

DVB for ALL!

TROPHY



USER MANUAL

DVB-BILLING PRO

Billing SoftWare

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DVB-BILLING PRO Software and Statistics Server

The DVB-BILLING PRO program is designed to manage the subscriber base and manage subscriber decoders in large commercial DVB broadcasting networks using the TROPHY-ACCESS 3.0 Conditional Access System.

The DVB-BILLING PRO software is supplied with the Billing Server. Depending on the order, the Billing Server can be either the simplest (demo version) or the most complex, up to a group of servers assembled using cluster technology.

The main functions of the Statistics Server are:

- management of subscriber decoders;
- keeping records of subscriber payments;
- creating various reports on payments;
- integration of the Billing Server with the system of bank payment terminals and bank acquiring.

TROPHY-ACCESS Conditional Access System (CAS) integrated into the modulator/multiplexer

The TROPHY-ACCESS 3.0 scrambler is built into the modulator/multiplexer FPGA. In order for the TROPHY-ACCESS 3.0 scrambling function to be available in the modulator, you must purchase a special license:

<http://dvb4all.com/?product=software-license-to-enable-trophy-access-scrambler-solution>

After confirmation of payment, the client is received an unique key, which is generated based on the serial number of your modulator/multiplexer. The **serial number** is indicated in the first line of the System menu of the modulator WEB interface.

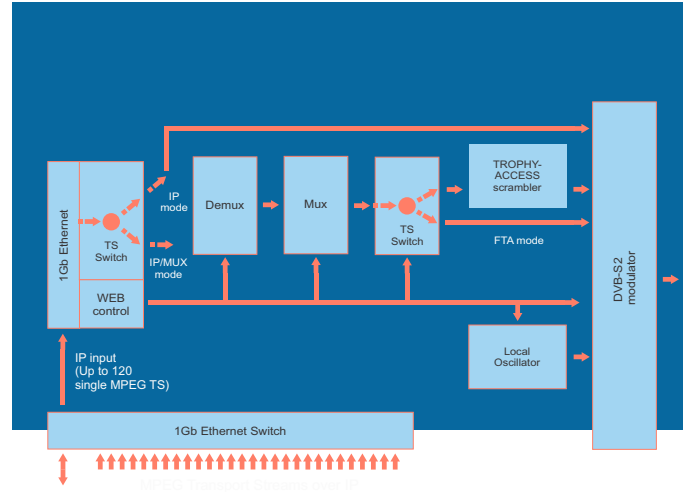
The screenshot shows the 'System' menu of the modulator WEB interface. The 'Serial No' field is highlighted with an orange circle and contains the value '0x1C0000B0'. The 'Add key' button in the 'System configuration' section is also highlighted with an orange circle. A temperature indicator 'T=30°C' is visible in the top right corner.

System	Network	Inputs	Programs	SI Generator	NIT Generator	Output
Serial No	0x1C0000B0					T=30°C
Hardware ID	0x0401					
FW / SW version	2.03 / 3.02 build 1134				Update	
Input mode	IP-MUX					
Scrambler TA-3/9	Enabled					
Billing server	10.10.20.250					
PCR Restamping	Enabled					
System configuration	Backup	Restore	Add key	Change password		
Accept						

After receiving the key, you can enter its number in the System menu by clicking the **Add key** button.

Multiplexers (Transport Streams) and groups (ports)

Modulators/multiplexers are grouped depending on the broadcasting features. For example, it is necessary to transmit streams in different ranges or in different standards. For this purpose, separate groups of modulators are created. A group located on one port can have any number of modulators. All modulators with the same group number have the same subscription information. The system can have up to 10 groups with numbers 0...9. You assign the group number to which the modulator/multiplexer belongs, based on the tariff plan scheme and channel viewing rights. When installing a Head-end with multiple modulators/multiplexers, you will need to plan what programs will be included in the packages, then distribute them across streams (modulators), subscription groups, etc. As a first step, simply assign port "0" to all multiplexers.



Example:

- TSID 1: 0 # multiplexer TSID 1 belongs to the group 0
- TSID 2: 0 # multiplexer TSID 2 belongs to the group 0
- TSID 3: 1 # multiplexer TSID 3 belongs to the group 1
- TSID 4: 2 # multiplexer TSID 4 belongs to the group 2

MUX → Group

1 → 0	X
2 → 0	X
3 → 1	X
4 → 2	X

Enabling scrambling mode

The modulator/multiplexer can transmit programs in FTA or encrypted form. In order for the program to be encrypted, the scrambling function of the program(s) must be enabled.

In the **Programs** menu, in the line of each program, click the **Program Properties icon** and specify the scrambling type (Type 1, Type2, Type3).

The modulator sends subscription information to Decoders, which allows or denies viewing of encrypted programs.

System	Network	Inputs	Programs	SI Generator	Modulator
SID	Program name	Type	In Address:Port:SID		
10	GEOSAT radio	1 (TV)	0.0.0.0:1234:8509		
20	ITV	1 (TV)	0.0.0.0:1234:8507		
30	BBC One	1 (TV)	0.0.0.0:1234:8506		
40	DW	1 (TV)	0.0.0.0:1234:8505		
50	KAVKASIA	1 (TV)	0.0.0.0:1234:8504		
60	RUSTAVI2	1 (TV)	0.0.0.0:1234:8501		
70	COMEDY	1 (TV)	0.0.0.0:1234:8502		
80	MARAO	1 (TV)	0.0.0.0:1234:8503		
90	Nat Geo Wild Europe	1 (TV)	0.0.0.0:12345:101		
100	BNT World	1 (TV)	0.0.0.0:12345:102		
110	Lucky Balls	1 (TV)	0.0.0.0:12345:201		
120	Dog Racing	1 (TV)	0.0.0.0:12345:202		
130	Virtual Football	1 (TV)	0.0.0.0:12345:203		

Program properties

SID: 30

Name: RUSTAVI2

Type: 1 (TV)

Conditional Access: FTA

Type	PID	Enabled
MP4 (Video (PCR))	121	<input type="checkbox"/>
MP1 Audio (geo)	122	<input type="checkbox"/>

FTA
Type 1
Type 2
Type 3

Accept Cancel

Mask and types of scrambling

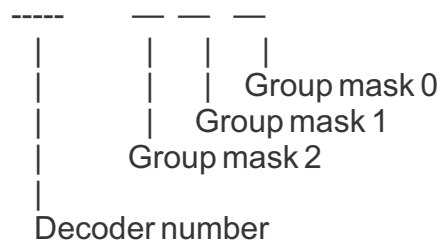
The subscription allows the Decoder to decrypt programs depending on the specified mask. The mask is a binary number, the least significant bit of which corresponds to the first scrambling type, and the most significant bit of which corresponds to the third type. A one in the corresponding bit indicates that this Decoder is allowed to descramble this encoding type. For each Decoder, each group is assigned a mask. In this way, you can implement separate management of program viewing rights. Decoders are described in the decoders.txt file.

Each line describes one Decoder in the form: Decoder number: mask.
The line to the right of the # symbol is a comment. Spaces are ignored.

Example (we use only three groups of multiplexers)

```
-----
# Example of decoders.txt file.
# This is a comment
12345: 111 111 111
12346: 010 100 000
12347: 000 011 111
12348: 000 000 000
```

```
12348 : 000 000 000
```



- A subscriber with a 12345 decoder will be able to watch all programs on all streams.
- A subscriber with a 12346 decoder will be able to watch:
 - on modulators of group 0 (TSID 1 and TSID 2) only FTA programs;
 - on modulators of group 1 (TSID 3) programs with encoding type 3, as well as FTA;
 - on modulators of group 2 (TSID 4) programs with encoding type 2, as well as FTA.
- A subscriber with decoder 12347 will be able to watch:
 - on modulators of group 0 (TSID 1 and TSID 2) all programs;
 - on modulators of group 1 (TSID 3) programs with encoding types 1 and 2, as well as FTA;
 - on modulators of group 2 (TSID 4) only FTA programs.
- A subscriber with a 12348 decoder will be able to view only FTA programs on all streams.

Decoder number and geographic area

The full Decoder number consists of two parts:

- the Zone number and the Decoder number in this Zone. Each provider using TROPHY-ACCESS CAS receives a unique geographic area number. For example 42-12345 (Zone No. 42, Decoder No. 12345). The DVB-BILLING PRO program comes with a preset Zone number, and the Decoders.txt file contains the Decoder number without a Zone number (in this case - 12345).

Example 1

You have only one broadcasting method - satellite.
You have 3 multiplexers:



You have prepared a list of channels divided into 3 packages:

Package: Base

100 channels

Package: Setanta Sports

3 channels

Package: Sport Plus

20 channels

- You decided to setup in the first multiplexer:
40 channels of the **Base** package, 3 channels of the **Setanta Sports** package;
- in the second multiplexer:
50 channels of the **Base** package;
- in the third multiplexer:
10 channels of the **Base** package, 20 channels of the **Sport Plus** package.



You can assign the same group to all multiplexers - **Group 0** and assign each packet an individual scrambling type (**Type 1, Type2, Type3**).

The **MUX -->Group** table of the package **Constructor** menu will look like this:

MUX → Group

1 → 0	X
2 → 0	X
3 → 0	X

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The package **Constructor** will look like this:

Packages	Group 0			Group 1			Group 2			Group 3		
	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3
Base	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Setanta Sports	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sport Plus	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In the **Programs** menu of each multiplexer, in the line of each program, you need to click the **Program Properties** icon and specify the type of scrambling (Type 1, Type2, Type3).

SID	Program name	Type	In-Address:Port:SID		
10	GEOSAT radio	1 (TV)	0.0.0.0:1234:8509		
20	ITV	1 (TV)	0.0.0.0:1234:8507		
30	BBC One	1 (TV)	0.0.0.0:1234:8508		
40	DW	1 (TV)	0.0.0.0:1234:8505		
50	KAVKASIA	1 (TV)	0.0.0.0:1234:8504		
60	RUSTAVI2	1 (TV)	0.0.0.0:1234:8501		
70	COMEDY	1 (TV)	0.0.0.0:1234:8502		
80	MARAO	1 (TV)	0.0.0.0:1234:8503		
90	Nat Geo Wild Europe	1 (TV)	0.0.0.0:12345:101		
100	BNT World	1 (TV)	0.0.0.0:12345:102		
110	Lucky Balls	1 (TV)	0.0.0.0:12345:201		
120	Dog Racing	1 (TV)	0.0.0.0:12345:202		
130	Virtual Football	1 (TV)	0.0.0.0:12345:203		

- For all channels of the **Base** package **Type 1 (C1)** must be specified.
- For all channels of the **Setanta Sports** package **Type 2 (C2)** must be specified.
- For all channels of the **Sport Plus** package **Type 3 (C3)** must be specified.

Program properties

SID: 30

Name: RUSTAVI2

Type: 1 (TV)

Conditional Access: FTA

Type	PID	Enabled
MPEG Video (PCR)	121	<input type="checkbox"/>
MPEG Audio (geo)	122	<input type="checkbox"/>

FTA
Type 1
Type 2
Type 3

Accept Cancel

Example 2

You have only one broadcasting method - satellite.
You have 3 multiplexers:

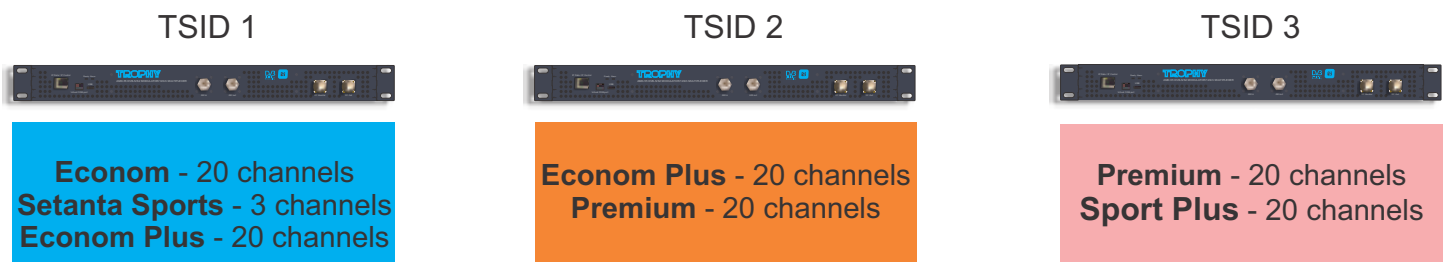


You have prepared a list of channels divided into 5 packages:

- Package: **Economy**
20 channels
- Package: **Economy Plus**
40 channels
- Package: **Premium**
40 channels
- Package: **Setanta Sports**
3 channels
- Package: **Sport Plus**
20 channels

You cannot place more than 3 packets in one multiplexer. Therefore, we arrange the channels this way:

- in the first multiplexer: 20 channels of the Econom package, 3 channels of the Setanta Sports package, 20 channels of the Econom Plus package;
- in the second multiplexer: 20 channels of the package, 20 channels of the Econom Plus package, 20 channels of the Premium package;
- in the third multiplexer: 20 channels of the Premium package, 20 channels of the Sport Plus package.



You can assign different groups to multiplexers - **Group 0, Group 1, Group 2**.
The **MUX -->Group** table will look like this:

MUX → Group

1 → 0	X
2 → 1	X
3 → 2	X

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The package **Constructor** will look like this:

Packages	Group 0			Group 1			Group 2			Group 3		
	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3
Econom	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Econom Plus	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Premium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Setanta Sports	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sport Plus	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In the **Programs** menu of each multiplexer, in the line of each program, you need to click the **Program Properties** icon and specify the type of scrambling (Type 1, Type2, Type3).

SD	Program name	Type	In Address/Port/SD	Program Properties	...
10	DISNEY	1 (TV)	0.0.0.0:1234-8505		
20	ITV	1 (TV)	0.0.0.0:1234-8507		
30	BBC One	1 (TV)	0.0.0.0:1234-8506		
40	DW	1 (TV)	0.0.0.0:1234-8508		
50	HAWAII	1 (TV)	0.0.0.0:1234-8504		
60	RUSTAVI	1 (TV)	0.0.0.0:1234-8501		
70	COMEDY	1 (TV)	0.0.0.0:1234-8502		
80	MARAC	1 (TV)	0.0.0.0:1234-8503		
90	Nat Geo WM Europe	1 (TV)	0.0.0.0:12345-101		
100	BNT World	1 (TV)	0.0.0.0:12345-102		
110	Lucky Balls	1 (TV)	0.0.0.0:12345-201		
120	Dog Racing	1 (TV)	0.0.0.0:12345-202		
130	Virtual Football	1 (TV)	0.0.0.0:12345-200		

Program properties

ID: 10

Name: DISNEY

Type: 1 (TV)

Conditional Access: FTA

Type: FTA

FTA Type 1
Type 2
Type 3

OK

In the multiplexer **TSID1** for all channels of the **Econom** package

Type 1 (**C1**) must be specified

For all **Setanta Sports** package channels

Type 2 (**C2**) must be specified

For all channels of the **Econom Plus** package

Type 3 (**C3**) must be specified

In the **TSID2** multiplexer for all channels of the **Econom Plus** package

Type 1 (**C1**) must be specified

For all channels of the **Premium** package

Type 2 (**C2**) must be specified

In the multiplexer **TSID3** for all channels of the **Premium** package

Type 1 (**C1**) must be specified

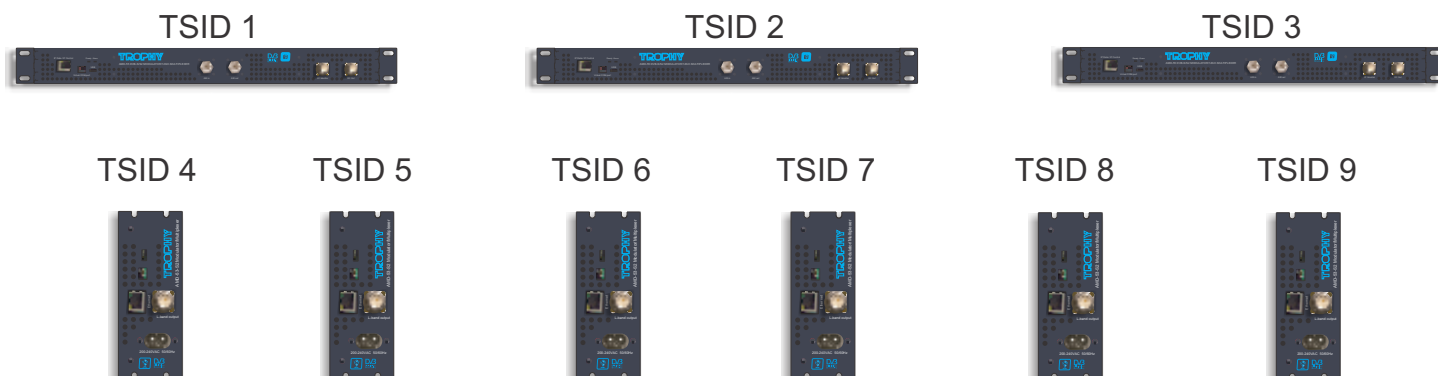
For all channels of the **Sport Plus** package

Type 2 (**C2**) must be specified

Example 3

You have two broadcasting methods - DVB-S2 and DVB-C:

You have 3 DVB-S2 multiplexers (TSID1-TSID3) and 6 DVB-C multiplexers (TSID4-TSID9), considering that the capacity of the DVB-C transponder is approximately 2 times less than the capacity of the DVB-S2 transponder:



You have prepared a list of channels divided into 5 packages:

- Package: **Economy**
20 channels
- Package: **Economy Plus**
40 channels
- Package: **Premium**
40 channels
- Package: **Setanta Sports**
3 channels
- Package: **Sport Plus**
20 channels

You cannot place more than 3 packets in one multiplexer. Therefore, we arrange the channels this way:

- in multiplexer TSID 1:
20 channels of the Econom package, 3 channels of the Setanta Sports package, 20 channels of the Econom Plus package;
- in multiplexer TSID 2:
20 channels of the package, 20 channels of the Econom Plus package, 20 channels of the Premium package;
- in multiplexer TSID 3:
20 channels of the Premium package, 20 channels of the Sport Plus package.
- in multiplexer TSID 4:
10 channels of the Econom package, 1 channel of the Setanta Sports package, 10 channels of the Econom Plus package;
- in multiplexer TSID 5:
10 channels of the Econom package, 2 channels of the Setanta Sports package, 10 channels of the Econom Plus package;
- in multiplexer TSID 6:
10 channels of the Econom Plus package, 10 channels of the Premium package;
- in multiplexer TSID 7:
10 channels of the Econom Plus package, 10 channels of the Premium package;
- in multiplexer TSID 8:
10 channels of the Premium package, 10 channels of the Sport Plus package.
- in multiplexer TSID 9:
10 channels of the Premium package, 10 channels of the Sport Plus package.

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TSID 1



Econom - 20 channels
Setanta Sports - 3 channels
Econom Plus - 20 channels

TSID 2



Econom Plus - 20 channels
Premium - 20 channels

TSID 3



Premium - 20 channels
Sport Plus - 20 channels

TSID 4



Econom - 10 channels
Setanta Sports - 1 channel
Econom Plus - 10 channels

TSID 5



Econom - 10 channels
Setanta Sports - 2 channels
Econom Plus - 10 channels

TSID 6



Econom Plus - 10 channels
Premium - 10 channels

TSID 7



Econom Plus - 10 channels
Premium - 10 channels

TSID 8



Premium - 10 channels
Sport Plus - 10 channels

TSID 9



Premium - 10 channels
Sport Plus - 10 channels

You can assign different groups to multiplexers - **Group 0, Group 1, Group 2**.
 The **MUX -->Group** table will look like this:

MUX → Group

1 → 0	X
2 → 1	X
3 → 2	X
4 → 0	X
5 → 0	X
6 → 1	X
7 → 1	X
8 → 2	X
9 → 2	X

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The package **Constructor** will look like this:

Packages	Group 0			Group 1			Group 2			Group 3		
	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3
Econom	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Econom Plus	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Premium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Setanta Sports	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sport Plus	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In the **Programs** menu of each multiplexer, in the line of each program, you need to click the **Program Properties** icon and specify the type of scrambling (Type 1, Type2, Type3).

In the multiplexer TSID1 for all channels of the Econom package
Type 1 (C1) must be specified

For all Setanta Sports package channels
Type 2 (C2) must be specified

For all channels of the Econom Plus package
Type 3 (C3) must be specified

In the TSID2 multiplexer for all channels of the Econom Plus package
Type 1 (C1) must be specified

For all Premium package channels Type 2 (C2) must be specified

In the multiplexer TSID3 for all channels of the Premium package
Type 1 (C1) must be specified

For all channels of the Sport Plus package
Type 2 (C2) must be specified

In the TSID4 multiplexer for all channels of the Econom package
Type 1 (C1) must be specified

For all Setanta Sports package channels
Type 2 (C2) must be specified

For all channels of the Econom Plus package
Type 3 (C3) must be specified

In the multiplexer TSID5 for all channels of the Econom package
Type 1 (C1) must be specified

For all Setanta Sports package channels
Type 2 (C2) must be specified

For all channels of the Econom Plus package
Type 3 (C3) must be specified

In the multiplexer TSID6 for all channels of the Econom Plus package
Type 1 (C1) must be specified

For all Premium package channels
Type 2 (C2) must be specified

In the TSID7 multiplexer for all channels of the Econom Plus package
Type 1 (C1) must be specified

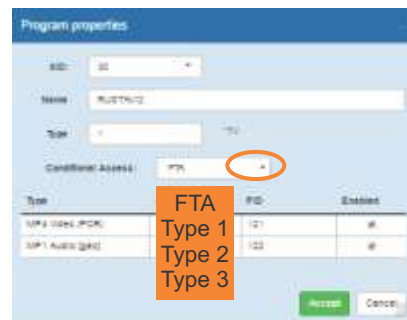
For all channels of the Premium package
Type 2 (C2) must be specified

In the TSID8 multiplexer for all channels of the Premium package
Type 1 (C1) must be specified

For all channels of the Sport Plus package
Type 2 (C2) must be specified

In the multiplexer TSID9 for all channels of the Premium package
Type 1 (C1) must be specified

For all channels of the Sport Plus package
Type 2 (C2) must be specified



TROPHY-ACCESS CAS

The TROPHY-ACCESS 3.0 Conditional Access System does not use the CSA algorithm, which ensures high reliability and the absence of the possibility of pirated viewing, called Card-sharing.

The scrambler is integrated into the hardware of TROPHY brand modulators/multiplexers.

The Decoder is integrated into the hardware of TROPHY DVB Set-Top-Boxes.

The Billing Server and DVB-BILLING PRO software provide the ability to manage subscriptions. The Decoder automatically turns off if the subscriber account balance is insufficient.

Subscription data is transmitted to the MODULATOR/MULTIPLEXER via Ethernet.

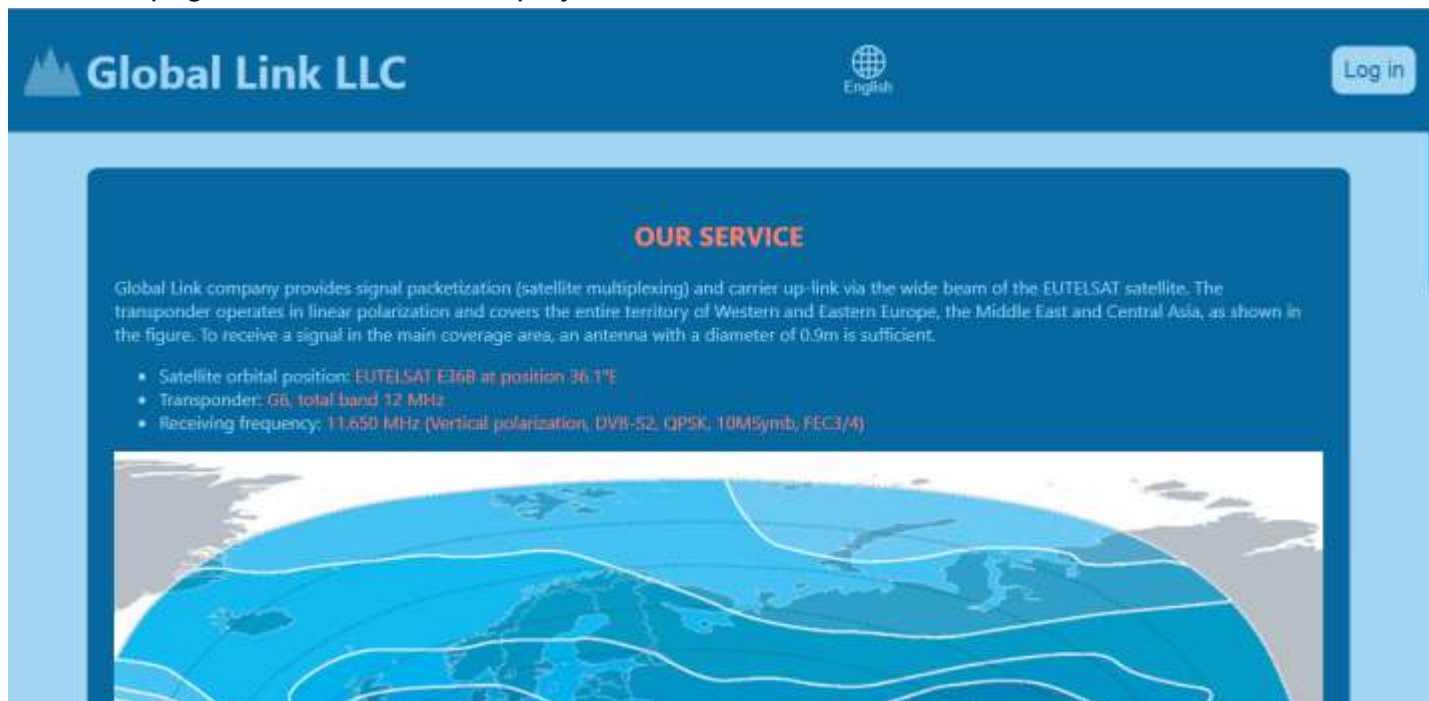
Options	
Type of CAS	Cardless, doesn't match CSA algorithm
Polynomial length	2048 bits
The size of the decoder address field	32 bits
Quantity of addressable decoders	16 millions
The number of serviced channels	without any restrictions
The number of packets serviced	without any restrictions
Automatic disconnection of the decoder	with zero balances in the account

Personal account of subscriber

Access to the site

Enter the **domain name** of the service provider in your browser.

The main page of the site will be displayed on the screen.



Language selection

Click the language selection button at the top of the page. In the drop-down menu, find the language that is convenient for you.



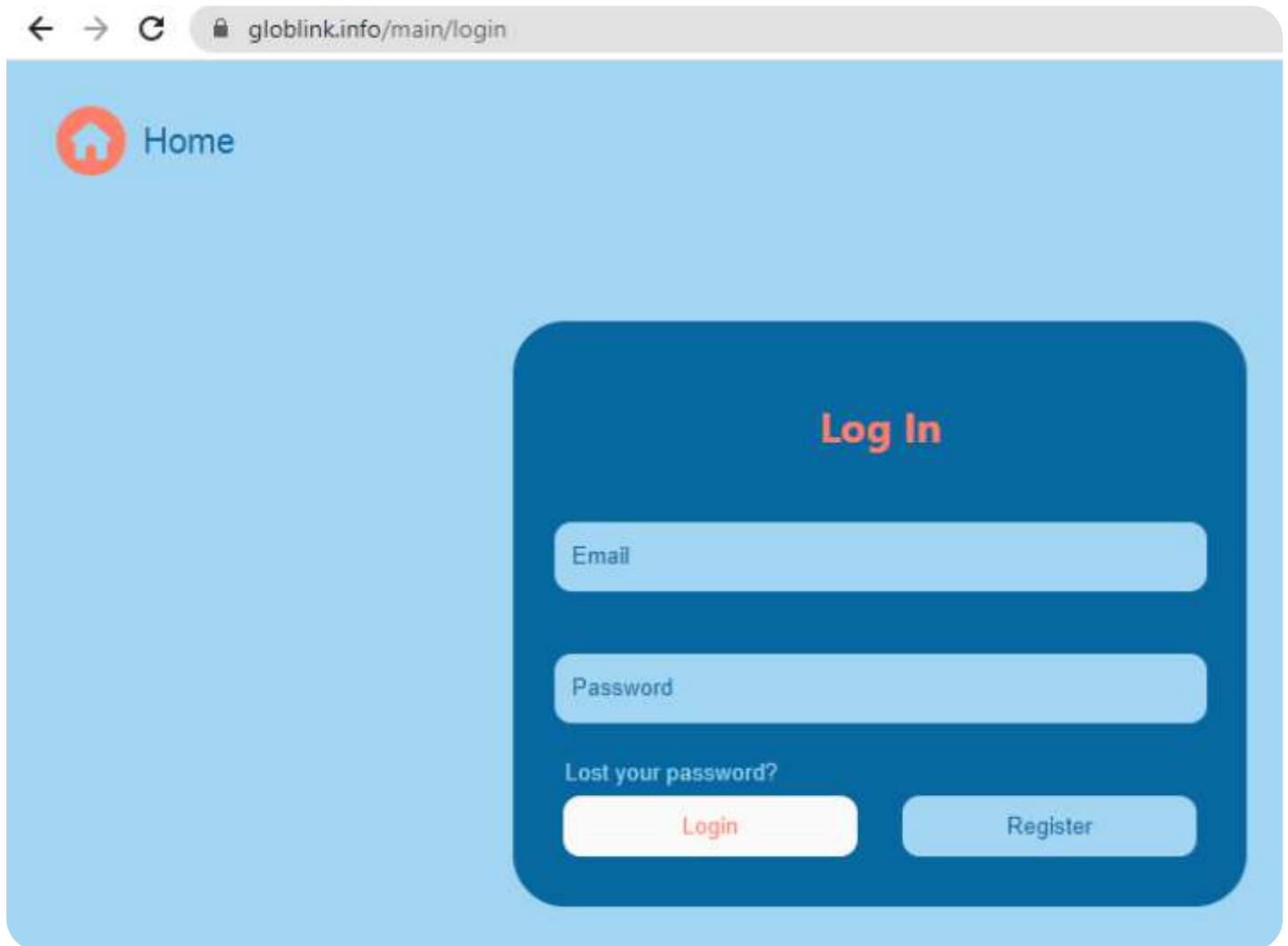
List of available languages:

- | | |
|-------------|-----------|
| Arab | Kyrgyz |
| Armenian | Russian |
| Azerbaijani | Tajik |
| English | Turkmen |
| French | Ukrainian |
| Georgian | Uzbek |
| Kazakh | |

Access to your personal account

Click the **Login** button to go to the authorization page.

A registration menu will appear on the screen asking you to log into your account or register on the site. If your account is already registered, enter your email address and password, and click the **Login** button.



The screenshot shows a web browser window with the address bar displaying "globlink.info/main/login". The page has a light blue background. In the top left corner, there is a red house icon followed by the text "Home". The main content area features a dark blue rounded rectangle with the text "Log In" in red. Below this, there are two light blue input fields labeled "Email" and "Password". Underneath the "Password" field, the text "Lost your password?" is displayed. At the bottom of the dark blue box, there are two buttons: a white button with the text "Login" in red, and a light blue button with the text "Register" in white.

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If your account has not yet been registered, click the **Register** button.

In the registration window, enter your email address and verification characters, confirm acceptance of the terms of service (after reading it first), and then click the **Send email** button.

The image shows two screenshots of a web registration interface. The top screenshot is titled 'Register' and features a light blue background. It has a text input field labeled 'Enter email address', a CAPTCHA image showing the number '8172', another text input field labeled 'Type the characters above', a checkbox labeled 'I have read Terms of Service of LTD Portal globlink.info and accept these terms', and two buttons: 'Send email' and 'Back'. The bottom screenshot is titled 'Successful!' and has a white background. It displays the message 'The password was sent to your email address' and a 'Go back to login' button. At the bottom, it also shows 'Send email' and 'Back' buttons.

Within a few seconds you will receive a message with your account password at this address

globlink.info - Registration Σ Inbox x



Billing <noreply@globlink.info>

to me ▾

Hi,

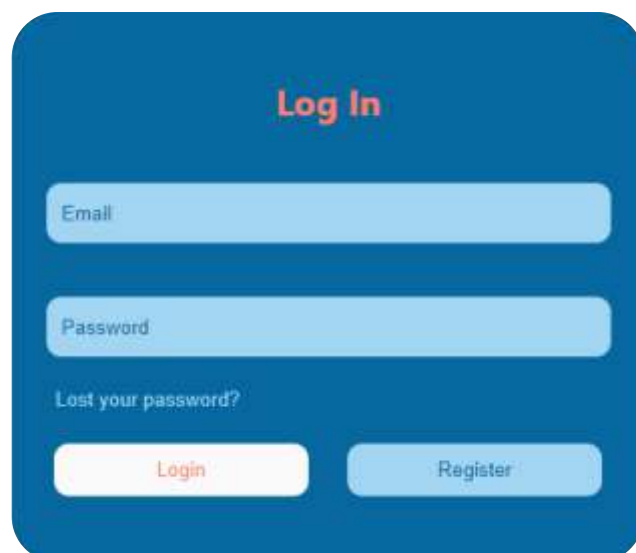
Thanks for creating an account on . Your username is XXXXXXXXXX
You can access your account area to view orders, change your password, and more at: <https://globlink.info>

Your password has been automatically generated: **oqabx1cr**

We look forward to seeing you soon.

LOGIN TO YOUR PERSONAL ACCOUNT

After receiving your password by email, enter your email address and the received generated password. Click the **Login** button to log in to the your account page.

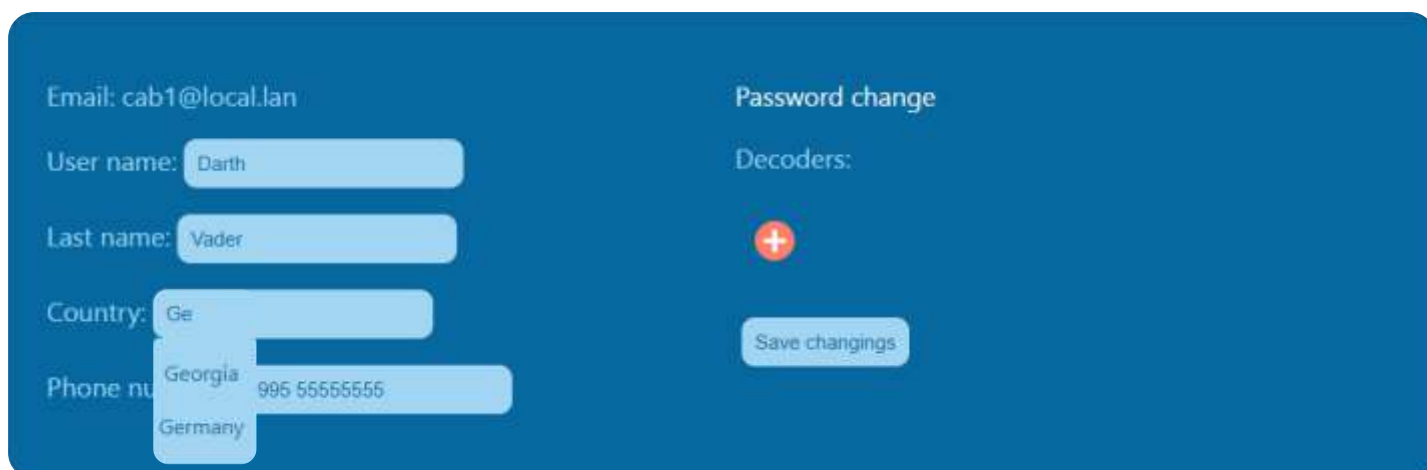


The screenshot shows a 'Log In' form on a blue background. At the top, the text 'Log In' is displayed in red. Below it are two input fields: 'Email' and 'Password'. Under the 'Password' field, there is a link that says 'Lost your password?'. At the bottom of the form, there are two buttons: 'Login' (highlighted in white) and 'Register'.

The following pages will be available in your personal account:

- **Balance**
- **Profile**

You can log out of your account by clicking the **Logout** button.



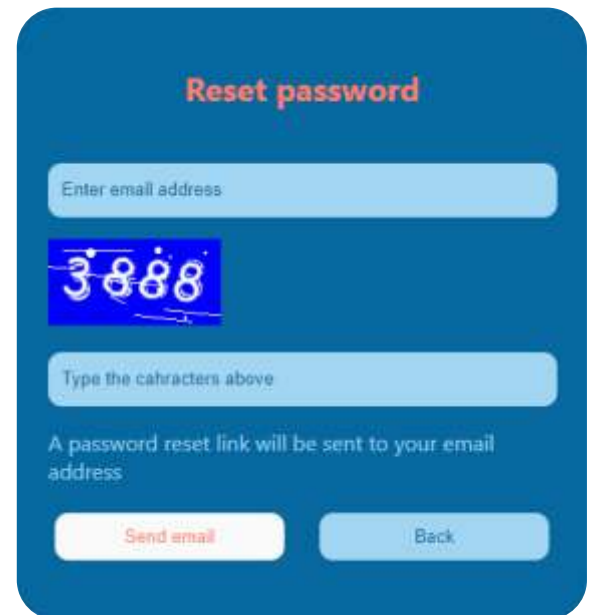
The screenshot shows a 'Profile' form on a blue background. On the left side, there are several input fields: 'Email: cab1@local.lan', 'User name: Darth', 'Last name: Vader', 'Country: Ge', and 'Phone number: 995 55555555'. A dropdown menu is open under 'Country', showing 'Georgia' and 'Germany'. On the right side, there is a 'Password change' section with a 'Decoders:' label, a red plus sign button, and a 'Save changings' button.

Enter your first name, last name, country of residence and phone number.

When you enter the first letters of the country name, a list of countries appears from which you must select your country. The list is generated according to the ISO_3166-1 standard. The front-end displays the name of the country and the database receives a 2-digit country identifier. Please note that selecting a country is required. If this line is not filled in, you will not be able to assign program packages to your decoders in the **Balance** menu.

FORGOT YOUR PASSWORD? OBTAINING A NEW PASSWORD

Click the **Login** button. Click **Lost your password?** in the registration window. A password reset window will appear on the screen.



Reset password

Enter email address

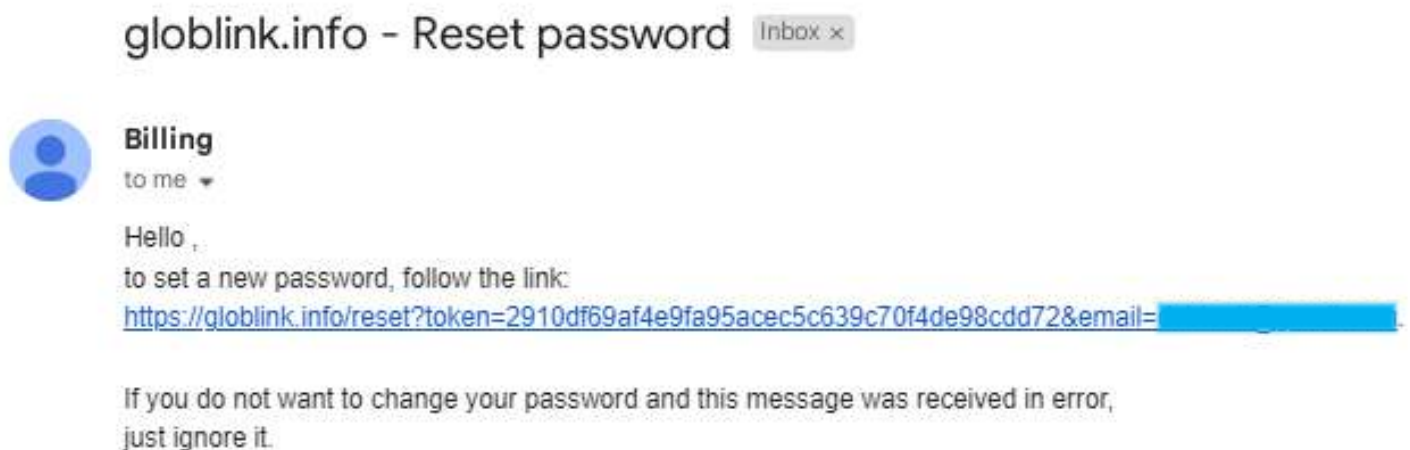
3888

Type the characters above

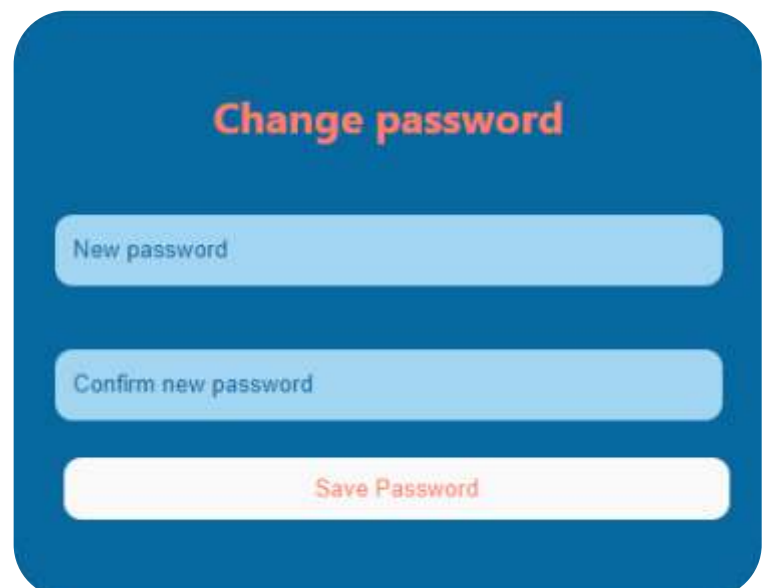
A password reset link will be sent to your email address

Send email Back

Enter your email and verification characters, then click the **Send email** button. Within a few seconds you will receive an email with your new account password:



Click to link into the letter text to open the **Change password** menu.



Change password

New password

Confirm new password

Save Password

Entering the decoder number on the PROFILE page


Enter the serial number of your Decoder (or Decoders).

The decoder serial number is located on a sticker on the bottom cover of the Set-Top-Box.



95 - 255543

The screenshot shows a user profile form on a blue background. On the left, there are input fields for: Email (cab1@local.lan), User name (Darth), Last name (Vader), Country (Georgia), and Phone number (+905 55555555). On the right, under 'Password change', there is a 'Decoders:' section. It displays a list of decoders with two entries: '95' and '2550446', each with a 'Delete' button. Below the list is a red '+' button to add a new decoder. At the bottom right of the form is a 'Save changings' button.

You can add a new decoder serial number by clicking the  button.

The Billing Administrator must enter all decoder numbers into the database in advance. When the Subscriber enters a decoder on the **Profile** page, the following checks occur:

- checking the checksum to avoid number entry errors (checked on the front-end);
- the decoder number should not contain more than 12 characters (checked on the front-end);
- presence of the decoder number in the database;
- whether the decoder is free or already in use.

If you specified an incorrect decoder number, the program will display the following error message:

“There is no decoder with this number or it is already in use”

Here you can remove the decoder. Confirm decoder removal by clicking **OK**. If the decoder has a prepaid package, then disabling the decoder will take effect during the next tariff activation, which occurs every 30 days. You can see the next activation date on the **Balance** page.

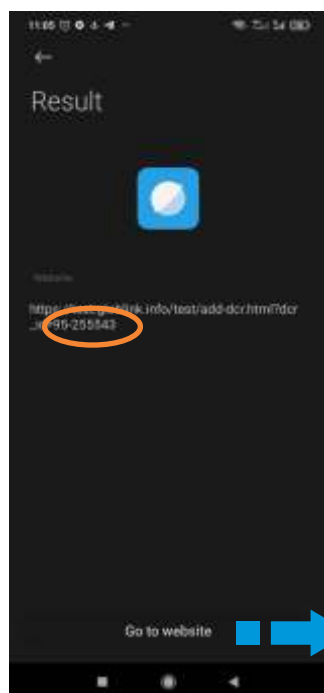


Entering a decoder using a QR code

Using your smartphone, scan the decoder number indicated on the Set-Top-Box sticker. Press the link to the login to the page of the personal account. Follow this link, enter your username and password. Next, you can select program packages for this decoder number on the **Balance** page.



95 - 255543



Log In

Email:

Password:

Lost your password?

Email: cab1@local.in

User name:

Last name:

Country:

Phone number:

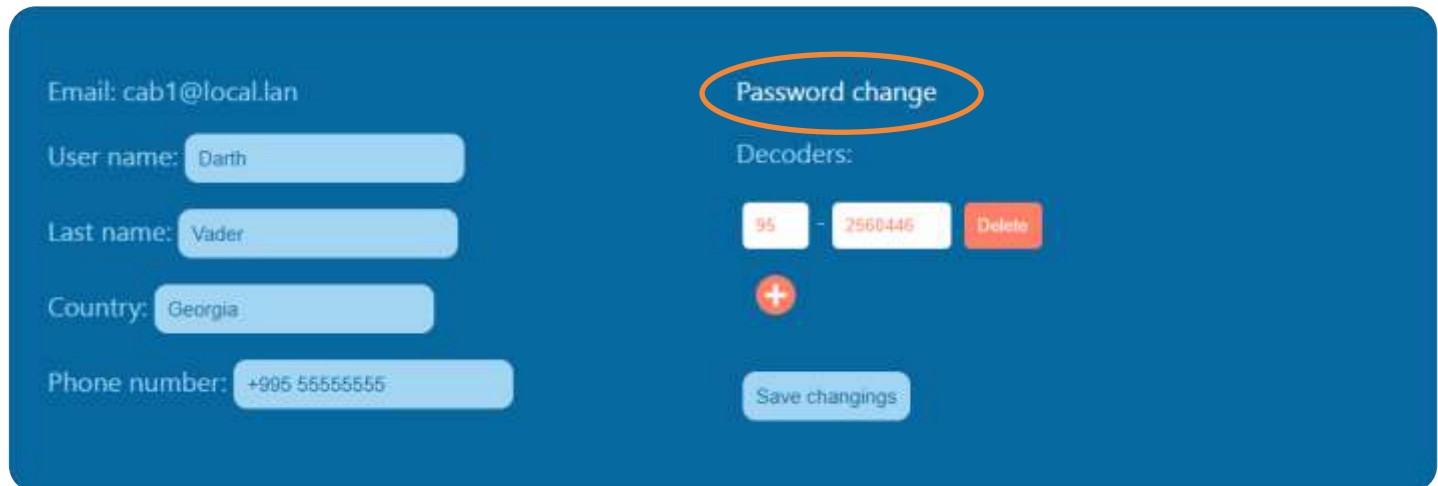
Password change

Decoders:

95	1133446	Delete
95	1332062	Delete
95	1582014	Delete
95	1581204	Delete
95	1581016	Delete
95	100543	Delete

Changing your password on the PROFILE page

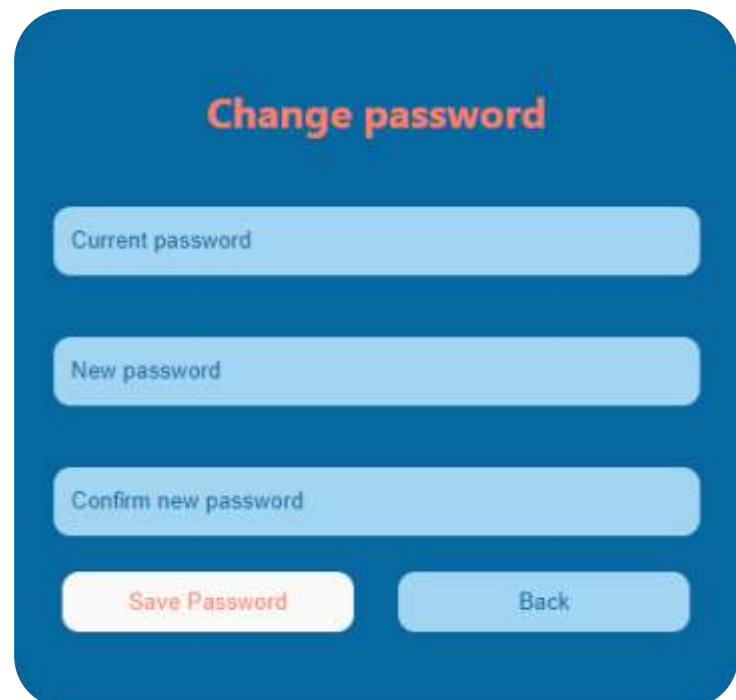
To change the password, click the **Password change** line.



The screenshot shows a user profile page with the following fields and options:

- Email: cab1@local.lan
- User name: Darth
- Last name: Vader
- Country: Georgia
- Phone number: +905 55555555
- Decoders: 95 - 2560446 (with a Delete button)
- A red plus sign (+) button to add more decoders.
- A "Save changings" button.
- The "Password change" link is circled in orange.

Enter your current password and enter your new password twice. Click the **Save** button to save the new password.



The "Change password" form contains the following elements:

- Current password input field
- New password input field
- Confirm new password input field
- Save Password button
- Back button

BALANCE

On this page you can see the current balance of your account, current packages and the number of each Decoder. Here you can top up your balance, turn-on or turn-off the packages.

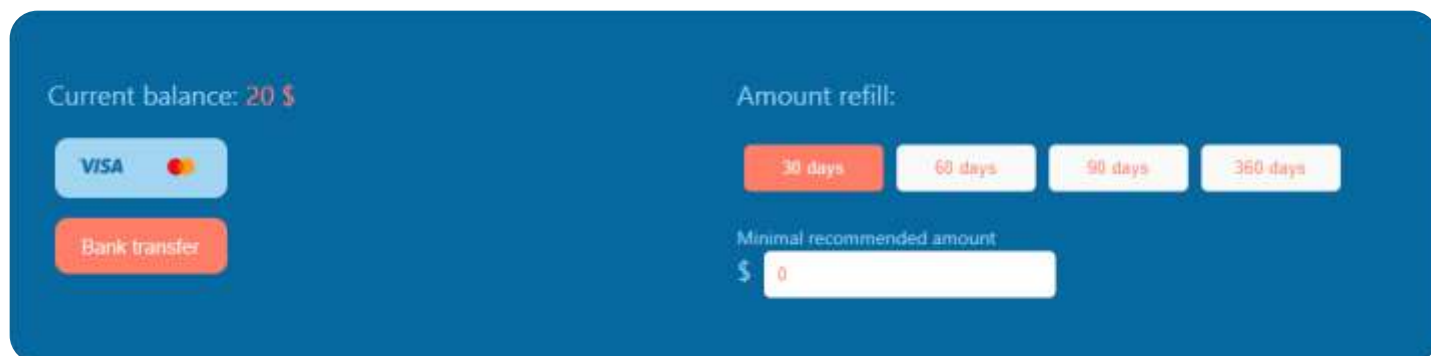
The screenshot displays the 'BALANCE' section of the DVB-BILLING PRO interface. At the top, it shows the 'Current balance: 0 \$' and a 'top up' button. Below this, there are four tabs labeled 'Active', 'Inactive', 'Expired', and 'Deleted'. A 'Minimum amount' field is set to '1000'. The main area contains four decoder entries, each with a 'Decoder id' and a 'Packages' table. Each decoder entry also has a 'Deactivate all packages' button.

Decoder id	Package	Price	Date of next activation
95-27687	<input checked="" type="checkbox"/> Sport4+	USD 1 per 30 days	January 28, 2024
	<input type="checkbox"/> Sport3+	USD 1.2 per 30 days	January 17, 2024
	<input type="checkbox"/> Sport1+	USD 2.8 per 30 days	inactive
	<input type="checkbox"/> Sport2+	USD 2.3 per 30 days	inactive
95-27481	<input checked="" type="checkbox"/> Sport4+	USD 1 per 30 days	January 14, 2024
	<input type="checkbox"/> Sport1+	USD 2.8 per 30 days	inactive
	<input type="checkbox"/> Sport2+	USD 2.3 per 30 days	inactive
	<input type="checkbox"/> Sport3+	USD 1.2 per 30 days	inactive
95-27219	<input checked="" type="checkbox"/> Sport3+	USD 1.2 per 30 days	January 18, 2024
	<input checked="" type="checkbox"/> Sport4+	USD 1 per 30 days	January 25, 2024
	<input type="checkbox"/> Sport1+	USD 2.8 per 30 days	inactive
	<input type="checkbox"/> Sport2+	USD 2.3 per 30 days	inactive
95-27993	<input checked="" type="checkbox"/> Sport1	USD 1 per 30 days	January 17, 2024
	<input type="checkbox"/> Sport1+	USD 2.8 per 30 days	inactive
	<input type="checkbox"/> Sport2+	USD 2.3 per 30 days	inactive
	<input type="checkbox"/> Sport3+	USD 1.2 per 30 days	inactive
95-27993	<input type="checkbox"/> Sport4+	USD 1 per 30 days	inactive

The list of available packages is sent to the frontend from the billing database.

Various types of decoders are possible, both individual and corporate. For all types of decoders, the Administrator creates special packages, depending on the terms of the contract with subscribers. The Billing program offers only packages authorized by the Administrator for the decoder. Typically, only a single special package is available to a corporate subscriber.

Please note that selecting a country on the Profile page is required. If this line is not filled in, you will not be able to assign packages to your decoders.



In the top window you can see your current balance.

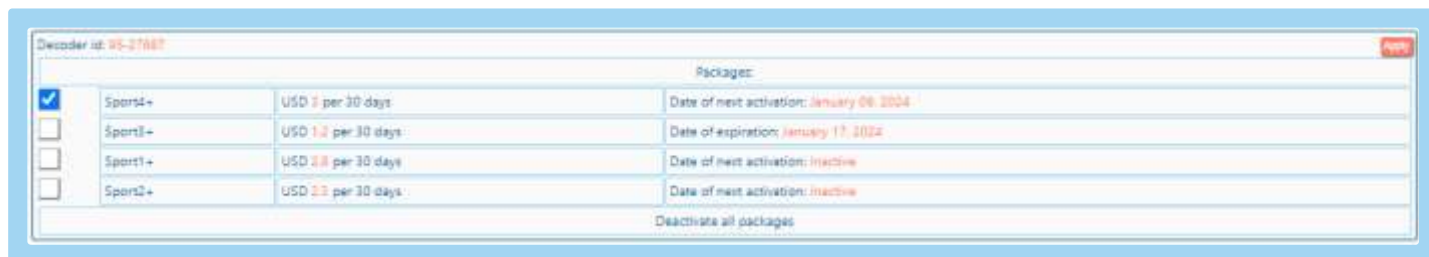
Here you can top up your balance for 30, 60, 90 or 360 days.

In addition, you can deposit any amount. Please note that the payment period is a multiple of 30 days. If the remaining amount is not enough to activate the next 30 days of the service, the service will be deactivated and the remaining amount will remain on the client's balance until the appropriate replenishment of the amount.

The front-end calculates the minimum replenishment amount for the next 30 days and this amount is displayed in the payment entry window. The recommended minimum payment amount is calculated using the formula:

- The current tariff is multiplied by the number of 30-day payment periods (1, 2, 3 or 12, depending on the choice of payment period) and the current balance is subtracted from this amount. The default period is 30 days.

You can pay for the service using a **Visa/Master card** by selecting the appropriate icon. When you click the **Bank Transfer** button, an Invoice is generated and will be sent to your email address.



In the following windows you can see information about the Decoders that you have registered in the **Profile** menu:

- Decoder serial number;
- Date of next activation or deactivation of packages;
- Current packages for this Decoder;
- List of available packets.
- Button for deactivating all packets (disabling the Decoder).
-

Note. The package is activated immediately if there is a sufficient balance. Deactivation of the package will take effect the next time the tariff is activated, which occurs every 30 days at 00:00 UTC. You can see the next activation date in the same window. Also, you have the opportunity to add packages. These changes take effect immediately and the cost of the new package will be debited from your balance. The programs in each package will be available for viewing until the next package activation date, which occurs every 30 days.

If, when adding a package, there are not enough funds on the balance, the front-end displays a message:

Attention. Please, fill your balance before next payment cycle

If the subscriber has turned-off one of the packages for the Decoder or pressed the **DELETE ALL PACKAGES** button, the text of the "Date of next activation:" line will change to "Date of expiration:".

Pages available
the Administrator of the Billing

Initial system setup

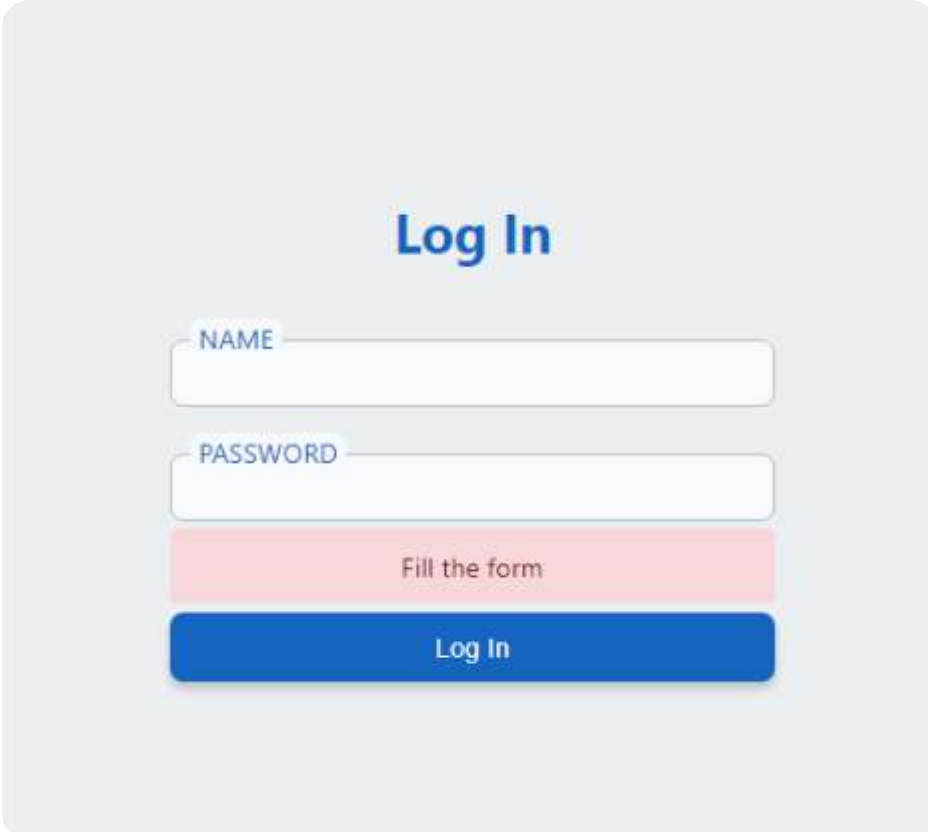
Work with the program is carried out using the WEB interface.

Launch any WEB browser and enter **https://billing.your_domain_name**

The Administrator enters Name and Password:

Name "*****"

Password "*****"



Log In

NAME

PASSWORD

Fill the form

Log In

SUBSCRIBERS menu

Press the **SUBSCRIBERS** button to enter the SUBSCRIBERS menu. The page shows a list of Subscribers. The list can be viewed using the scrolling engine and page switcher.

The screenshot shows the SUBSCRIBERS menu interface. At the top, there is a navigation bar with tabs for Subscribers, Packages, Decoders, Password, Constructor, Currency, Reports, and Operators, along with a Log Out button. Below the navigation bar is a 'Get Filtered list' button. The main area contains three search filters: 'Email' (Find by Email), 'User Name' (Find by User Name), and 'Phone' (Find by Phone). Below the filters is a table of subscribers with columns for Email, User Name, and Phone. The table contains 10 rows of data, with some fields redacted with blue bars. At the bottom right, there is a page switcher showing '1 / 1 2 / 2'.

Email	User Name	Phone
an[redacted].com	An[redacted]ov	55[redacted]55
b[redacted].com	B[redacted]n	+7[redacted]39
.alt[redacted].com	Hus[redacted]adh	[redacted]
[redacted].n	Vu[redacted]ovi	+9[redacted]33
an[redacted].com	An[redacted]ov	55[redacted]55
b[redacted].com	B[redacted]n	0[redacted]9
[redacted].it	sim[redacted]cda	+3[redacted]58
[redacted].n	გაბ[redacted]ინგი	[redacted]
g[redacted].com	[redacted]	[redacted]
[redacted].m	aleca[redacted]adze	+9[redacted]97

You can also use filter search. Type all or only some characters of the Subscriber's Name or email, or phone number (without the + symbol). Click the button **Get Filtered list**.

The screenshot shows the SUBSCRIBERS menu interface after a filter search. The 'User Name' search filter contains the text 'and'. The table below shows only 4 rows of data, representing subscribers whose names contain 'and'. The page switcher at the bottom right shows '1 / 1 1 / 1'.

Email	User Name	Phone
an[redacted].com	Andrii[redacted]	55[redacted]55
an[redacted].com	Andrii[redacted]	55[redacted]55
[redacted].com	alexandr[redacted]e	+9[redacted]97
br[redacted].com	Andrii[redacted]	55[redacted]55

SUBSCRIBERS details

Click on a line in the list of Subscribers. Below you will see detailed information about the client. Please note that items cannot be edited by the Administrator.

Click on the **Show payments** button. The page with payments for this Subscriber will be displayed. Here the Administrator can view payments using the period filter.

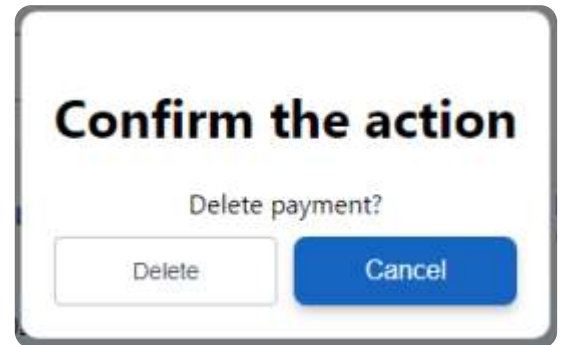
User ID	Email	Name	Trans ID	Date	Amount in internal currency	Amount in payment currency	payment currency	payment currency rate	Document
30	a.ni[redacted]o.com	TBC	42	2024-11-01 16:56:26	51.00	51	GEL	1	Oto5aL3pWtz24201133
30	a.ni[redacted]o.com	TBC	32	2024-10-11 11:44:12	34.00	34	GEL	1	ULxOGQ20bT424151027
30	a.ni[redacted]o.com	TBC	30	2024-10-11 10:05:00	17.00	17	GEL	1	fkVxHfBOXt24141045

The administrator has the right to make a payment manually or delete an erroneous payment.



A form for adding a payment with the following fields and controls:

- Amount:** A text input field.
- Invoice Id:** A text input field containing the value "0".
- Currency:** A dropdown menu currently showing "GEL".
- Document:** A text input field.
- Buttons:** A blue "Add" button and a white "Cancel" button.



Confirm the action

Delete payment?

PACKAGES menu

Press the **PACKAGES** button to enter the menu.

The Administrator has the right to form the names of packages and types of packages, rename and change the cost of packages.. Package information is sent to the Package **Constructor** from this page. In the Package **Constructor**, you must assign the encoding types and the package group numbers. Only after this, the Billing program will generate a list of programs for each package.

The screenshot shows the 'PACKAGES' menu interface. At the top, there is a navigation bar with tabs for 'Subscribers', 'Packages', 'Decoders', 'Password', 'Constructor', 'Currency', 'Reports', and 'Operators'. A 'Log Out' button is in the top right. Below the navigation bar is a search area with a 'Find by name' input field and a 'Get Filtered list' button. The main area contains a table with the following data:

Name of Package	Price	Type	Date of Creating	
Free tariff	0	Free	2024-06-15 14:04:51	Edit
Corporative1	59	Corporative	2024-06-15 12:53:02	Edit
Sport Plus	8	Individual	2024-06-15 12:34:00	Edit
Setanta Sports	17	Individual	2024-06-15 12:26:03	Edit

At the bottom right of the table, there is a pagination indicator '1 ... 1 ... 1'. Below the table is an 'Add' button.

Click the **ADD** button to add a new package.

The cost of packages is indicated in the internal currency of the billing program (see **CURRENCY** menu).

Select a package type from the list. You can add a new package type and press “**Enter new type and press this button**”.

The form for adding a new package consists of the following elements:

- A text input field labeled 'Name of Package'.
- A text input field labeled 'Price'.
- A dropdown menu currently showing 'Individual'.
- Two buttons: 'Add' (blue) and 'Cancel' (grey).

This is a close-up of the package type selection dropdown menu. It shows the following options:

- 'New' (highlighted)
- 'Price' (label for the next field)
- '10' (value for the next field)
- 'Types' (label for the dropdown)
- 'Free'
- 'Corporative'
- 'test6'

At the bottom of the dropdown, there is a button labeled 'Enter new type and press this button'.

DVB-BILLING PRO

Click the **EDIT** button to edit the package.

Here the Administrator can change the package name and package price. Here you can specify the package type from the list or add a new type - individual, corporate, free, etc. For packages of the “Free” type, you must assign a zero cost.

The image shows a sequence of three screenshots illustrating the package editing process. The first screenshot shows a package named 'Free tariff' with a price of 0 and a type dropdown menu open, listing 'test2', 'test', 'test3', and 'test4'. A blue arrow points from this dropdown to the second screenshot, which shows the package named 'Sport Plus' with a price of 8 and type 'Individual'. A second blue arrow points from the 'List of countries where the package is allowed' section of the second screenshot to a third screenshot showing a dropdown list of countries with 'Afghanistan (AF)' selected and marked with a checkmark.

From the drop-down list you need to select countries in which viewing programs of this package are allowed. If there are no restrictions, then you must select **All countries**.

This screenshot shows a horizontal list of selected countries, each in a light grey box with a close button (x): 'Armenia (AM) x', 'Azerbaijan (AZ) x', and 'Bulgaria (BG) x'. A vertical line is positioned to the right of the Bulgaria entry.

DECODERS menu

Press the **DECODERS** button to enter the menu.

The Administrator has the right to add new decoders to the database and indicate the type of package available for this decoders.

The Administrator can enter either one decoder or a group of decoders of the same type.

The screenshot shows the 'Decoders' menu in the DVB-BILLING PRO application. At the top, there is a navigation bar with tabs for 'Subscribers', 'Packages', 'Decoders', 'Password', 'Constructor', 'Currency', 'Reports', and 'Operators'. A 'Log Out' button is located in the top right corner. Below the navigation bar, there is a search field labeled 'Find by decoder id' and a 'Get Filtered list' button. The main content area displays a table with the following columns: 'Decoder number', 'Type of package', and 'Date of Creating'. Each row in the table has an 'Edit' button to its right. Below the table, there are two buttons: 'Add' and 'Upload the file'. At the bottom right of the table area, there is a pagination indicator showing '1 ... 1 2 3 4 ... 15'.

Decoder number	Type of package	Date of Creating	Edit
95-25600006	Individual	2024-07-11 07:55:51	Edit
95-25600272	Individual	2024-07-11 07:56:13	Edit
95-25600554	Individual	2024-07-11 07:56:37	Edit
95-25600828	Individual	2024-07-11 08:17:36	Edit
95-25601118	Individual	2024-07-11 08:17:02	Edit
95-25601352	Individual	2024-07-11 08:16:46	Edit
95-25601650	Individual	2024-07-11 08:17:19	Edit
95-25601892	Individual	2024-07-11 08:31:15	Edit
95-25602230	Individual	2024-07-11 08:31:50	Edit
95-25602464	Individual	2024-07-11 08:30:48	Edit

Click **Upload the file** to add a list of new decoders.

Press the **ADD** button to add new decoder manually.

The operator can enter several decoders of the same type, separated by commas.

The modal dialog for adding a new decoder features a text input field labeled 'Decoder numbers'. Below the input field are two buttons: a blue 'Add' button and a white 'Cancel' button.

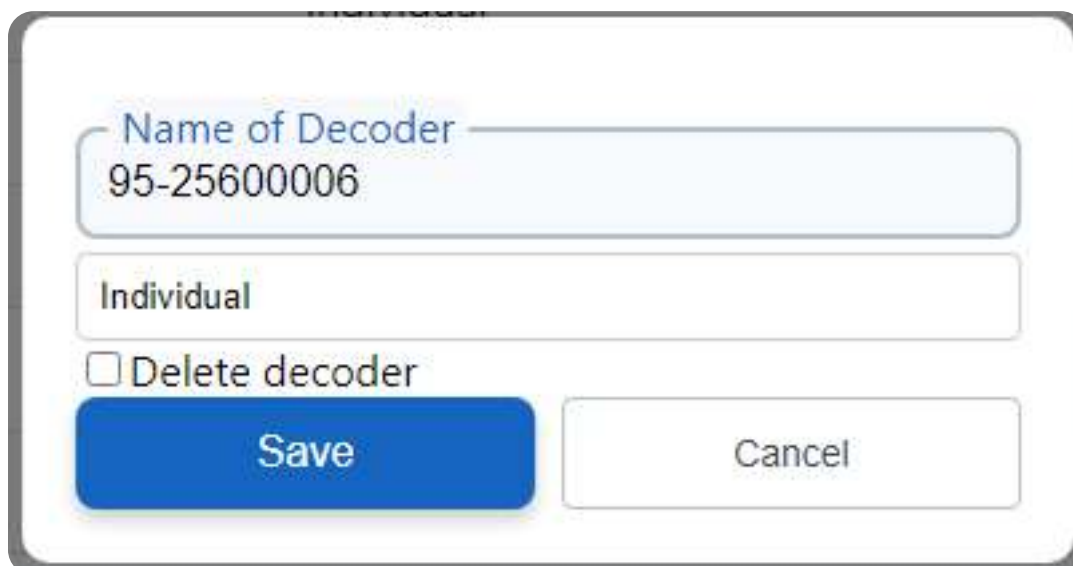
DVB-BILLING PRO

Press the **EDIT** button to edit the Packet Type available for this decoder.

Please note that the Decoder Number cannot be edited.

The Administrator can delete a decoder by activating the **Delete decoder** window.

Click **SAVE** to save your changes.

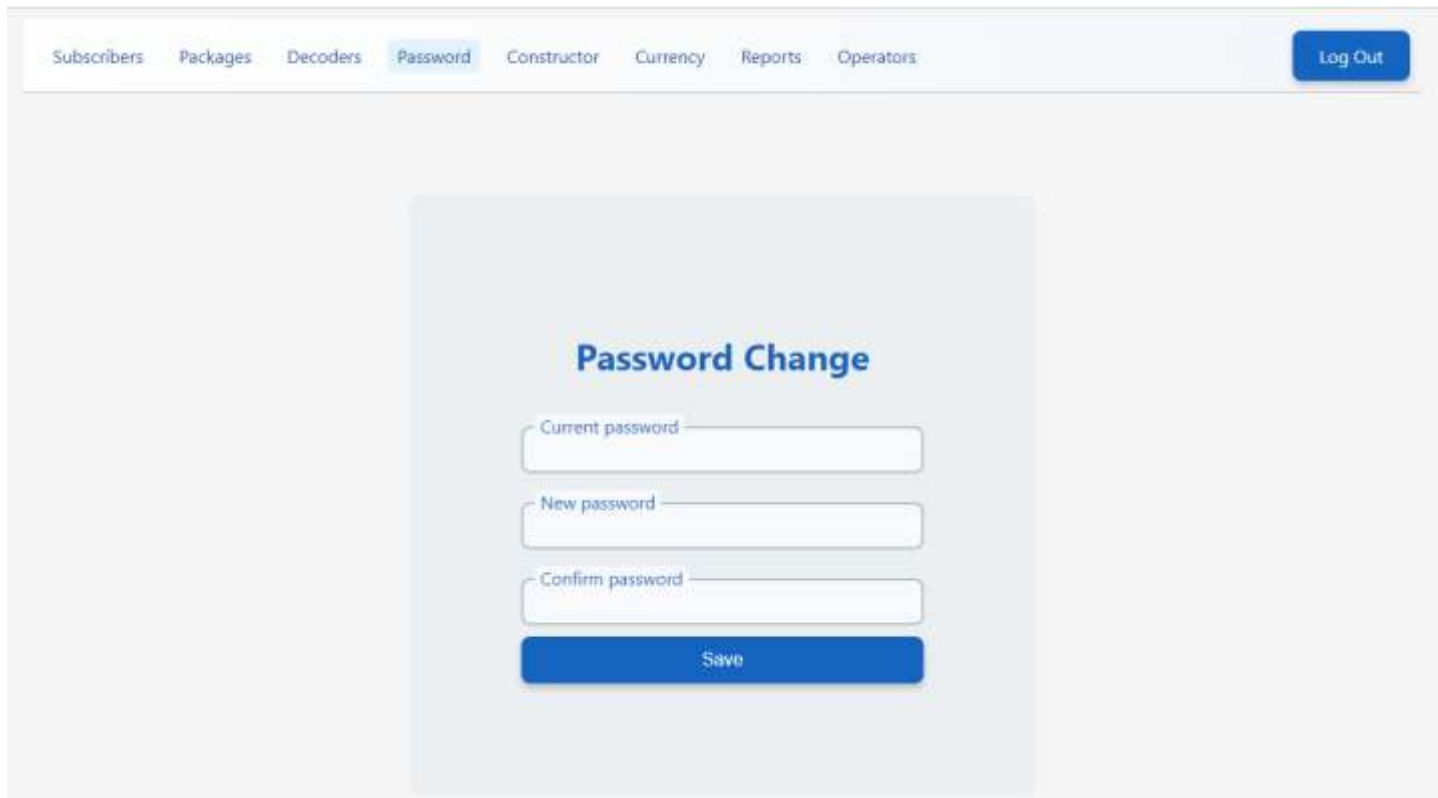


The image shows a configuration window for a decoder. It contains the following elements:

- A text input field labeled "Name of Decoder" containing the value "95-25600006".
- A dropdown menu currently showing "Individual".
- A checkbox labeled "Delete decoder" which is currently unchecked.
- A blue "Save" button.
- A white "Cancel" button.

PASSWORD menu

On this page the Administrator can change his password. Enter your current password and your new password twice. Click the **SAVE** button to save the new password.



The screenshot shows a web interface with a navigation bar at the top containing the following items: Subscribers, Packages, Decoders, Password (highlighted), Constructor, Currency, Reports, and Operators. A Log Out button is located in the top right corner. The main content area features a central form titled "Password Change" with three input fields: "Current password", "New password", and "Confirm password". A blue "Save" button is positioned below the input fields.

CONSTRUCTOR of Packages

Attention! Changes to the **Constructor** can only be made by the Administrator.
This page is hidden from Operators.

The administrator, when installing the system, can perform the following actions:

- add a new multiplexer (MUX) by pressing the **+** button (the next Transport Stream ID value is automatically generated);
- remove multiplexer;
- indicate the group number for the new TS ID in the **Choose group** column:

Choose group:

Administrator also:

- creates channel packages on the **PACKAGES** page, from where the list of packages is automatically sent to the **Package --> Group** table of the Package **Constructor**.
- in the **Package --> Group** table, the Administrator specifies the encoding type used for each packet in the multiplexers of each group.
- in the menu **PROGRAM-->PROGRAM PROPERTIES** of each multiplexer, the encoding type is set for each program (C0, C1, C2 or C3). See page 5.

Packages	Group 0			Group 1			Group 2			Group 3			Group 4			Group 5			Group 6			Group 7			Group 8			Group 9								
	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3	C1	C2	C3			
SPORT2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPORT4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPORT2+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPORT3+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPORT4+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Номер бита	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29						

Each packet is assigned an encoding type (C1, C2 or C3) and a group number.

Several groups can be assigned to one package.

As a result, the bitmask of each packet in decimal form is transmitted to the Billing backend.

For example, for the SPORT2 package we select encoding C3 in group 0 and C2 in group 8.

The bit mask is equal to 100000000000000000000000000000100.

In decimal form: $2^2 + 2^{25} = 4 + 33554432 = 33554436$.

For example, for the SPORT4 package we select coding C1 in group 0 and C2 in group 2.

Bit mask is 10000001.

In decimal form: $2^0 + 2^7 = 1 + 128 = 129$.

DVB-BILLING PRO

- After these steps, the correspondence of packages and programs is formed. The list of programs comes to the Billing Server from the multiplexers and now, when you move the cursor to the name of the package, a list of programs in this package appears.
- To get the current list, press the **REFRESH** button.
- Click the Package name to see **List of programs** of this package.

The screenshot shows the DVB-BILLING PRO interface. At the top left, there is a 'Refresh' button and the text 'Press to receive actual data from multiplexers'. Below this is a table with columns for 'Packages', 'Group 0', 'Group 1', and 'Group 2'. Each group has sub-columns 'C1', 'C2', and 'C3'. The table lists four packages: 'Setanta Sports', 'Free tariff', 'Sport Plus', and 'Corporative1'. A modal window titled 'List of programs' is open over the 'Sport Plus' package, listing the following programs: Sport Plus, GMS Sport, Football TV, Rugby TV, 1 Arkhi Sporti, Sport1, Sport2, Service01, and Promo. A 'Close' button is at the bottom of the modal.

Packages	Group 0			Group 1			Group 2		
	C1	C2	C3	C1	C2	C3	C1	C2	C3
Setanta Sports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Free tariff	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sport Plus	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corporative1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

List of programs

- Sport Plus
- GMS Sport
- Football TV
- Rugby TV
- 1 Arkhi Sporti
- Sport1
- Sport2
- Service01
- Promo

Close


Save

CURRENCY menu

Press the **CURRENCY** button to enter the menu.

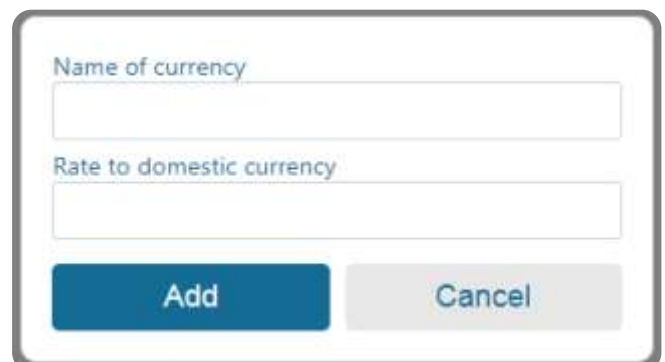
The Administrator has the right to indicate the name of the payment currencies and the current exchange rate to the internal currency of the billing program.

The cost of packages is indicated in internal currency. Payment archive is stored in internal currency. If there is no new exchange rate for the payment currency to the internal currency on the current date, the program applies the last saved rate. If the exchange rate of the internal currency to any state currency is equal to 1.00, then, in fact, the billing program will keep records in this state currency.



Date	Name of currency	Rate to domestic currency
2024-06-15 15:44:16	GEL	1
2024-08-29 16:14:36	USD	2.85

The Administrator has the right to indicate the current exchange rate to the internal currency of the billing program



Name of currency

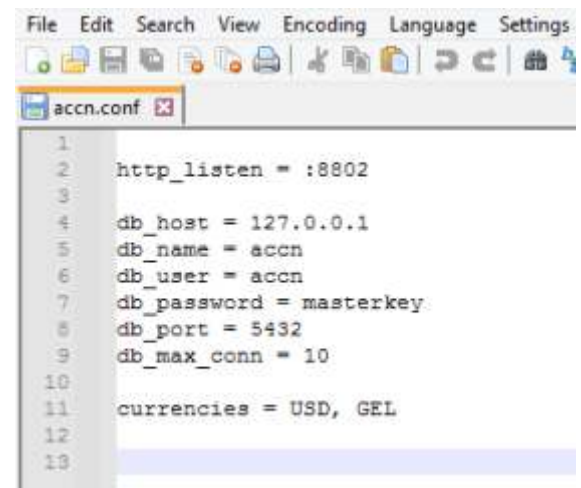
Rate to domestic currency

Add Cancel

The list of the state currencies available to the Administrator is indicated in the **accn.conf** file.

The names of currencies are entered separated by commas in the currencies line, for example:

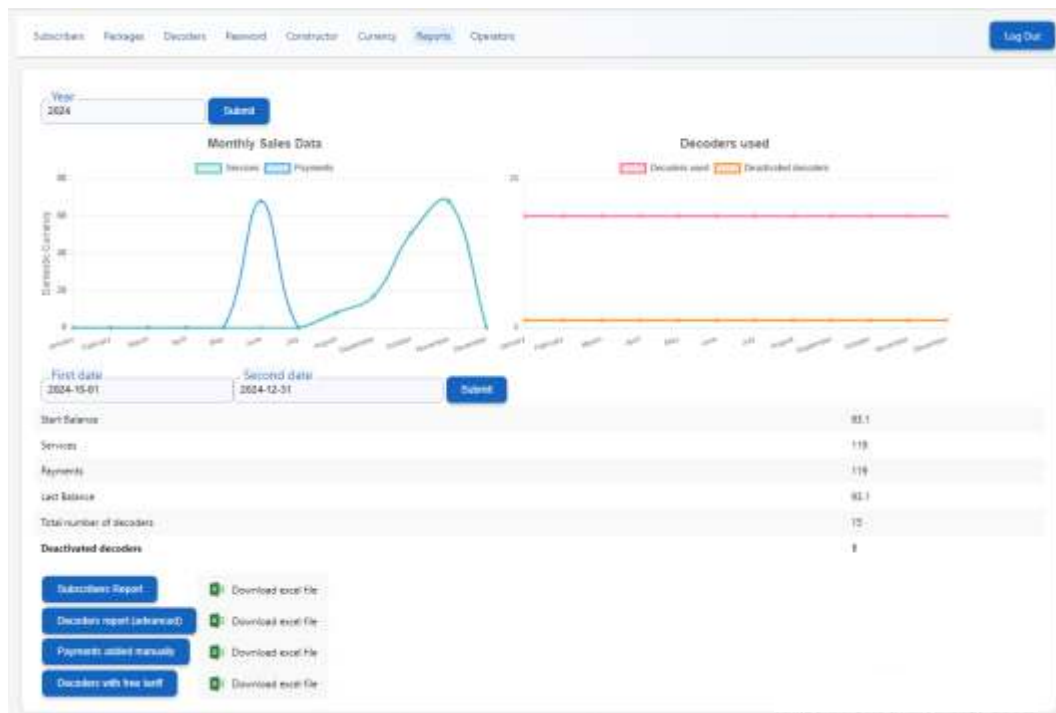
currencies = USD, GEL



```
1 http_listen = :8802
2
3
4 db_host = 127.0.0.1
5 db_name = accn
6 db_user = accn
7 db_password = masterkey
8 db_port = 5432
9 db_max_conn = 10
10
11 currencies = USD, GEL
12
13
```

REPORTS menu

Press the **REPORTS** button to enter the menu.



You can see the **Monthly Sales Data** and **Decoders Used** diagrams.

Select **Year** and press **Submit** button.

To generate a report, you need to select the start date and end date of the reporting period. Click the **Submit** button. The results are displayed in the corresponding menu fields:

- **Start Balance**,
- **Services** (funds withdrawn from subscriber accounts for the period),
- **Payments** (payments for the period),
- **Last Balance**,
- **Total numbers of decoders**,
- **Deactivated decoders**.

To generate reports, click one of the buttons:

- **Subscribers report**;
- **Decoders report** (full information about payments, decoders and subscribers);
- **Payments added manually**;
- **Decoders with free tariff** (information about service decoders).

After you have selected the period and type of report, the billing server will prepare the corresponding file in Excel format.

OPERATORS menu

Press the **OPERATORS** button to enter the menu. The administrator has the right to add operators and set Rights.

User Name	Name	Email	Phone	Rights	
root2	Andrii	ar[REDACTED].com	5[REDACTED]3	63	Edit
Administrator	Byrlyk	bi[REDACTED].com	2222222222	63	Edit
testAdmin2	Birlik	bir[REDACTED].com	33333333333333333333	63	Edit
Operator	Byrlyk	birli[REDACTED].com	1111111111	3	Edit
TBC	TBC	None	None	4	Edit

Click the **Add** button to add a new Operator.

User Name

Password

Name

Email

Phone

Save Cancel

Click the **Edit** button to edit Operator information.

User Name

Name

Email

Phone

View users (1)	View payments (2)	Add payments (4)	Add currencies rates (8)	View operators (16)	Administrator (all rights are included) (32)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Save Cancel

Pages available
the operators of the Billing

Initial system setup

Work with the program is carried out using the WEB interface.

Launch any WEB browser and enter **https://billing.your_domain_name**

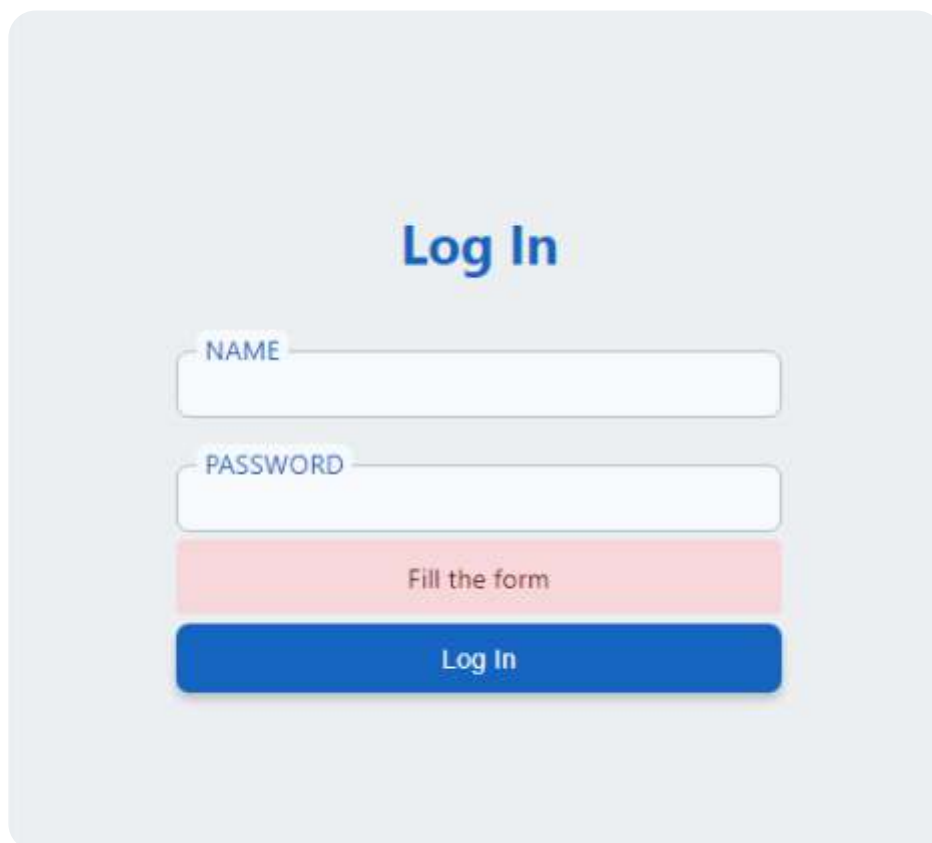
The Administrator sets the Operator Name, Password and Rights for each Operator who has the right to work on the server.

Enter your Login and Password:

Name "*****"

Password "*****"

We recommend changing your password to confidential.



The screenshot shows a login form titled "Log In" in a blue font. Below the title are two input fields: "NAME" and "PASSWORD", both with light blue placeholder text. Below the "PASSWORD" field is a light red button labeled "Fill the form". At the bottom is a dark blue button labeled "Log In". The entire form is set against a light gray background.

SUBSCRIBERS menu

Press the **SUBSCRIBERS** button to enter the SUBSCRIBERS menu. The page shows a list of Subscribers. The list can be viewed using the scrolling engine and page switcher.

The screenshot shows the SUBSCRIBERS menu interface. At the top, there are navigation tabs: Subscribers (selected), Packages, Decoders, Password, and Currency. A Log Out button is in the top right corner. Below the tabs is a 'Get Filtered list' button. Underneath are three search input fields: 'Email Find by Email', 'User Name Find by User Name', and 'Phone Find by Phone'. The main area displays a table of subscribers:

Email	User Name	Phone
and[redacted].com	And[redacted]rov	555[redacted]55
bir[redacted].com	Bir[redacted]in	+7 7[redacted]39
alhe[redacted].com	Huss[redacted]adh	7[redacted]
v[redacted].m	Vug[redacted]ovi	+95[redacted]33
aer[redacted].com	And[redacted]rov	555[redacted]55
bir[redacted].com	Bir[redacted]in	87[redacted]9
si[redacted].bit	simon[redacted]occhia	+35[redacted]58
d[redacted].om	ლავია[redacted]ცილი	5[redacted]
gre[redacted].com	[redacted]	5[redacted]
a[redacted].om	alexan[redacted]adze	+95[redacted]97

At the bottom right, there is a page switcher: 1 ... 1 2 ... 2.

You can also use filter search. Type all or only some characters of the Subscriber's Name or email, or phone number (without the + symbol). Click the button **Get Filtered list**.

This screenshot shows the same SUBSCRIBERS menu interface, but with a filtered list of subscribers. The 'User Name' search field contains the text 'and'. The table now only shows subscribers whose names start with 'and':

Email	User Name	Phone
and[redacted].com	An[redacted]rov	55[redacted]555
aer[redacted].com	An[redacted]rov	55[redacted]555
a[redacted].om	alexan[redacted]adze	+95[redacted]297
broa[redacted].com	An[redacted]rov	55[redacted]555

The page switcher at the bottom right now shows: 1 ... 1 ... 1.

SUBSCRIBERS details

Click on a line in the list of Subscribers. Below you will see detailed information about the client. Please note that items cannot be edited by the Operator.

The screenshot displays the 'Subscriber details' page. At the top, there are navigation tabs: 'Subscribers', 'Package', 'Devices', 'Payment', and 'Country'. A 'Log Out' button is in the top right. Below the tabs is a 'Subscriber list' button. The main area contains several input fields: 'Email' (with a dropdown arrow), 'User Name', 'Phone', and 'Address'. Below these are three rows of data, each with a dropdown arrow and a numerical value. The bottom section is divided into two columns. The left column has fields for 'Address', 'Number of stations', 'Monthly tariff', 'Last payment', and 'Devices'. The right column has fields for 'Phone', 'Country', 'State of Country', and 'Packages'. Each 'Devices' and 'Packages' section shows a table with columns for 'Subscriber Sports', 'Units per 30 days', and 'Date of next activation'.

Click on the **Show payments** button. The page with payments for this Subscriber will be displayed. Here the **Operator** can view payments using the period filter.

The screenshot shows the 'Show payments' page. At the top, there are two date filter fields: 'Date' and 'Last date', both with 'XXXX-XX-XX' placeholders, and a 'Submit' button. Below the filters is a table with the following columns: 'User ID', 'Email', 'Name', 'Trans ID', 'Date', 'Amount in internal currency', 'Amount in payment currency', 'payment currency', 'payment currency rate', and 'Document'. The table contains three rows of payment data.

User ID	Email	Name	Trans ID	Date	Amount in internal currency	Amount in payment currency	payment currency	payment currency rate	Document
30	a.nik[redacted]oo.com	TBC	42	2024-11-01 16:56:26	51.00	51	GEL	1	Oto5aL3pWtz24201133
30	a.nik[redacted]oo.com	TBC	32	2024-10-11 11:44:12	34.00	34	GEL	1	ULxOGQ20bT424151027
30	a.nik[redacted]oo.com	TBC	30	2024-10-11 10:05:00	17.00	17	GEL	1	RkVx:FhBOXt24141045

At the bottom right of the table, there is a pagination control showing '1' and '1'.

PACKAGES menu

Press the **PACKAGES** button to enter the menu.

The Operator has the right to read this page only.

Name of Package	Price	Type	Date of Creating
Free tariff	0	Free	2024-06-15 14:04:51
Corporative1	59	Corporative	2024-06-15 12:53:02
Sport Plus	8	Individual	2024-06-15 12:34:00
Setanta Sports	17	Individual	2024-06-15 12:26:03

DECODERS menu

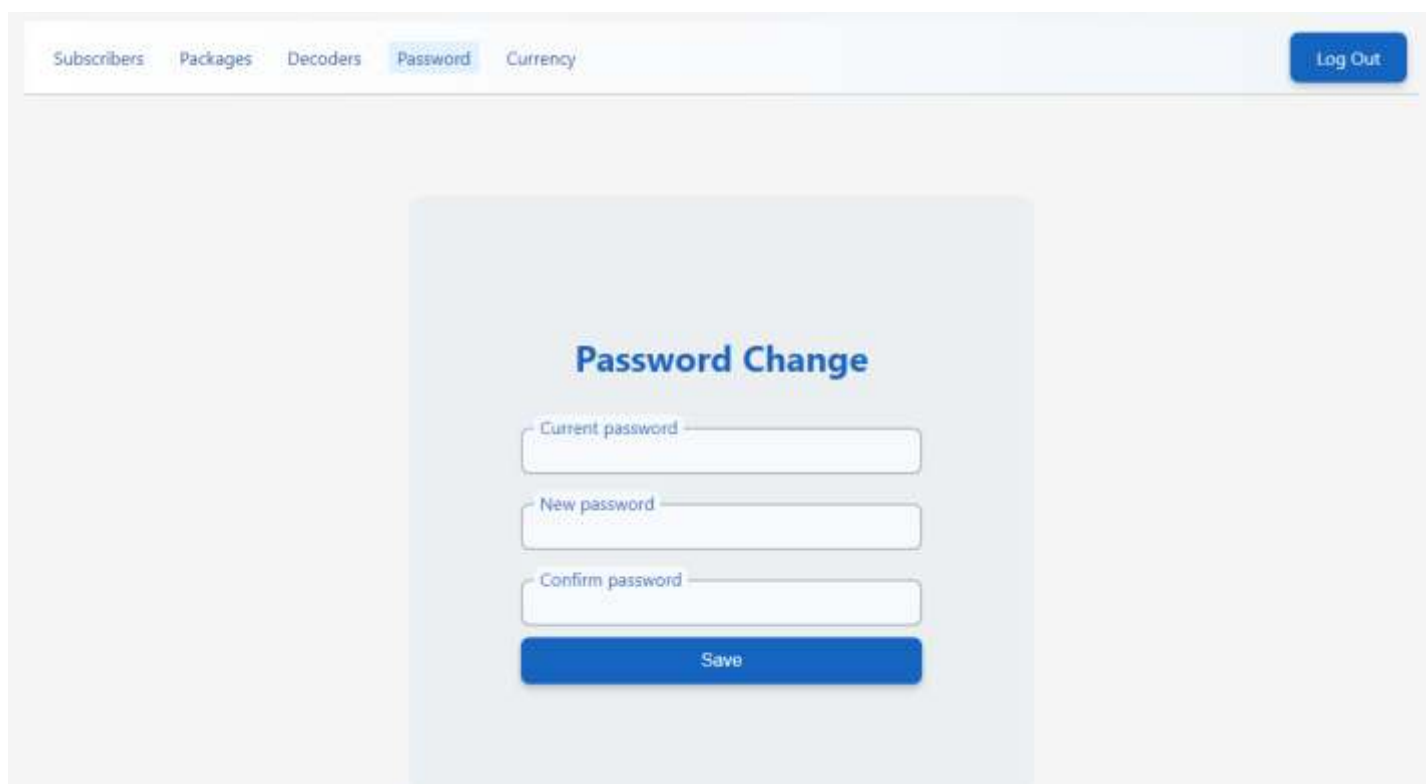
Press the **DECODERS** button to enter the menu.

The Operator has the right to read this page only.

Decoder number	Type of package	Date of Creating
95-396	Free	2024-06-22 09:34:19
95-694	Free	2024-07-11 06:45:40
95-928	Free	2024-06-23 15:12:52
95-1218	Individual	2024-07-11 06:52:10
95-1492	Individual	2024-07-11 06:51:37
95-1774	Free	2024-07-11 06:51:55
95-2040	Individual	2024-07-11 06:52:29
95-2090	Free	2024-07-11 06:52:44
95-2364	Individual	2024-07-11 06:52:55
95-2566	Individual	2024-07-11 07:55:28

PASSWORD menu

On this page the Operator can change his password. Enter your current password and your new password twice. Click the **Save** button to save the new password.



The screenshot shows the 'Password Change' form within the application's navigation menu. The menu includes 'Subscribers', 'Packages', 'Decoders', 'Password', and 'Currency'. A 'Log Out' button is located in the top right corner. The form itself is centered and contains three input fields: 'Current password', 'New password', and 'Confirm password'. Below these fields is a blue 'Save' button.

CURRENCY menu

On this page the Operator can see the currencies rates.



The screenshot displays the 'Currency' menu with a 'Refresh' button and a table of currency rates. The table has three columns: 'Date', 'Name of currency', and 'Rate to domestic currency'. The data is as follows:

Date	Name of currency	Rate to domestic currency
2024-06-15 15:44:16	GEL	1
2024-08-29 16:14:36	USD	2.85