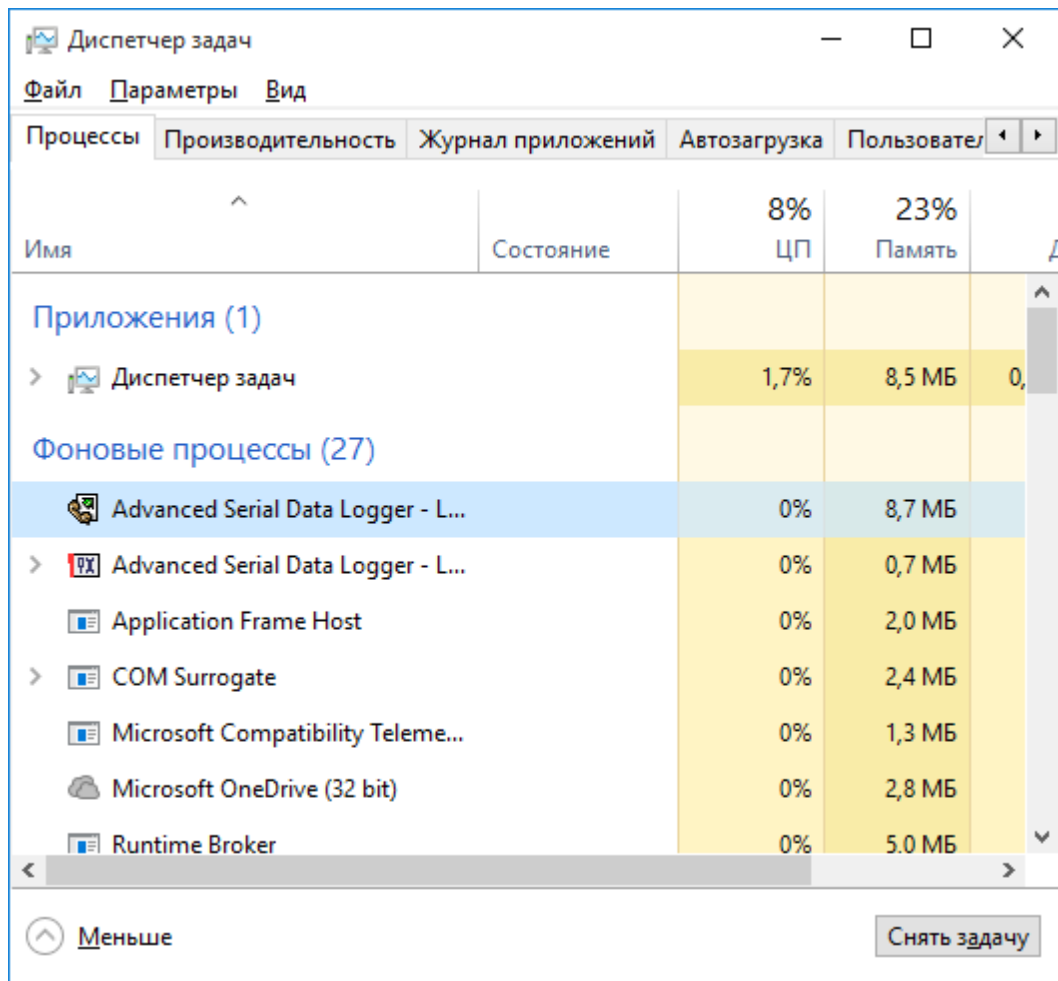
" " " **Windows**" (. 6.4.1).



. 6.4.1.

1. - ; Windows
 2. - " " ;
 3. - .
- " .
- (. 6.4.2).
- " , . . Windows

: _____ [69] Windows Vista



. 6.4.4.

nmealloggersrv.exe :

- /? - ;
- /I - ;
- /A - ;
- /D - ;
- /R -

5.6.4.2

Windows Vista

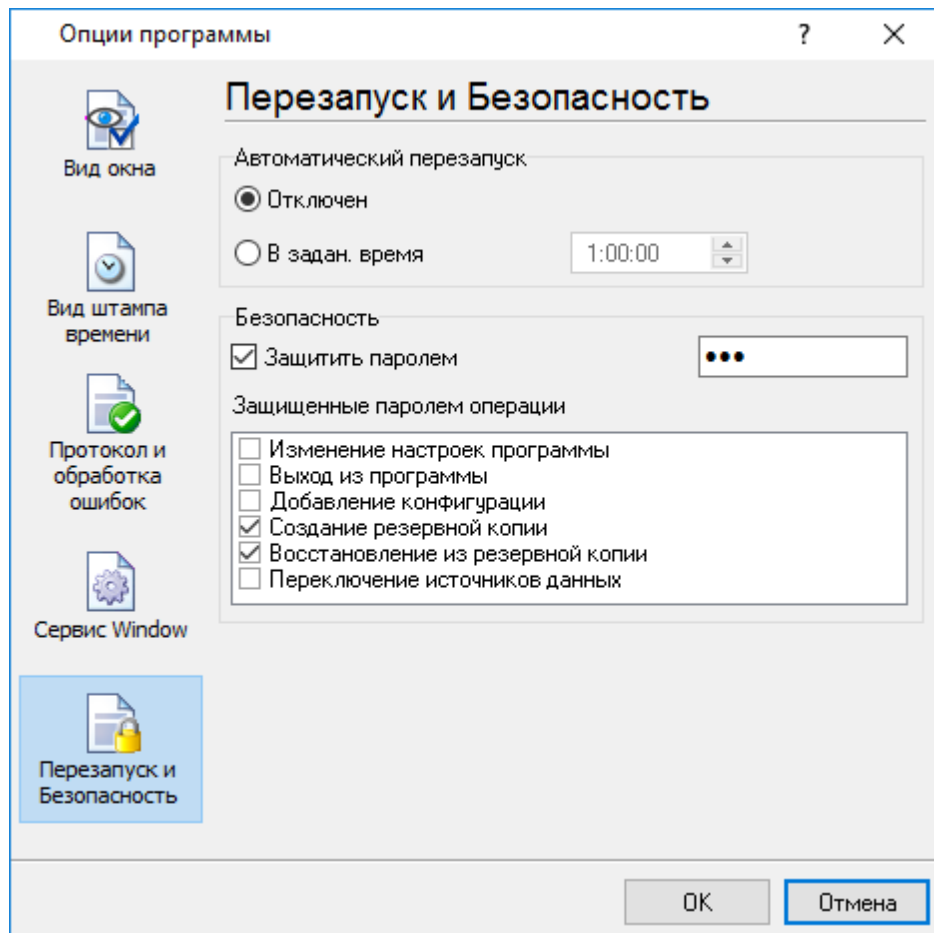
Windows Vista

Windows.

- : Interactive Services Detection
- : UIODetect
- : UIODetect.exe
- :
- : %windir%\system32\UIODetect.exe
- :
- * Home Basic:
- * Home Premium:
- * Business:
- * Enterprise:
- * Ultimate:

5.6.5

(. 6.5.1).



. 6.5.1.

7

?

7.1

SoftIce

support@aggsoft.ru.