# QPSK SATELLITE RECEIVER

## FOR PROFESSIONAL USE

# DRX 3200 / 3210



# **USER MANUAL**

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## GENERAL

With the LCD display and front panel keypad, it is easy to adjust, operate and monitor. The rich software and hardware features together with DVB-S, MPEG2 and BISS compliance gives powerful performance.

After power loss, the device goes on its operation with the last settings. A programmable alarm output signals, when any of the alarm conditions occur. At the front panel there are LEDs indicating power, lock and alarm status. During the operation the LCD display shows the name of the current channel, presence of signal, video, audio and the BER value or the signal strength.

The device has a built-in cooling fan, so the units may be stacked on top of each other. Reliable software and hardware watchdog systems restart the system safely as any failure is detected. A keypad lock function is added against unwanted interventions by unauthorized persons.

Please read this user manual completely before installing and operating the receiver.

### SAFETY



- No user-serviceable parts inside.
- There are some parts inside the unit carrying HIGH VOLTAGE that may injure you. Thus, do not insert anything into the ventilation holes.
- Small objects must be kept away from the ventilation holes of the receiver.
- For sufficient ventilation nothing should be placed closer than 10 cm around the unit.
- The ventilation should not be impeded by covering the ventilation openings with items.
- No heat sources or no naked flame sources should be placed on or under the unit.
- The receiver shall not be exposed to dripping or splashing. No objects containing liquid shall be placed on the unit. In case of any accidental spillage or the splash of the liquid onto the unit, unplug the receiver and call the qualified service.
- Cleaning: You may remove the dust on the unit (never use any liquid) only after unplugging the unit from mains outlet.
- Do not remove the cover, refer to qualified service.
- Your satellite receiver is designed only for indoor use and moderate climates. Do not install the unit in humid, dusty, too hot, too cold or vibrating places and protect it against rain or direct sunlight.
- During intended use ensure that the mains plug is fully inserted into the wall socket.
- Do not overload a wall outlet or extension cord as this may result in fire and electric shock.
- Do not connect any equipment not recommended to prevent your unit against a permanent damage or danger.
- Always unplug the unit from mains outlet before connecting or disconnecting any cable.

## FRONT PANEL



## REAR PANEL



## FRONT PANEL CONTROLS

There are 3 LEDs on the front panel.

Green LED lights while power is on.

Yellow LED lights while signal is present.

Red LED flashes if any of the selected alarm conditions occur.

The 2 lines x 16-character LCD is used to set up and check reception.

The 6 buttons are used to enter setup values. The controls of the knobs are prohibited after the first 5 minutes, against any unwanted intervention. "Keypad Locked" message is displayed if any of them is pressed.

### FIRST INSTALLATION

After you make all connections, plug in the receiver to the mains outlet. DRX starts automatically. Following screen will appear on the LCD.

С	h	а	n	n	е	I		n	а	m	е				
S	+		V	+		Α	+			1	•	6	Ε	-	3
с	h	а	n	n	е	1		n	а	m	е				

First line is the channel name.

S+: Signal exists

S-: Signal does not exist

V+: Video exists

V-: Video does not exist

A+: Audio exists

A-: Audio does not exist

BER: Bit Error Rate is displayed as xE-y. It means that bit error rate is x10<sup>-y</sup>.

There are two different display modes.

In one mode you can monitor channel name, signal, video, audio, and the BER value, in the other mode you can monitor channel name and the signal strength. You can switch between the modes by using "**OK**" button.

## KEYPAD LOCK / UNLOCK

5 minutes after, the unit is powered on, or none of the front panel buttons is pressed after unlock, the unit goes into button-lock mode. To unlock, press **"OK"** button once and press **"MENU"** button three times within short intervals. **"OK" - "MENU" - "MENU"** 

#### QUICK SETTING

If you are using your device for the first time, please follow these short instructions below.

1 Select Installation submenu. Select LNB type. The options are Universal, Standard and C-Band.

Check local oscillator frequencies. They can be changed manually. Set 22KHz to Auto for Universal LNB. Select DiSEqC position ( A, B, C or D ) if the unit has to be operated in an IF distribution system.

- 2 Select **Parameters** submenu. Set Program settings. Freq. (Frequency), Polarity and S.Rate (symbol rate). Observe the yellow LED if it lights. Glowing LED shows that the signal is present.
- 3 Select PID's or search transponder (select TP Search submenu, press "OK" button).
- 4 Select the program from the list. Press "**MENU**" button until the start-up page appears. This operation stores all the changes.

#### MENU ORGANISATION

Parameters

٠

٠

- Chn Channel name: Use "**OK**" and "◄"/"▶" buttons for manual editing. It is also made automatically after **TP Search**.
  - Freq. Reception frequency in MHz. Original satellite transmit frequency.
- Polarity
   Vertical or Horizontal
- S.Rate Symbol Rate

## **NETA**<sup>®</sup>

- Video PID ٠
- Audio PID ٠
- Pcr PID ٠
- Txt PID ٠

۶	TP Search	Start search after Lock LED lights (Signal exists).
۶	Audio Tracks	Shows existing audio tracks with numbers and short language descriptions. Select the language you want.
•	<ul> <li>BISS Setup</li> <li>Mode</li> <li>SW Setup</li> <li>ESW Setup</li> </ul>	Mode-0: Free to air Mode-1: BISS Mode-E: (optional) Enter 12 hex digits session word for decoding. (for Mode-1) Use "◀"/"▶" and " <b>OK</b> " buttons. Enter 16 hex digits session word for decoding. (for Mode-E)
		Use " $\blacktriangleleft$ "/" $\blacktriangleright$ " and " <b>OK</b> " buttons.
٨	<ul><li><b>DVB Subtitle</b></li><li>◆ Subtitle</li><li>◆ Language</li></ul>	It is used to display DVB subtitle. Subtitle language that will be displayed.
	Installation	
	♦ Audio	Mode can be selected as Stereo, Left, Right and Mono. Volume level can be selected between 0 and 31.
	♦ Video	Level:100 (1Vpp video level default) 95 to 105 adjustable. Blank: Video Blank keep last screen stored or displays blank screen if no signal. It is selected as On or Off. System: Video system (PAL, NTSC or SECAM) No Sig. Msg: It is selected as On or Off. When the signal is off "No Signal" message is displayed on the screen if it is selected as On.
	<ul> <li>LNB Settings</li> </ul>	LNB type can be selected as Universal, Standard or C Band. Low Band: Low Band local oscillator frequency High Band: High Band local oscillator frequency 22kHz: It is adjusted as On, Off or Auto. DiSEqC: It is adjusted as A, B, C, D or Off. Power: LNB power is set as On or Off.
	<ul> <li>Alarm Settings</li> </ul>	<ul> <li>V. Patern: Yes or No. When alarm occurs, test pattern is displayed</li> <li>Signal: Yes or No. When the signal is off the alarm occurs.</li> <li>Video: Yes or No. When the video is off the alarm occurs.</li> <li>Audio: Yes or No. When the sound is off the alarm occurs.</li> </ul>
	<ul> <li>Language</li> </ul>	Select the desired language from the available list.
	Into     Deset Ostting	Current software version is displayed.
	Reset Settings	Are you sure? "OK"- Yes, "MENU"- Exit Default settings are loaded if "OK" button is pressed.
	Dynamic PMT	It is selected as On or Off. PMT data is monitored and if any changes occur, PID's are changed accordingly.
	<ul> <li>Baud Rate</li> </ul>	RS232 communication rate

- Frequency Range Tuner lock frequency range (1MHz, 2MHz, 3MHz, 4MHz, Auto)
- Data Status: On or Off PID: Data PID Format: Data collection format
   ASI Settings ASI output format setting, Burst or Byte mode is supported.
- Ethernet
   On or Off.
   IP Address: Network communicating parameter Subnet Mask: Network communicating parameter Gateway Address: Network communicating parameter Port No: Network communicating port DHCP: Determining option of the network parameters automatically

> CI

• Common Interface CAM module definition is displayed.

**Note:** These menu configurations will change depend on the product. Because some features are device specific. There is some detailed information for the menu features below and device specific menu options are explained with the device model name

#### USING OFD MENU

Press "MENU" button, the main menu (Parameters, PID, TP Search, Audio Tracks, BISS Setup (optional), DVB Subtitle (optional) and Installation) is displayed.

You can move the cursor (\*) by using " $\blacktriangle$ "/" $\blacktriangledown$ " buttons. Press "**OK**" button for sub menu selection. If you want to change any value, use " $\blacktriangleleft$ "/" $\triangleright$ " buttons. To change any numerical value, press "**OK**" button and change the numeric value at the cursor location by using " $\blacktriangleleft$ "/" $\triangleright$ " buttons. Press "**OK**" button to move the cursor to right by one digit.

As you exit from menus, changes are stored automatically.

#### CHANGING PROGRAM SETTINGS

If you want to change the program settings (Channel name, Frequency, Polarity, Symbol rate), go to **Parameters** submenu.

#### PARAMETERS

#### Channel name

Press "**OK**" button, then a cursor will be displayed. Use "**OK**" button to move the cursor. You can change the character over the cursor by using " $\blacktriangleleft$ "/" $\triangleright$ " buttons. Press "**MENU**" button to confirm the entrance.

*	С	h	n	Ε	u	r	0	n	е	w	s				
	F	r	е	q	•						1	1	0	5	0

#### Frequency, Polarity and Symbol Rate

By using this menu, you can set frequency, polarity and symbol rate values.

	С	h	n	Ε	u	r	0	n	е	w	s				
*	F	r	е	q	•						1	1	0	5	0
*	Р	0	I	а	r	i	t	у					н	0	r



### **CHANGING PID VALUES**

If you want to set or change PID values manually, use **PID** menu.

#### > Video PID, Audio PID, Pcr PID and Txt PID

*	V	i	d	е	0		Ρ	I	D		5	0	0
	Α	u	d	i	0		Ρ	Ι	D		5	0	1
*	Р	с	r		Р	1	D				5	0	0

#### SEARCHING TRANSPONDER

#### > TP Search

After setting **Frequency**, **Polarity** and **S. Rate**, you can search the transponder. That way you can find all channels coming from that transponder. Move the cursor to **TP Search** menu and press "**OK**" button. "**Please wait**" message will be displayed. All available channels from the current transponder will be found and listed on the display.

TP Search does not function if the receiver is not locked to a transponder frequency. Please observe yellow (Lock) LED.

Ρ	I	e	а	s	е		w	а	I	t		-		
*	E	u	r	0	n	е	w	s	1	1	1	1	1	1

Select the required channel by using "▲"/"▼" buttons, confirm and store by pressing "**MENU**" button.

#### SEARCHING AUDIO TRACKS

#### Audio Tracks

If the audio is multilingual, you can select the audio language. Select **Audio Tracks** menu, "**Please wait**" message will be displayed. After that, the existing audio languages are listed with leading numbers.

Ρ	I	е	а	s	е	w	а	i	t	•		

#### **BISS SETUP (OPTIONAL)**

#### Mode

This mode requires the direct entry of a session word (SW) at receiver side. To control access the scrambled transmission, you can choose one of the following modes in **BISS Setup** submenu.

- \* Mode 0: No decoding.
- \* **Mode 1**: Decoding by a fixed 12 character SW is inserted in the de-scrambler. Manual entry of the SW shall be in hexadecimal notation with the digits entered most-significant nibble first.
- \* Mode E: (Optional) Inject ID and ESW inputs are made in this mode.

*	М	0	d	е					М	0	d	е	-	1
	S	W		s	e	t	u	р						

#### > SW Setup

You can enter your defined 12 character SW with using " $\blacktriangleleft$ "/">" buttons to change hex character and "**OK**" button to move the cursor.

#### **DVB Subtitle**

#### Subtitle and Language

If the channel has DVB subtitle service, the subtitle can be displayed on the picture by using this feature. If there is more than one subtitle language, the desired language is selected on **Language** line.

*	S	u	b	t	i	t	I	е			0	n
	L	а	n	g	u	а	g	е				

#### SETTING AUDIO

Select Audio submenu from the Installation menu. Select Mode by using " $\blacktriangleleft$ "/" $\blacktriangleright$ " buttons. There are Mono, Stereo, Left and Right audio modes and you can control volume level. Volume can be changed from 0 to 31.

*	М	0	d	е					М	0	n	0
	۷	o	-	u	m	е					3	1

#### SETTING VIDEO LEVEL

Select Video submenu from the Installation menu. Video output signal level can be increased or decreased. Video Level can be set from 95 to 105. The default value is 100 and it corresponds to 1vpp.

*	L	е	v	е					1	0	0

#### **BLANK OR FREEZE SCREEN ON BROADCASTING CEASE**

Select Video submenu from the Installation menu. If Blank is made Off, the last picture remains on the screen while broadcasting is cutoff. If Blank is made On, the screen becomes blank.

*	В	I	а	n	k					0	n

#### VIDEO SYSTEM SETTINGS

Select Video submenu from the Installation menu. You can set video system as PAL, NTSC or SECAM on System line.

*	S	у	s	t	е	m				Ρ	Α	L

#### NO SIGNAL MESSAGE SETTING

Select Video submenu from the Installation menu. If you set No Signal to On "No Signal" message is displayed on the screen while broadcasting cutoffs.

*	Ν	0	S	i	g		М	s	g		0	n



#### LNB SETTINGS

Select LNB settings submenu from the Installation menu. Select LNB type as Universal, Standard or C-Band. Low Band, High Band local oscillator frequencies, 22KHz and DiSEqC signals and Power setting can be made on the LNB settings menu.

*	L	0	w		В	а	n	d			9	7	5
	Н	i	g	h		В	а	n	d	1	0	6	0
*	Н	i	g	h		в	а	n	d	1	0	6	0

**Note:** For Universal LNB, Low band is 9.75 GHz, High Band is 10.60 GHz. and 22 KHz is Auto. Standard LNB frequency is 10.00 GHz., C- Band LNB frequency is 5.15 GHz. They can be changed manually.

#### ALARM SETTINGS

Select **Alarm Settings** submenu from the **Installation** menu. If **V. Pattern** is set to **Yes**, video pattern is displayed during alarm. The alarm condition can depend on **Signal**, **Video** and **Audio** if any of them is selected as **Yes** and fails in the operation then the alarm is triggered. In the following example alarm is triggered only when the signal is gone video and audio do not trigger alarm. Alarm condition is marked with flashing red LED.

**Note:** If **V. Pattern** and **No Signal** is set to **On** at the same time, test pattern will be displayed, "No Signal" message will not be displayed while signal cutoffs.

*	V			Ρ	а	t	t	е	r	n		Υ	е	s
	S	i	g	n	а	I						Υ	е	s
*	۷	i	d	е	0								Ν	0
	Δ	ш	d	i	0								Ν	0

#### LANGUAGE SETTINGS

Select Language submenu from the Installation menu, this menu displays available languages.

*	L	а	n	g	u	а	g	е	Ε	n	g	I	i	s	h

#### CONTROLLING SOFTWARE VERSION NUMBER

Select **Info** submenu from the **Installation** menu. Info menu displays information of the device software. E.g,

0	5	0	4	0	7	v	1	3	3		

#### **RESETTING THE DEVICE SETTINGS**

If you want to reset settings, you can use the **Reset Setting** submenu. Following screen will be displayed.

Α	r	е		у	0	u		s	u	r	е	?			
0	К	-	Y	е	s		М	E	Ν	U	-	E	X	i	t

If you press "OK" button, all settings will be set to factory default values.

#### DYNAMIC PMT

Select **Dynamic PMT** submenu from the **Installation** menu. If Dynamic PMT is set to **On**, device will trace the PMT data continuously and if PID's are changed it will set new PID's automatically.

*	D	у	n	а	m	i	С	Ρ	М	Т		0	n

#### SETTING BAUD RATE

Select **Baudrate** submenu from the **Installation** menu. Set RS232 data transfer rate to a suitable value. (9600, 19200, 38400, 57600,115200 bps)

*	В	а	u	d	R	а	t	е	1	1	5	2	0	0

#### SETTING FREQUENCY RANGE

Select **Frequency Range** submenu from the **Installation** menu. Set tuner lock frequency range to a suitable value. (1MHz, 2MHz, 3MHz, 4MHz, Auto)

*	R	а	n	g	е				Α	u	t	0

#### DATA (DRX 3200 DS)

Select **Data** submenu from the **Installation** menu. There are some setting options. With **Status** adjustment Data feature can be enabled by switching to **On** position or disabled by **Off** position.

*	s	t	а	t	u	S							0	n
	Ρ	I	D										3	8
*	F	0	r	m	а	t		s	t	r	е	а	m	1

PID setting is used to enter the PID value of the packets that carry the data information.

**Format** setting is used to setup the data collection procedure from the packets whose PID is matched with the PID setting. The available options are **Transport**, **PES**, **Stream1** and **Stream2**. For these data collection setting, use the appropriate selection.

#### ASI SETTINGS (DRX 3200/3210 A, DRX 3200/3210 A CI)

In this mode data output format is burst of data packets (contiguous 188 bytes for each TS packet).

*	В	u	r	s	t					0	n

In this mode burst is off having stuffing between data bytes.

*	В	u	r	S	t				0	f	f

#### CI COMMON INTERFACE (DRX 3200/3210 CI, DRX 3200/3210 A CI)

In this menu setting, if there is not any CAM module inserted, you will see "Empty Slot" message. Depending on the used CAM module, the recognition time will be around 20s. After the recognition of CAM module you will see the module identification.



*	Е	m	р	t	у		S	I	0	t			
*	V	i	а	С	С	е	s	s					

#### REMOTE ACCESS VIA RS232 (OPTIONAL)

Changing the settings, inquiry of the status, observing the alarm status, resetting the receiver, getting Eb/N0 and setting the BISS key is possible by the commands which sent via RS232. Sample HyperTerminal settings should be as follows;

Baudrate: Should be set to the same value on the receiver. Data bits: 8 Parity: No Stop bit: 1 Flow control: No Emulation: TTY

After the settings and the connections are made correctly, enter **Help** command on the terminal, available commands and usage of them will be displayed on the screen.

#### **REMOTE ACCESS VIA ETHERNET (OPTIONAL)**

Changing the settings, inquiry of the status, observing the alarm status is possible by the ASCII commands which sent via Internet or local network.

Communication is made via a determined TCP port. IP Address, Subnet Mask and Gateway Address settings should be made suitable with the used network and determined automatically. For this DHCP setting should be made 'On'.

While DHCP is 'On', IP Address, Subnet Mask and Gateway Address settings can not be changed.

The receiver should be turned off and on again for the settings are being effective.

The receiver contains also a web server. Controlling the equipment and changing the settings is possible by using a web browser as Internet Explorer or similar one.



### Setting IP Address:

*	I	Ρ	Α	d	d	r	е	s	s			

*	1	9	2	1	6	8	0	0	0	1	6	7

## Setting Subnet Mask:

n	

*	2	5	5	2	5	5	•	2	5	5	•	0	0	0

## Setting Gateway Address:

*	G	а	t	е	w	а	у		Α	d	d	r	е	S	S
*	1	9	2	•	1	6	8	•	0	0	0		0	0	1

## Changing DHCP setting:

*	D	н	С	Ρ					0	n
L										

*	Ρ	0	r	t	Ν	0			9	7	6	1

Accessing the receiver via Web:



DRX REMO	TE ACCESS	SYSTEM
System Stat	us	
	Channel:	TRT 1
<u>Status</u>	Signal:	Running
Settings	Video:	Running
Installation	Audio:	Running
matallation	Quality:	82
	BER:	<10E-3

CE	EU DECLAF	RATION OF CONFORMITY
Manufacturer:	NETA Elektror	ik Cihazlar Sanayi ve Ticaret A.Ş.
Address:	Yukarı Dudullu And Sitesi, No Ümraniye - İS	Organize Sanayi Bölgesi, :18, 34775 'ANBUL / TÜRKİYE
Product description:	Digital Satellite	Receiver
Model:	DRX 3200 DRX 3200 A DRX 3300	
Ratings:	230 V AC, 50	Hz
Applicable EU directives:	89/336/EEC 73/23/EEC	EMC Directive Low Voltage Directive
Applicable standards:	EN 55013 EN 55020 EN 61000-3-2 EN 61000-3-3 EN 60065	
İstanbul, 07.03.2006		NETA Elektronik Cihazlar Sanayi ve Ticaret A.Ş.
		General Coordinator
		NETA EL SICTE DITIR CTAAZLAR SANTING UC MS. Vida Dura Olarian Bilansi And Birl USI Dimansi Bilansi Tel: 00 und 30 manuel STANBUL Tel: 00 und 30 manuel 30 manuel 30 manuel Anuadare Reference VD (81 000 7900

#### DRX 3200 / 3210 **BACK TYPE SATELLITE BECEIVER**

#### General Specifications:

LCD display (2x16 characters) Front Panel Keypad / Keypad lock Selectable BER value / signal strength display Automatic FEC detection, carrier tracking, power-on reset LED indicators (Power, Lock, Alarm) Optional BISS decoding C- / KU band reception Dynamic PMT feature Optional DVB Subtitle feature Optional Remote Access via RS232 PAL, SECAM and NTSC systems

#### RF Characteristics:

Input Level	: -25 dBm to -65 dBm
Input Frequency	: 950-2150 MHz
Modulation	: QPSK
Symbol Rate	: 1-45 M symbols/sec (M bauds)
FEC Coding	: 1/2, 2/3, 3/4, 5/6, 7/ automatic selection
Input Impedance	: 75 Ω
LNB Power Supply	: 13/18 V polarity switching, plus 22kHz
LNB Current	: 400 mA, short circuit protected
Input Connector	: F- type, female
Loop Out Connector	: F- type, female

#### Video Compression:

Data Rate Compression Type Video Format

: 1.5 - 15 Mbps : MPEG-2, 4:2:0 : 4:3

#### Video Output:

: Composite PAL/NTSC/SECAM
: 1 Vpp menu adjustable
: 75 Ω
: < 5 %
: < 25 ns
: < 4 %
: BNC, female
: BNC, female

#### Audio Compression:

Compression Type Output Modes Sampling Rate

#### Audio Outputs:

- Frequency range Flatness Output level Impedance Balancing Harmonic distortion S/N Ratio Connector type Monitor Output (optional)
- : MPEG-1 Laver-I. II : Stereo, Dual Mono, Mono : 32, 44,1 and 48 kHz
- : 16Hz-22kHz : <1 dB : Menu adjustable : 600 ohm : Transformer balanced
- : < 0.5% : > 60 dB
- : Dual XLR type, male
- : Double RCA (optional)

#### Common Interface (DRX 3200/3210 CI, DRX 3200/3210 A CI): All traditional CAM modules are supported.

#### DATA Output (DRX 3200 DS):

RS232	: DB-9 connector
Baud Rate	: 9600, 19200, 38400, 57600, 115200

#### ASI Output (DRX 3200/3210 A, DRX 3200/3210 A CI):

Transmission rate	: 270 Mbit/s
Connector	: Copper, BNC
Data packet format	: 188 bytes (adjustable format)

#### Ethernet Connection:

Protocol Connector Data speed : TCP. Web Server : RJ 45 : 10 Mbps

#### Power Supply: Power Supply Power Consumption

: SMPS, 220 VAC +10%, -20%, 50/60Hz · 30W max

#### Mechanical Specifications:

Size (HeightxWidthxDepth)	: 1.75" H x 19" W x 9.4" D
	: 44.5mm (1 RU) H x 480mm W x 240mm D
Operating Temperature	: 0 - 45ºC



Tel: ÉJ€ÁGFÎÂÎÍ€ÁJIÁÏÏ Email: • æ^•O |• &æ db{[ { Web: www.!• &æ db{[ {