

## Twin DB-800-CI two-channels receiver



### Features:

The device receives two DVB-S/S2 transponders in one time, descrambling CAS – services and transmit a transport stream (up to five services of each transponder, not more than 15 Mb) to IP-output of receiver;

The device is equipped with a two Smartcard-readers and two CI-slots.

Manage and complete information about the state of the receiver on WEB

### Options:

Input frequency	950 ... 2150 MHz
Input signal level	-65 ... -25 dBm
S/N	Not less than 7 dB
Input impedance	75 Ohm
Demodulation	QPSK /8PSK
Input transponder symbol rate	1 ... 45 Msymb/s (QPSK) 1 ... 37 Msymb/s (8PSK)
Max operation service symbol rate	45 MB
FEC	1/2, 2/3, 3/4, 5/6, 7/8 (QPSK) 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 7/8, 8/9, 9/10 (8PSK)
Videocompression type	MPEG-2/4
Trophy-Access embedded decryptor	In order
Operating temperature	0°C ... 45°C
Supply voltage	12V

### Interfaces

Input interface	Ethernet 100BASE-T
Control interfaces	Ethernet 100BASE-T
Input connector	F - connector
Output connector	RG45

All changes to the DB-800-CI settings are made through an FTP client, using FAR MANAGER and TOTAL COMMANDER. To do this, go to the DSC-01 from the network or by connecting a monitor and keyboard.

We go to the DB-800-CI via FTP:  
enter the destination address in the form: root@10.10.10.124 [Enter]  
login: **root**  
Password: **dreambox**  
Find the desired file and press [F4].  
After making changes, do not forget to save [F2].

## - DB-800-CI receiver and BISS encryption.

Keys file use for this situation.

Keys file is placed in a folder with the setting of the OSCAM: **/etc/tuxbox/config**  
Name of the file is **oscam.keys**. We enter into this file the needed keys.

For example, keys for BISS decryption has format:

F <SID of channel><Video PID of channel> 00 <key>

F <SID of channel ><Video PID of channel> 01 <key>

Channel SID and Video PID you can see here: <http://www.lyngsat.com>

For example, for TET channel (4.8°E) (<http://www.lyngsat.com/astra4a.html>)

SID-VPID => 6110 and 6111 (in decimal system)

You need to convert these numbers into HEX system: 6110 & 6111 DEC => 17DE & 17DF HEX

Thus, you should write into file:

F 17DE17DF 00 xxxxxxxxxxxxxxxxx

F 17DE17DF 01 xxxxxxxxxxxxxxxxx

You should write official BISS key instead.

If you'll write 1FFF instead "Video PID of channel", it will be right.  
For example:

```
F 17DE1FFF 01 xxxxxxxxxxxxxxxxx
```

```
F 19781979 00 1A1A1A001A1A1A00 ;1 auto ua (4.8E)
```

```
F 19781979 01 1A1A1A001A1A1A00 ;1 auto ua (4.8E)
```

```
F 00011FFF 00 CBA987FB654321C9 ; TV Canaria tonytr 2008-05-14 02:06:36
```

```
F 00011FFF 01 CBA987FB654321C9 ; TV Canaria tonytr 2008-05-14 02:06:36
```

```
F 17ED1FFF 00 1A2B3C814D5E6F1A ; 1+1 International ricky 2011-06-11 22:30:09
```

```
F 17ED1FFF 01 1A2B3C814D5E6F1A ; 1+1 International ricky 2011-06-11 22:30:09
```

```
F 17e817e9 00 0902190063230600 ;2+2
```

```
F 17e817e9 01 0902190063230600 ;2+2
```

### - **DB-800-CI receiver and conditional access card.**

You enter into **directory /usr/bin** and you must to edit **streamts.sh** script.  
You must comment out ( # symbol) the lines:

```
#!/bin/sh
if [ ! -e /var/keys ] ; then
    ln -s /etc/keys /var/keys
fi
killall camd3
killall oscam
killall streamts
sleep 3
#/usr/bin/camd3
/usr/bin/oscam -b
sleep 2
/usr/bin/streamts

#/var/bin/fbiss,
#/usr/bin/oscam -b
```

And you must to remove the comment in line:

```
/var/bin/camd3
or you must to add the line, if line is not..
```

Save the file.

It are files into /var/keys directory:

camd3.config

```
BOXTYPE=4
HTTP_PORT=9080
HTTP_ADMIN=admin
HTTP_PASSWORD=camd3
DESCR_DELAY=500
SLOT=/dev/sci0:2:1:1:1:999:slotunten:password3 # server
```

camd3.filter

```
0500:023700:FFFF:FFFF:1:1
```

camd3.ignore

```
0500:020710:FFFF:FFFF
0500:040600:FFFF:FFFF
0500:030600:FFFF:FFFF
```

camd3.servers

```
#cs357x://dm1:dm1:SERVICES=/var/keys/camd3.filter@10.10.10.100:20248 #client
```

camd3.users

```
dm1:dm1:SERVICES=/var/keys/camd3.filter
```

This is example for camd3 configuration for **local** encryption of the services and for keys distribution on the network. Distribution conducted using filtering of non-23700 idents.

Client configuration differs only in the absence of # symbol into the first position of the camd3.servers file. You can see IP address of receiver (10.10.10.100, conditional access card is inserted), where camd3 is launched into configuration of the server of the keys.

## How to replaced IP-address of DB-800-Cl.

You can to correct **/etc/network/interfaces** file

```
auto lo
iface lo inet loopback
```

```
auto eth0
```

```
iface eth0 inet static
    address 10.10.10.242
    netmask 255.255.255.0
    gateway 10.10.10.1
```

and replaced 10.10.10.242 by the address that you want to install into DB-800, you can replaced gateway address 10.10.10.1, if necessary.

## - DB-800-CI receiver management via dvbserver configuration files

<tuner>                      Top section

TunerIP 10.10.10.224      ip address of receiver.  
 ServerIP 10.10.10.11      ip address of interface to which the receiver will send the data (just ip on eth0). This option can be specified once in the root config file section.

**Freq 12241 27500 3/4**  
**Freq 12241 27500 3/5 S2-8PSK**                      S2-8PSK or S2-QPSK modulation  
 |                      |                      FEC (1/2, 2/3, 3/4, 5/6, 7/8) for DVB-S  
 |                      |                      FEC (1/2, 2/3, 3/4, 5/6, 7/8, 3/5, 4/5, 8/9, 9/10) for DVB-S2  
 |                      |                      Symbol rate  
 transponder frequency in MHz

<service>  
 Stream 0x283D ntv      It is NTV channel, which Dreambox 224 processed  
 Remap 0x310  
 Out 1  
 Encrypt 1  
 <service>

<service>  
 Stream 0x283E ntv      It is TNT channel, which Dreambox 224 processed  
 Remap 0x330  
 Out 1  
 Encrypt 1  
 <service>

**Encrypt 1**                      the presence of an encryption at the output of headend (default is 0- open program, 1 – 3 - closed the program, an encoding algorithm 1, 2 or 3). When using Algorithm 2 subscriber receivers on this channel include parental control.

**LNB 10600**                      LNB LO frequency in MHz (default is 10600)  
**Out 0**                              serial output, as described previously <Output> directive  
**LNBI 1**                              power and meander management at the receiver input

LNBI 0 - power is off  
 LNBI 1 - 13V/0kHz  
 LNBI 2 - 18V/0kHz  
 LNBI 3 - 13V/22kHz  
 LNBI 4 - 18V/22kHz

**Stream 0x11 "Dreambox 224"**

| Name of the stream (only used for logging)  
SID of programs from the satellite.

**Remap 0x300**

base PID for program PID remaping.

**DubIP 239.1.1.6 eth3 11111**

This parameter is used for multicast or unicast IP broadcast organization

**239.1.1.6** multicast group or unicast address  
**eth3** in the case of multicast, the output interface through which IP traffic is sent

**11111** destination port

**DubTTL 16 TTL** applies in the case of multicast broadcasting

**</ Tuner>** end of section

**<Output>**

**id 0** Number of output  
#

**OutAddr 192.168.1.200 222**

# Destination address and port

**PacketSize 380**

# Packet size

**</ Output>**

**<Tuner>**

**Dreambox224**  
**TunerIP 10.10.10.223**  
**ServerIP 10.10.10.11**  
**Freq 12242 27500 3**  
**LNB 10600**  
**LNBI 1**

**<service>**

stream 0x283D ntv  
Remap 0x310  
Out 1  
encrypt 1

**</service>**

```

<service>
  stream 0x283E tnt
  Remap 0x330
  Out 1
  encrypt 2
</service>
</Tuner>

```

## - Monitoring of the DB-800-CI receivers

Go to the statistics server address: 10.10.10.254.

Login: **aj**

Password: **aj**

We recommend to replace the name and password confidential.

Open the "Channels / streams" and MONITOR menu item.

You can see the IP-address table and receivers current state, namely

The screenshot shows a web browser window displaying a monitoring interface. The browser's address bar shows the URL: `palich.ccl.lg.ua/~palich/2.62/int/channels.php?channelsphp_active=Monitor&acc=1b866cbb0e82ec8e32a9bcdccf74b936`. The interface has a top navigation bar with tabs: Customers, Payments, Channels/Streams, Prices, Settings, Reports, Exit. A left sidebar contains a menu with items: Streams, Channels, Streams<-Channels, Channels<-PIDs, Broadcasting, Decoders, Types of decoders, View, Status-package, BCMD, TCMD, Monitor. The main content area displays a table with the following columns: Source, Lock, UE, DEM, DET, SEF, SENS, SID, Rate (bps), Name, Out, Remap, F, Enrypt, Level, SNR. The table contains multiple rows of data for different IP addresses and channels. At the bottom of the interface, there is a status bar with the text 'root:root:0:User is not selected' and two filter buttons: 'Unfiltered' and 'Deleted'.

Source	Lock	UE	DEM	DET	SEF	SENS	SID	Rate (bps)	Name	Out	Remap	F	Enrypt	Level	SNR
10.10.10.18	0	0	0	0	0	0	2840	3533127	"Россия 1"	0	0300y	FTA	83	-2	
10.10.10.55	0	0	0	0	0	0	28a8	0	"ds"	0	0310n	FTA	0	0	
10.10.10.57	0	0	11	0	0	0	2840	3533127	"Россия 1"	0	0320y	FTA	90	-1	
10.10.10.59	1	13	0	0	0	0	2840	3535231	"Россия 1"	0	0330y	FTA	89	-1	
10.10.10.19	0	0	0	0	0	0	10601485	0	"dm"	0	0300n	FTA	0	0	
10.10.10.102	0	0	0	0	0	0	283e	0	"dm"	0	0300n	FTA	0	0	
10.10.10.100	0	0	6	0	0	0	0514	1833454	"Eurokino"	0	0310y	FTA	-40	12	
10.10.10.113	0	0	3372	0	0	0	003c	6646274	"MTVN HD"	0	0320y	FTA	-42	14	
10.10.10.58	0	0	5	0	0	0	138d	3786662	"TV 3"	0	0330y	FTA	91	0	
10.10.10.61	0	0	2	2	0	0	277c	2909164	"REN-TV"	0	0340y	FTA	90	-1	
10.10.10.103	0	0	0	0	0	0	283e	0	"dm"	0	0350n	FTA	0	0	
10.10.10.242	0	0	0	0	0	0	001e	0	"Eurosport HD"	0	0360y	FTA	0	0	
10.10.10.56	0	0	0	0	0	0	1a90	0	"dm"	0	0370n	FTA	0	0	
10.10.10.104	1	6	0	0	0	0	283e	2401247	"THT"	0	0380y	FTA	89	-1	
10.10.10.101	0	0	(+4) 219	0	0	0	2840	3464569	"Россия 1"	0	0390y	FTA	-64	12	
10.10.10.60	2	0	(+2) 2011	0	0	0	0002	2688241	"DRIVE"	0	03b0y	FTA	96	0	
10.10.10.52	53	18804	0	0	0	0	5086	1913978	"Cartoon Network"	0	03d0y	FTA	89	0	
10.10.10.54	287	(+6) 130161	130156	0	0	0	5087	2328983	"Discovery World"	0	03f0y	FTA	90	-1	
10.10.10.50	12	11529	11524	0	0	0	5086	1913978	"Cartoon Network"	1	0300y	FTA	-35	13	
10.10.10.51	1	2210	133	0	0	0	5086	1913978	"Cartoon Network"	3	0300y	FTA	91	-1	

<b>LOCK</b>	SAT signal LOCK indicate. GREEN is LOCK on, RED is LOCK off, GREY. Receiver is not available for monitoring
<b>UE</b>	(UNLOCK ERRORS) Amount of signal loss since the last power-up
<b>DEM</b>	(DISCONTINUOUS ERROR of MULTIPLEXER) Loss of signal at multiplexer input
<b>DET</b>	(DISCONTINUOUS ERROR of TUNER) Loss of signal at receiver output. Thus, if there is a difference between the DEM and DET values, you need to look for problems in the headend Ethernet network.
<b>SEF</b>	Data synchronization errors into receiver. If it is not zero receiver is defective.
<b>SID</b>	(SERVICE ID) – Satellite channel SID
<b>RATE</b> service rate	Bit rate of the service. The table also indicates the total of transponder.
<b>NAME</b>	Name of channel (display on subscriber receiver).
<b>OUT</b>	DSC-01 Ethernet output number (0...4).
<b>REMAP</b>	Service PID on the Headend output.
<b>F</b>	Found or not in the satellite signal the SID from configuration file (Y- yes, N- no).
<b>ENCRYPT</b>	Free or not free signal on the Headend output.
<b>LEVEL</b>	Satellite signal level on the receiver input (% or dBm).
<b>SNR</b>	Signal to noise rate at the receiver input.