



HD+

HD MPEG-2/4

Digital Set-Top-Box for Cable TV

USER'S MANUAL

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High Definition Receiver
DVB-C



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1. SAFETY WARNING

This product has been manufactured to comply with international safety standards. Please read the following safety precautions carefully.

MAINS SUPPLY : 90-260V AC 50/60Hz

Operate this product only from the type of power supply indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your local power company.

Disconnect the product from the mains before you start any maintenance or installation procedures.

OVERLOADING: Do not overload a wall outlet, extension cord or adapter as this may result in electric fire or shock.

LIQUID: The product should not be exposed to liquid of any kind. In addition, no objects filled with liquid should be placed on the apparatus.

CLEANING: Disconnect the product from the wall outlet before cleaning. Use a light damp cloth (no solvents) to dust the product.

VENTILATION: The slots on top of the product must be left uncovered to allow proper airflow into the unit.

- Do not stand the product on soft furnishings or carpets.
- Do not stack electronic equipments on top of the product.

ATTACHMENTS: Do not use any unsupported attachments as these may be hazardous or cause damage to the product.

CONNECTION TO THE AERIAL: Disconnect the product from the mains before connecting or disconnecting the cable from the aerial. Failure to do so can damage the aerial.

CONNECTION TO THE TV: Disconnect the product from the mains before connecting or disconnecting the cable from the TV. Failure to do so can damage the TV.

EARTHING: The aerial cable must be buried in the ground.

LOCATION: Place the product indoors to avoid exposing it to lightning, rain or sun.

- Do not place it near a radiator or heat register.
- Make sure it has more than 10cm clearance from
- Do not block the openings with any object, and do not place the product on a bed, sofa, rug, or other similar surface.
- If you place the product on a rack or a bookcase, ensure that there is adequate ventilation and that you have followed the manufacturer's instructions for mounting.
- Do not place the product on an unstable cart, stand, tripod, bracket, or table where it can fall. A falling product can cause serious injury to a child or adult, and serious damage to the appliance.

LIGHTNING, STORM or NOT IN USE: Unplug the product from the wall outlet and disconnect the antenna during a thunderstorm or when left unattended and unused for long periods of time. This will prevent damage to the unit due to lightning and power-surges.

EXTRANEIOUS OBJECTS: Do not insert anything through the openings in the unit, where they can touch dangerous voltage points or damage parts.

REPLACEMENT of PARTS: Replacement of parts may only be made by service technician specified by the manufacturer.

WARNING

To avoid damage of the power cord or plug:

- Do not modify or process the power cord or plug arbitrarily.
- Do not bend or twist the power cord.
- Make sure to disconnect the power cord holding the plug.
- Keep heating appliances as far as possible from the power cord in order to prevent the cover vinyl from melting.
- The main plug shall remain readily operable.

To avoid electrical shock:

- Do not open the main body.
- Do not insert metal or inflammable objects inside the product.
- Do not touch the power plug with wet hands.
- Disconnect the power cord in case of lightning.

To avoid damage of product:

- Do not use the product when it is out of order. If you continue to use the product when defective, serious damage can be caused to it. Make sure to contact your local product distributor if the product is out of order.
- Do not insert metal or alien substance into the slots for the modules or smartcards.

It may cause damage to the product and reduce its life span.

The socket-outlet shall be installed near the equipment and shall be easily accessible.

2. QUICK SETUP

1. Check accessories

Please check the giftbox for completeness of accessories. Included should be: Receiver, Remote Control, User Manual, 2 Batteries, and power adapter.

2. Connect the Receiver to the TV Set

Connect your Receiver with your TV Set. Details can be found in the User Manual under chapter **4. How to connect your receiver.**

3. Connect the Receiver with the Antenna

Connect your Receiver with your Antenna. Details can be found in the User Manual under chapter **4. How to connect your receiver.**

4. Switch on the Receiver and TV Set

Switch on the AC-Power Switch on the rear side of the Receiver and then press the Standby button in the Front of the Receiver (see User Manual for more details: Chapter **5.2 Front Panel** and **5.3 Rear Panel**)

5. Insert the Batteries

Insert the Batteries into the battery case on the underside of the Remote Control. Please make sure that the Battery + and - Poles are correctly aligned.

Information about changes to the channel list please see chapter **8. Edit Channels** in the User's Manual.

Under **chapter 5.1** you can make yourself familiar with the functions of your remote control

Under **chapter 6** the TV as well as Recording and Playback-Functions of your receiver are described

3. GENERAL FEATURES

- SD / HD support (MPEG4 AVC/H.264)
- User friendly Installation
- 1 Conax CAS Smartcard-Reader
- USB PVR Function (by using external HDD)
Time Shift Mode (by using external HDD)
1 Channel recording, 2nd Channel watching on same TP (by using external HDD)
- Event Timer by EPG
- High Definition Video output : HDMI
- Subtitle supportort : OSD & VBI insertion for TV
- 4-Digit 7-Segment Display
- Channel sorting by FTA, CAS, Alphabetic & Numeric
- EPG : Now and Next and 7 days EPG
- Video output resolution: 576p, 720p, 1080i, 1080p
- User selectable output resolution
- Fast Channel Change
- Memory for up to 10,000 TV & Radio Channels
- 8 Favorite List & Unlimited Programs per each
- Channel Edit Function
 - Move, Delete, Favorite Edit
 - Parental Lock, Channel Rename, Channel Skip
- Network Scan
- S/PDIF – optical (Digital Audio or Dolby AC3 stream out)
- Software Upgrade via USB
- Teletext with sub-page access
- Standby < 1 Watt

4. HOW TO CONNECT YOUR RECEIVER

Please note: HD Signals are not transferred via RCA-Video – For HDTV Signals and also for the best quality on SDTV please use an HDMI cable when possible.

4.1 Connecting the Receiver to TV by using HDMI



- Connect the coaxial cable to “CABLE IN” terminal marked at the rear of the receiver.
- Connect an HDMI-Cable between the HDMI-ports of your TV Set and your Receiver.
- Connect the external 12V Power Supply

5. HARDWARE DESCRIPTION:

5.1 Remote Control unit



	POWER. By pressing this button, the receiver will go into standby mode. When the receiver is in standby mode, it can be awakened by pressing this button again.
	Once configured for TV remote control, this button is for TV power on/off.
	(Universal RCU) By pressing this button, user can choose from video source.
	(Universal RCU) By pressing this button, user can use this RCU for STB.
	(Universal RCU) By pressing this button, user can use this RCU for TV.
	(Universal RCU) By pressing this button, user can use this RCU for DVD player or recorder.
	(Universal RCU) By pressing this button, user can use this RCU for VCR.
	(Universal RCU) By pressing this button, user can use this RCU for Audio amilifer.
	(Universal RCU) By pressing this button, user can use this RCU for other devices.
	VOL +/-: Increases/Decreased the Volume
	CH +/-: Changes up/down channel within the channel-list OR jump to previous /next channel.
	MUTE. By pressing this button, all audio outputs of the receiver are muted. When muted, Audio output can be regained by pressing this button again.
	V.Format : By pressing this button you can change Video output resolution
	MODE : By pressing this button you can select on between 4:3 /16:9 and pan & scan / LetterBox
	TV/RADIO. By pressing this button the user can jump between TV and radio lists of the receiver.
	(OPTION)
	USB: By pressing this button you can access the recorded files and media files on a connected USB Hard-Disk-Drive
	FAV / FAVORITE: By pressing this button you can open the Favorite Channel Lists, if you have previously programmed.
	PRE-CH : By pressing his button, you can return to previously viewed channel
	STATUS: Displays Information about the status of the receiver, connected USB device and channel reception data
	RED / AUDIO: By pressing this button you can choose alternative Audio tracks if provided by the channel operator.
	GREEN / SUBTITLE: By pressing this button you can display subtitles if provided by the channel operator
	YELLOW / SLEEP TIMER: By pressing this button one or more times, the user can determine the time after which the receiver will automatically go into Standby.
	BLUE / TELETEXT: By pressing this button, the user can activate the teletext application.

* requires a USB HDD to be connected and operational



	Cursor UP: By pressing this button, the user can jump to next channel on the channel list. In menu structure, user can move up one row.
	Cursor LEFT: By pressing this button, the user can decrease the audio volume level of the receiver. In menu structure, user can change between selectable options.
	Cursor RIGHT: By pressing this button, the user can increase the audio volume level of the receiver. In menu structure, user can change between selectable options.
	Cursor DOWN: By pressing this button, the user can jump to previous channel on the channel list. In menu structure, user can move down one row.
	ELECTRONIC PROGRAM GUIDE. By pressing this button, the user can see current and forthcoming programming information for each channel. 7-day program information guide is also available by using this button.
	INFORMATION. By pressing this button, the user can see present and following information about the currently watched channel.
	OK: By pressing this button, the user can confirm a selection or save settings in a menu.
	MENU: By pressing this button, the user can activate the main menu of the receiver.
	EXIT: By pressing this button, the user can exit from the menu without saving the made changes or go one step back in the menu structure.
	0-9 NUMBER. By pressing one of the number buttons (0 - 9), the user can change channel or enter a number to menu.
	FIND: Search for a Channel by entering the first letters of the name.
	RECALL: By pressing this button, you can return to previously viewed channel list
	RECORD: By pressing this button you can start a recording (only if a USB HDD is connected and operational)*
	SLOW MOTION: Slow motion playback*
	STOP: By pressing this button Playback or Recording can be stopped.*
	REWIND: During Playback of recorded files this button can be used to rewind.*
	PLAY/PAUSE: By pressing this button the archive on the connected USB HDD is displayed. During Rewind or Fast Forward this button returns to regular playback. Press PAUSE to halt Playback.*
	FAST FORWARD: During Playback of recorded files this button can be used to fast forward*
	Recorded List: By pressing this button you can access the recorded files and media files on a connected USB Hard-Disk-Drive
	JUMP Back: Jump forward by 10 Channels in the Channel-List or jump forward during playback of a recorded or media file*
	JUMP Forward: Jump back by 10 Channels in the Channel-List or jump back during playback of a recorded or media file*

* requires a USB HDD to be connected and operational

5.2 FRONT PANEL



1. SMARTCARD SLOT

2. MENU BUTTON

3. VOLUME UP & DOWN

4. POWER BUTTON

Switch on- and off (Stand-by).

5. OK BUTTON

6. CHANNEL UP & DOWN

Switch on- and off (Stand-by).

7. 7-Segment Display

In operation displays the current channel number

5.3 Rear Panel



No.	Name	FUNCTION
1	CABLE IN	Input for Cable Signal
2	LOOP OUT	Loop Through for Cable Signal
3	S/PDIF Coax.	Digital Audio Output coaxial
4	HDMI	High-Definition Digital Video/Audio Output
5	AV OUT	Audio and Video Output
6	USB	USB 2.0 Port
7	12V = 1A	Connection for external Power Supply

6. WATCHING TV

This chapter describes how to watch TV and listen to Radio using the receiver. Thanks to the advantages of Digital TV transmissions, extra features are added to the broadcast, such as information about the current and next program and extra options such as the ability to choose between different languages for Audio and Subtitling.

6.1 General watching

- Use the CHANNEL UP or CHANNEL DOWN keys to go to the next and previous channel respectively.
- Use the NUMBER keys to input a channel number.
- Press the OK / ENTER key in Live TV Mode to display the channel list.
- Use RECALL key on the remote control to select the channel that the user was watching before the currently selected channel.
- Use TV/RADIO key on the remote control to toggle between the last selected TV- or Radio Channel.
- Press UP or DOWN keys on the front panel of the receiver to select the next/previous channel from the current channel list.
- Use INFO key to display the information banner about the current program. Press INFO key again to display the information of the current Event. With the CURSOR RIGHT or CURSOR LEFT you can see the next event information. Press again INFO key or the EXIT key to hide the banner and event information.

Please note: Programme information will only be displayed if it is included in the current transmission. Availability and validity of program information is dependent on the broadcaster.

6.2 Options

- Subtitling language (green key): The user can select from available subtitle languages, if more than one exists. Selection from the available choices is made with CURSOR UP or CURSOR DOWN key and confirmation by OK key.
- Audio track (red key): Some TV channels broadcast multiple audio tracks, for example different languages or AC3 Audio tracks. Selection from the available choices can be made by pressing the CURSOR UP or CURSOR DOWN keys and confirming with the OK key.

Beside alternative tracks, you can set the mode to Stereo or Mono-left or -right.

6.3 EPG (Electronic Programme Guide)

Now & Next as well as 7 days Programme Information

EPG application can be activated by pressing the EPG key when watching a TV- programme or listening to a Radio Channel.

EPG application is divided into two levels. The first level gives an overview of 12 continuous channels with information about present and forthcoming programmes.

By pressing the GREEN (TOGGLE) key the second level provides information of all available events for the selected channel for the next 7 days. Availability of Programme information data is dependent on the individual broadcaster. By again pressing EXIT key you can close the EPG menu.

Navigating on the first level of EPG (Multi-EPG)



The Channel can be selected by CURSOR UP or CURSOR DOWN and confirmed by pressing OK key.

The Time-Line indicates which programmes are live at the present time. Following Programmes can be selected with the CURSOR RIGHT key. Detailed Information for the selected Programme can be seen by pressing the i INFO key. By pressing the YELLOW key will show the events of previous day and the BLUE key the events of the next day.

User can enable/disable laminated vertical time line by pressing RED key.

Provided you have a USB HDD connected and ready operational press REC key (also on a current Event) to Record an Event.

Depending on how the EPG data is transmitted by the broadcaster it is possible that Programme information is not available until one has actually selected the channel. It is possible to select (tune into) the channel at the cursor position by pressing the OK key. If there is more up-to-date information available for this channel it will be updated on screen in short time.

Navigating on the second level of EPG



By pressing the GREEN key (TOGGLE) the second level EPG will appear. This application provides complete EPG information for the selected channel. It is possible to scroll between programs in chronological order for a particular day with the CURSOR UP and CURSOR DOWN keys.

After pressing the I INFO key detailed information for the Programme will be displayed. Press the EXIT- key to exit the detailed Information.

Please note: Programme information will only be displayed if provided by the according channel.

6. 4 EPG-Timer (Timer programming via EPG)

In the Single- or Multi-EPG Mode you have the option to reserve programmes in the timer. Move the cursor to the desired programme and simply press the RECORD key.



An additional window is opened which displays the timer reservations. If a HDD is connected the recording will be made accordingly to the connected external HDD. If a HDD is not connected the receiver will switch to the according channel at the programmed time.

Please note: Should two timer reservations overlap, and error message will be displayed. You then need to change or delete one of the two reservations. Use the CURSOR UP and CURSOR DOWN keys to move to the reservation you want to change and either delete a reservation with the RED key or change the start or duration time using the BLUE key.

6. 5 Teletext

Teletext application can be activated/deactivated by pressing the TEXT / BLUE key. The following operations are supported after activating Teletext:

- After activating text page 100 will appear after a short time.
- Specific Teletext pages can be selected using the number keys. If the Teletext page is currently not available, the last selected page will remain on the screen.
- The next Teletext page can be selected with the CURSOR UP key.
- The previous Teletext page can be selected with the CURSOR DOWN key.

6. 6 PVR Functions

When connecting an external Hard-Disk-Drive to the USB port, the Receiver can be used as a PVR (Digital Video recorder). During recording you have the option to watch another channel provided it's on the same Transponder. The channels which are thus available during recording are highlighted in white characters. Accordingly, the channels in grey characters can not be viewed during recording.

6. 6. 1 Direct recording

To start a recording press the RECORD key, choose a duration with the LEFT / RIGHT keys and confirm with the OK key.

6. 6. 2 EPG Recording

Via the EPG you can programme a Timer reservation – Please also see 6.4. for more details.

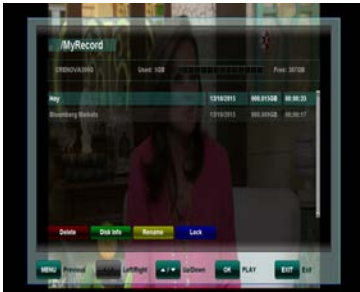
6. 6. 3 TimeShift-Function



During Live TV you can press the PAUSE key to activate the TimeShift function. The Receiver pauses the programme. With the PLAY key you can continue to watch the timeshifted programme.

With the EXIT key or after changing to another channel the TimeShift function is de-activated.

6. 6. 4 Playback



After pressing the FILE LIST key a list is displayed which contains all the recorded programmes on your connected external USB HDD. Use the UP /DOWN keys to move the cursor to the desired programme and confirm with the OK key to start playback. Also, you can Rename (BLUE), Delete (RED) or Lock (GRAY) a recording.

If supported by the Channel operator, by pressing the INFO key in the file list or during playback details about the recorded programme are displayed.



By pressing the FAST FORWARD or REWIND keys you can increase the playback speed to 2, 4, 8 and 16x in both directions. By pressing the FF or REW and then the SLOW key during playback you can playback in Slow motion either forwards or backwards. Repeatedly press to change the playback speed from 1/2, 1/4, 1/8.

To stop playback press the STOP key. By pressing the EXIT key you can return to the live channel.

Please note:

Functions such as Recording, Timeshift and Playback require an external HDD to be connected via USB (2.0) and to be ready operational. Only FAT32 formatted Hard-Disk-Drives can be used. Other formats can not be recognized by the receiver.

7. MENU OPERATION

The main menu can be activated by pressing the MENU key. Main menu provides access to most important features of the receiver. These features are divided into following Menus. Each Menu contains corresponding sub-menus. The Main Menus are as following:



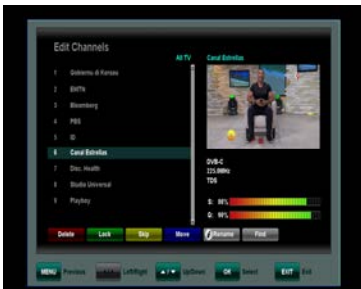
- Edit Channels
- Installation
- User Setup
- Multimedia
- Conax CA
- System

You can move between the Main Menu by pressing the CURSOR LEFT or CURSOR RIGHT key. The available Sub-Menus can be seen by pressing the CURSOR DOWN key and confirmation by OK key.

You can exit menu without saving the changes made by pressing EXIT key. Pressing the OK key will exit the Submenu and save the changes.

8. EDIT CHANNELS

8.1 Create Channel List (Move)



This menu is used to create or order your channel lists. Press menu key, select Edit Channels by using the RIGHT CURSOR and press OK.

Select one or more channels which need to be moved using the WHITE, the UP- and DOWN-CURSOR keys. Press BLUE key and move the selected channels by UP and DOWN CURSOR to the new desired position. Press the BLUE key to

confirm to drop the channels at the current position. After editing the channels and pressing the EXIT key you can confirm your new channel list by pressing the OK key. If you don't want to save your new channel order, cancel the process by pressing the CURSOR LEFT, choosing "NO" and confirming with the OK key.

Use the keys:

RED

GREEN

YELLOW

BLUE

RENAME

FIND

For the function:

DELETE a channel for the Channel List

LOCK a Channel, requires PIN to view that Channel

SKIP – mark a channel to be skipped when zapping

MOVE a channel in the list up- or downwards

RENAME a Channel

FIND a channel in the List

8.2 Edit Favorite Channels



This menu is helpful in adding and deleting services to and from the favorite group. Edit favorite channels screen consist channel list (left) and favorite list (right). Buttons  /  switch cursor between both lists.

When cursor is on channel list (left) below functions are available:

Add (Red button): Adds channel currently marked by cursor channel to actual favorite list (right)

A_Z (Green button): Sorts Channel list in alphabetical order.

Select (White button): Enables select of more than one channel on list and use one from above functions on this group. This function is helpful in mass edition of channels.

Find (Grey button): Enables find of specific channel by name, using intelligent keyboard system. This function is helpful when user needs to quick find channel with specific name.

When cursor is on favorite list (right) below functions are available:

Delete (Red button): Erases channel from favorite list. Channel will not be erased from channel list.

Next FAV (Green button): Changes actual listed favorite list to next. There are 8 favorite lists available.

Rename FAV (Yellow button): Enables favorite list name changing by screen keyboard. User can choose letter from keyboard by cursor buttons and accept it by **OK** button. When using keyboard, functions of color buttons are different. Back (Green button) erases last character in list name. Clear (Yellow button) erases whole name. Toggle (Blue button) changes page of available characters. Save (Red button) quits from keyboard module and saves modified list name.

Move (Blue button): Marks channel by skip symbol and enable to change this channel position on channel list by buttons. Another press of **Move** button accepts actual, new channel position.

9. INSTALLATION



This menu contains following items:

- Manual search cable
- Default Setting

9.1 Manual Search



In **Manual Mode** the search begins with the Start frequency.

Depending on the cable Network, choose "Network Scan" on for a fast search for all channels.

To start the channel scan please enter the following parameters and move cursor and select (search : START) in the list

- Frequency: Select the Transponder frequency by using the NAVIGATION keys LEFT and RIGHT or enter frequency by use number keys.
- Network Search: Choose „On“, if your Search is to include all Transponders, that are connected to a certain Network. Use the NAVIGATION Keys LEFT and RIGHT to toggle between „On“ and „Off“.
- Search Range: Use the NAVIGATION Keys LEFT and RIGHT to toggle between All Channels, Free-To-Air or Scrambled Channels.
- Logical Channel: By setting the option to „On“ the sequence of channels in your channel list changes according to what has been determined by your operator. Should your network not provide this function, please switch this option to „Off“.

9. 2 Default Setting



In this menu, you can delete channels for TV or radio. And also do factory reset about Channels, Configuration and Default Setting.

10. USER SETUP



By using the CURSOR keys you can select:

- Language Setting
- Time Setting
- Parental Control
- A/V Control
- OSD Setting
- Automatic Power Down

Press the OK key to confirm your selection.

10. 1 Language Setting



- Menu Language: Select the preferred language for the system menus.
- Audio Language: Some TV programs send multiple audio tracks, for example in two different languages. If there are no audio tracks available that match your settings, another language may be used instead.
- Subtitle Language: Select the preferred language for the subtitling and Programme information.

10. 2 Time Setting



This menu contains Time Setting, Summer Time and GMT Offset. Select “Manual” or “Auto” mode using CURSOR LEFT or CURSOR RIGHT key and with OK to confirm. If you want to change the time and date manually in time offset menu, please set this “Manual” mode.

10. 3 Parental Control



To use the Parental Control function you will be asked to enter your access PIN code. All parental control features work on a locking concept with the PIN code as your entrance key.

The PIN code is set to 0000 at the factory!

- Change PIN code: Use this function to change your PIN code to some other four digit number.
- New PIN: Enter a new four digit PIN code by pressing the OK key and using the number keys on your remote control.
- Verify new PIN code: Re-enter the same new four digit PIN code once again to verify the new PIN code.

10. 4 A/V Control



In the Audio/video menu, you can modify the properties of the audio and video signals to suit your TV and audio equipment.

- TV Type: User can select the video format consistent with your TV
- Display Format: The options are:
 - Pan & Scan: The receiver interprets pan & scan vectors encoded in the Programme and crops the 16:9 input signal for display on 4:3 TV.
 - Letterbox: In this mode the original aspect ratio of the 16:9 input video signal is preserved, thus there are vertical black bars on the top and bottom of the screen.
 - Ignore: Use this setting, if your TV set handles the aspect ratio conversion.
- Video Format: Please choose from the available resolutions 1080p / 1080i 720p or 576p – for 1080p you will need to confirm with the “1” key – a TV set that does not support 1080p (Full-HD) will not be able to display this setting.
- AC3: Choose Digital Audio Output between Off, SPDIF and SPDIF + HDMI

10. 5 OSD Setting



You can adjust the display time (time of the appearing of the info bar) and the OSD transparency (in %) on top of video signal of the receiver.

11. MULTIMEDIA (only with connected and operational external HDD)



In this Sub Menu you can make some settings for your connected Hard-Disk-Drive for the PVR Operation and also format the HDD. The Sub Menu includes the following functions:

- Record List
- PVR Setting
- HDD-Properties
- File List

11. 1 Record List

A set timer causes the receiver to wake up from standby mode at the specified time and change the channel to the specified one.

If an external HDD is connected to the USB port and is operational, recordings can be made directly on the HDD. The following functions (Timer-Status) can be chosen from:

- Off: No Timersetting
- On: The Receiver at the desired time switches on the chosen channel.
- Pre-Recording: If a HDD is connected and operational, at the set time the pre-programmed broadcast will be recorded on the HDD.

Please note: Timersettings that have been programmed in the EPG (see EPG-Timer point 6.4) are automatically marked in the Timerlist as "Recording" and can be edited or deleted here.

11. 2 PVR Settings



You can select the default duration for direct recordings. For direct recordings a window appears after pressing the REC key which displays this pre-defined setting. Before beginning the recording this can be adjusted.

Also you can set the Padding time (beginning and end time before and after a programmed recording) – choose between: None, 5, 10, 15, 20, 25 and 30 Minutes.

11.3 HDD Properties

In this Sub Menu you can see all information about your connected Hard-Disk Drive as well as an option to format the HDD



HDD Information: Displays the file system, the total and the used capacity.



HDD Speed: Check the speed of the connected USB HDD and see if it meets your requirements.



Formatting: After confirming with the OK key the HDD is formatted.

Please note: All files on the Hard-Disk-Drive will be deleted when formatting.

11.4 File List



You can see the recorded file list in this menu.

12. CONAX SMARTCARD READER



This product is also equipped with one Smartcard Reader for CONAX CA. Only if necessary:

1. Open the flap on the front panel of the product.
2. Insert the smartcard into the smartcard slot with the chip facing downwards.

13. SYSTEM



This menu is used to get information about the receiver and its hardware, software and loader.

13.1 Software Update



Copy the SW into the root directory of your USB device.

The available upgrade software is marked with a hook. Please select the latest software and press the OK key. The upgrade process will start automatically. Please wait until the receiver has rebooted.

Please note: Updating the receiver Software may take several minutes –

Warning! Please never turn the receiver off while upgrading!
This operation must be performed only by authorized personnel.

14. TROUBLESHOOTING

Problem	Possible causes	Remedy
LED on front panel does not light	AC Power cord disconnected	Connect power cord properly into the power socket
No picture or sound	Wrong connection of the Video/audio output to TV input terminal	Connect two terminals correctly With HDMI cable or RCA or RF cable
	Wrong connection of antenna cable	Connect the antenna cable correctly
	No signal or weak signal	Check the cable connections
	Wrong setting of channels Information in MENU screen	Type the setting value correctly
Black-and-white screen or V-Hold	Your TV mode is different from broadcasting mode	Use TV of same mode Use the NTSC/PAL converter Connection to the receiver and TV
The remote control is not working	Battery exhausted	Change the batteries
	Fluorescent light interfering with the remote control	Switch off the light
	Remote control is incorrectly aimed	Aim the remote control at the receiver
Distorted menu screen	Too high brightness and contrast level of TV set	Adjust brightness and contrast to low level
Not working	Process down	Remove the power cord



15. MANUFACTURER INFORMATION

Dear customer,

If you require technical assistance and your dealer or installer was not able to help, please contact our technical support.

HOW TO SET UP YOUR UNIVERSAL RCU

1.Initial Setting

1.1 DEVICE DEFAULT : STB

1.2 MODEL DEFAULT

STB ----- #001

TV ----- #001

DVD ----- #001

VCR ----- #001

AUDIO ----- #001

AUX ----- #001

2.DEVICE KEYS

2.1 DEVICE KEY (STB, TV, DVD, VCR, AUDIO, AUX) is to change the device.

3.Setting Number Call

3.1 In case of normal setting

3.1.1 Press [DEVICE + OK] keys for 1 second more. DEVICE LED will be on. Then go to setting Mode.

3.1.2 Click [MEUN] key.

If code 023 is the programmed code, the LED will blink 10 times, 2 times and 3 times (Zero will be flashed 10 times).

4.Setting Process

4.1 Using 3 Digit Codes

4.1.1 Press [DEVICE] + [OK] KEY for over 1 second. Then LED will be on.

While the remote is in programming mode and no keys are pressed for 20 seconds.

The LED will be off and the setting mode will be cancelled.

4.1.2 Enter 3 Digit code sequentially (The Device LED will blink once when press the 3 Digit codes).

-After pressing 3Digit code, the Power code data will be sent one time.

-Press the TV power key and check TV turns on.

(If TV does not turn on, check the TV Power button. Or Press other 3 digit codes.

-If press the incorrect Digit codes, the LED blinks once and on for stand by.

-If press the keys except OK, Number (0~9) up, down, info keys, LED keeps on.

4.1.3 Press [OK] key and LED will blink 2 times.

4.2 Using the Auto Search (UP, DOWN Keys)

4.2.1 Press [DEVICE] + [OK] KEY for over 1 second. Then Device LED will be on.

4.2.2 Press [UP] or [DOWN] key (LED will blink once when press [UP] or [DOWN] Keys)

-If press [UP] or [DOWN] key, the present setting code or next setting code of

4.2.3 power data code will be sent and LED turn on for stand by.

4.2.4 Press [OK] key and Device LED will blink 2 times.

<< TV Brand List >>

A.R.Systems	005	173	062	039
	047			
Accent	001	005	062	
Acer	140			
Adcom	071			
ADL	125			
Admiral	009	035	043	013
	024			
Adyson	019			
AEA	005	062		
AEG	151	067	118	
Agashi	019	024		
AGB	058			
Aiko	001	005	062	019
	038	003	044	033
	016	024		
Aim	005	042	062	092
	018	083	100	
Aiwa	082	161	149	
Akai	033	018	038	150
	005	044	091	016
	003	001	092	020
	089	085	013	058
	086	066	062	061
	049	072	019	024
	015	040	067	115
	161	048	076	129
	163			
Akashi	108	001		
Akiba	020	025	047	005
	062			
Akira	043			
Akito	005	062		
Akura	005	062	080	042
	001	020	025	024
	085	164		
Alaron	019			
Alba	005	115	062	085
	001	043	037	038
	080	032	020	019
	023	013	052	004
	161	046	163	
Alkos	003			
All-Tel	110			
Allstar	005	062		
Amplivision	037			
Amstrad	001	058	024	038
	020	005	062	044
	042	034	115	076
	164			
Anam	005	062	001	077

AnamNational	005	062	077	
Andersson	118	117		
Anglo	001	024		
Anitech	001	024	005	062
	025			
Ansonic	037	005	062	001
	080	039	013	041
	023	145		
Apollo	048			
ArcenCiel	012			
Arcam	019			
Ardem	051	085	005	073
	062			
Aristona	062	005		
ArthurMartin	013			
ASA	010	165	006	
Asberg	005	062		
Asora	001			
Astra	005	062		
Asuka	020	019	024	025
ATD	081			
Atlantic	005	062	019	
Atori	001			
Auchan	013			
Audiosonic	001	005	039	103
	062	012	085	086
	037	024	020	051
Audioton	051	037	024	
Audioworld	081			
Autovox	023			
AVP	161			
AWA	002	004	001	039
	042	005	062	019
	067	011	024	142
Axxent	001			
Axxon	085			
B&D	125			
Baird	012	175	030	007
	018	122		
Barco	013			
BasicLine	039	005	013	080
	062	001	020	025
	047	029	115	
Bauer	100	001		
Baur	001	060	017	057
	005	062	016	033
	149			
Beaumark	015			
Beko	085	003	051	037
	005	043	115	062
	067	086	101	

Belson	168	166		
Bennett	062	005		
BenQ	158			
Beon	005	062	043	
Berthen	080			
Best	037			
Bestar	005	062	037	039
Bestar-Daewoo	039			
BlackDiamond	118	103	115	062
	104	092		
BlackStar	023			
BlackStrip	003			
Blackway	025	020		
Blaupunkt	016	060	017	047
	014	004		
BlueSky	005	085	115	052
	080	086	162	062
	020	025	047	161
BlueSky	168	101	141	
BlueStar	025			
Bondstec	023			
Boots	001			
BPL	005	062	025	
Brandt	071	012	026	028
	030	063		
Brandt Electronique	026	028		
Brinkmann	005	062	080	059
	043	051		
Brionvega	005	062	034	
Britannia	019			
Brother	024			
Bruns	051			
BSR	013	033		
BTC	020			
Bush	080	020	013	001
	004	005	038	025
	032	035	039	059
	024	033	115	052
	018	151	129	081
	062	085	159	161
	096			
Canton	020			
Capsonic	024			
Carad	069	005	062	080
	115			
Carena	047	005	062	
Carrefour	004	006	005	062
Carver	014			
Cascade	001	005	062	
Casio	005	062	013	
Cathay	005	062		
CCE	005	062		
Celestial	102	103	104	

Centrex	097	113		
Centrum	115			
Centurion	005	062		
Century	023			
CGE	037	013	043	023
Cimline	001	020		
Cinex	076	151		
City	001			
Clarivox	043	005	062	006
Clatronic	005	037	038	085
	020	024	062	023
	001	076	067	118
Clayton	115			
CMS	019			
Cobolt	113			
Combitech	161			
Concorde	001			
Condor	005	062	037	019
	001	025	023	043
	041	013	024	
Conia	093	104	166	103
Conrac	101			
Conrad	005	062		
Contec	019	001	002	004
	024	005	062	
Continental Edison	012	026	052	
Cosmel	001	005	062	
Crosley	023	013		
Crown	001	084	037	051
	005	062	052	085
	067	086	043	018
	078	029	115	
CS Electronics	019	020	023	
CTC	023			
CTX	158			
Curtis Mathes	009			
Cybertron	020			
Cytronix	136			
D-Vision	005	164	062	
Daewoo	074	039	162	055
	079	005	062	001
	019	020	116	161
	112	138	153	110
Dainichi	020	019		
Daitsu	132			
Dansai	005	062	024	003
	019	001	004	018
Dansette	042			
Dantax	037	051	085	067
	086	161		
Datsura	018			
Dawa	001	005	062	
Daytek	081	123	083	142

Dayton	123			
Daytron	001	039	005	062
deGraaf	018	013	061	035
DEC	099	108	113	
Decca	058	005	062	116
	161			
Deitron	005	062	039	020
Denko	024			
Denver	005	062	067	121
	065			
DER	175			
Desmet	005	062	001	
Diamant	005	062		
Diamond	024	081	001	105
	019	038	108	103
Digatron	005	062		
Digihome	117			
Digiline	005	062	010	080
DigiLogic	005	062		
Digitex	103			
Digitor	005	062	109	
Digivision	033			
DigiX	112			
DiK	005	062		
Dixi	001	005	062	023
DL	113	097	005	065
	110			
Domeos	080			
Domland	174			
DreamVision	155			
DSE	109	151	103	
DTS	001			
Dual	030	059	005	062
	173	174	013	116
	072	117	115	
Dumont	006			
Dunai	013			
Durabrand	005	145	062	
Dux	005	062		
DVX	113			
Dynatron	005	062		
EasyLiving	127	129		
Ecco	095	083		
Edison–Minerva	052			
Elbe	045	034	037	013
	005	062	020	016
	041	069	058	033
Elbe–Sharp	058			
Elcit	023	058	013	
Elekta	001	005	062	024
	025			
Elfunk	124	115		
ELG	005	062		

Elin	019	005	062	010
	061	033	013	001
Elite	020	005	062	
Elta	001	024	019	
Emco	023			
Emerson	085	015	023	005
	062	038	006	025
	033	162	051	037
	013	080		
Emperor	025			
Enzer	092			
Erres	005	062		
ESC	005	062		
Est?le	013			
Etron	000	005	062	001
	013	103		
Euro–feel	024			
EuroLine	005			
Euroman	019	024	005	062
	037			
Europa	005	062		
Europhon	005	058	013	062
	023	019		
Evesham	127			
Excel	005	062		
Expert	013			
Exquisit	005	062	023	
Fagor	005	062		
FairTec	168			
FamilyLife	005	062		
Fast	160			
Fenner	039	001		
Ferguson	007	071	026	028
	175	012	063	005
	062	003	030	078
	011	033	061	046
	115			
Fidelity	013	057	035	005
	062	038	042	175
	019	024	161	033
Finlandia	018	165	061	033
	013	035	026	030
Finlux	010	005	062	085
	165	013	058	086
	006	041	072	053
	049	151	048	043
	067	101		
Firstline	005	062	039	080
	085	013	001	019
	023	162	041	018
	033	115	168	101
	141	118		

Fisher	004 013	018	037	033
Flint	005 047	062 024	069	020
Force	117			
Forgestone	175			
Formenti	013 019	005	062	051
Formenti-Phoenix	019			
Fortress	009			
Fraba	005	062	037	
Friac	001 055	005 069	062	037
Frontech	023 013	024	035	001
Fujimaro	110			
Fujitsu	013 062	001 033	173 107	005
FujitsuGeneral	001	013		
FujitsuSiemens	136	129	118	
Funai	080	024	042	
Furichi	108			
Futronic	024	099	108	
Future	005	062		
Galaxi	005	062	033	013
Galaxis	037	043	005	062
Galeria	001			
GBC	013 035	001	039	020
GE	030 026	015 012	025 028	063 071
Geant Casino	013			
GEC	013 062	033	005	058
Geloso	023 039	001	035	013
General	012	026		
General Electric	030	026		
General Technic	001			
Genesis	001	005	062	
Genexxa	020 013	005 001	062	042
Gericom	110	136	125	112
Goldfunk	080			
Goldhand	019			
GoldStar	005 040 062 035 047	001 015 013 067	037 023 033 085	000 019 012 086
Gooding	052			

Goodmans	074 055 162 058 030 028 159 142	129 062 039 001 003 020 112	115 085 004 052 049 161 139	005 080 024 038 063 079 065
Gorenje	037			
GPM	020			
Gradiente	078	014	005	062
Graetz	085 005	033 029	038 062	013 118
GranPrix	076			
Granada	005 018 048 035	062 004 028 021	022 029 063 030	011 058 013 061
Grandin	005 069 039 115	062 085 025 110	001 086 020 168	013 080 047 112
Gronic	013			
Grundig	017 006 083 004 139	056 052 062 037 015	060 005 065 163 142	016 046 001 161 030
Grunkel	118			
H&B	101			
Haaz	083			
Haier	081	024		
Halifax	024	019		
Hammerstein	024			
Hampton	019			
Hanimex	020	161		
Hanseatic	005 013 074 040	062 033 037 085	055 025 079 101	059 174 001 051
Hantarex	001	005	062	058
Hantor	005	062		
Harsper	110			
Harwa	095	122	133	
Harwood	001 052	042	005	062
Hauppauge	005	062		
HCM	001 020	042 043	005 025	062 024
Hedzon	062	005		
Hema	001			
Hicon	146			
Hifivox	012			

Higashi	019			
Highline	024	005	062	
Hikona	020			
Hinari	018	005	062	001
	020	004	013	032
	046	052	024	161
Hisawa	025	020	047	069
	161	085		
HISense	141	018		
Hitachi	021	064	004	011
	048	013	030	058
	050	055	005	062
	012	035	061	088
	074	090	015	116
	010	053	147	033
	057	049	115	152
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Hitachi Fujian	011	021		
Hitsu	001	069	047	020
HMV	175			
Hoher	085	151	110	
HomeElectronics	067			
Hornyphon	005	062		
Hoshai	020	047	025	
Huanyu	039	019		
Hugoson	167	125		
Hygashi	019			
Hyper	001	019	023	
Hypersonic	033			
Hypson	005	062	085	086
	024	025	047	161
	115	080	051	
Hyundai	005	110	062	083
	108	092	153	151
Iberia	005	062		
ICE	024	005	038	001
	062	020	019	
Ices	020	019		
Ict	005	116	062	
IISonic	142			
Iiyama	125	167		
Imperial	005	013	037	062
	041	033	043	023
Indiana	005	062		
InFocus	119			
Ingelen	052	069	085	013
	033			
Ingersoll	001			
Inno Hit	001	005	062	020
	058	023	025	118
Innovation	059	005	062	
Innowert	110	136		
inotech	095	103		

Interactive	005	062	057	041
	013	033	037	012
Interbuy	001	005	024	023
	057	062		
Interfunk	005	062	057	023
	013	033	037	012
Internal	005	062	055	039
	162			
International	019			
Intervision	025	047	005	038
	040	059	051	037
	174	052	020	013
	024	023	001	062
Irradio	001	005	062	020
	023	038		
Isukai	020	005	062	025
	047			
ITS	005	038	020	025
	024	019	001	062
ITT	013	049	033	048
	061	175	165	029
	018	069		
ITT Nokia	033	061	013	048
	049	165	018	029
	067	069	072	035
ITV	024	005	062	023
	039			
JDV	164			
Jean	004			
JEC	003			
JMB	005	055	074	039
	062	046	161	
Jocel	084			
Jubilee	062			
JVC	078	004	175	038
	020	067	043	009
	077			
Kaisui	020	025	005	062
	019	047	001	
Kambrook	040			
Kamp	019			
Kapsch	013	033		
Karcher	005	062	037	069
	013	025	024	096
	085	151	067	
Kathrein	062	005		
Kawa	038			
Kawasho	019			
KB Aristocrat	013			
Kendo	069	005	062	013
	059	057	037	040
	035	041	023	034
	076	115	145	051

Kennedy	013	045		
Kennex	115			
Kenwood	010			
Kingsley	019			
Kiota	000			
Kiton	062	005	080	
Kneissel	005	037	069	041
	039	055	062	045
	034	161		
Kobra	146			
Kolster	005	062	023	020
Konichi	001			
Konka	005	062	038	085
	043	020	075	065
	093	166		
Kontakt	052			
Korpel	005	062		
Korting	037			
Kosmos	005	062		
Kotron	042	024		
Koyoda	001			
Kuba	013			
KubaElectronic	013			
Kyoshu	042	043	024	
Kyoto	013	019		
L&SElectronic	110	085		
LaSAT	051	037		
Lavis	115	005	013	
Leader	001			
Lecson	005	062		
Legend	001			
Lemair	041			
Lenco	005	001	013	039
	062	065	115	
Lenoir	001			
Lesa	023			
LevisAustria	005	062		
Lexsor	122			
Leyco	024	005	062	
LG	005	015	037	001
	040	131	000	062
	085	019	013	067
	012	081	086	154
	168	144	137	023
	033			
Liesenk&Tter	005	062		
Liesenkotter	005	062		
Lifetec	005	001	059	039
	080	057	115	116
	062	020	024	127
	085			
Lloyd's	000	001		
Lodos	115	117		

Loewe	057	073	098	005
	062	037	034	058
Logik	002	081	095	001
	175	024	038	000
	112	125	115	
Logix	080	059		
Luker	164			
Luma	005	035	013	041
	062	039	001	034
Lumatron	035	005	062	034
	013	033	024	007
Lux May	005	001	062	
Luxor	118	035	049	053
	033	018	061	013
	165	048	115	072
LXI	015			
Madison	005	062		
Magnadyne	023	058	013	
Magnafon	058	019	007	
Magnavox	005	062	004	097
Magnum	076	085	005	062
	086	135		
Mandor	024			
Manesth	005	062	024	003
	013	035		
Manhattan	005	062	080	115
	132	013	096	
Marantz	005	062	042	
Mark	005	062	019	039
	001	085	086	
Master's	055	005		
Masuda	020	038	001	024
Masuda	005	062		
Matsui	005	062	052	001
	002	032	004	038
	044	046	035	047
	013	058	003	018
	017	016	028	085
	161	115		
Matsushita	077			
Matsuviana	065			
Maxam	024			
Maxdorf	095			
Maxim	164	151		
MCE	001			
Mediator	005	062		
Medion	005	085	101	059
	080	062	057	116
	081	161	115	145
	159	127	112	135
Megas	069			
Megatron	015			
MEI	115	005	062	

Melectronic	165	005	057	012
	030	023	010	039
	001	049	053	019
	041	013	026	062
	074	033	016	017
	079	085		
Memorex	001	015	077	
Memphis	001			
Mercury	000	005	001	062
Merritt	061	033	013	
Metz	179	176	177	036
	118	017	060	016
	005	062	065	080
	115	178		
MGA	015	005	062	020
Micromaxx	005	062	080	115
	101			
Microstar	101			
MicroTEK	103			
Mikomi	117			
Minato	005	062		
Minerva	052	060	017	006
	016	058	011	
Minoka	042	005	062	
Mirror	159			
MistralElectronics	175			
Mitsubishi	011	009	057	005
	015	004	175	060
	062	018	115	
MitsuriGeneral	013			
Mivar	037	019	068	058
Monaco	001			
Morgan's	005	062		
Motorola	009			
MTC	037	057	013	019
	033			
MTlogic	085	139		
Multibroadcast	175			
Multitec	005	062	051	080
	115	151		
Multitech	001	035	051	005
	037	062	019	023
	024			
Murphy	019	013		
Musikland	005	020	023	062
MyCom	142	015		
Myryad	062	005		
NAD	015	033	013	
Naiko	005	164	067	062
Nakimura	039	005	062	
Naonis	035	013		
Narita	164			
NAT	022			

National	022			
NEC	014	065	120	134
	004	047	001	039
	005	062	002	155
	055	078	079	
Neckermann	005	016	037	149
	057	062	013	035
	043	023	041	
NEI	005	062	038	013
Neovia	110	142		
Nesco	023	161		
Netsat	005	062		
Neufunk	005	001	062	069
	020	025	085	
NewTech	005	001	062	030
NewWorld	020			
Nicamagic	019			
Nikkai	020	005	062	024
	003	019	001	004
Nikkei	085			
Nikko	015			
Nobliko	006	019		
Nogamatic	012			
Nokia	033	013	049	061
	053	048	029	018
	039	072	067	165
	069	012		
Nordmende	012	085	113	026
	063	030	017	005
	062	028	013	129
Norfolk	013			
Normerel	005	062		
Novak	005	062		
Novatronic	005	010	039	062
NU-TEC	047	081		
Nurnberg	013	033		
Oceanic	013	033	018	048
	061	049		
Odeon	024			
Okano	037	005	062	024
	001			
Olidata	142			
Omega	024			
Omni	097	113	081	
Onwa	038	066	020	044
Opera	005	062		
Optimus	077			
Optonica	009			
Orbit	005	062		
ORcom	148			

Orion	005	046	032	062
	085	002	001	024
	042	058	161	112
	122			
Orline	005	020	062	
Ormond	080	115	005	062
Orsowe	058			
Osaki	020	024	005	042
	039	032	062	
Osio	005	062		
Oso	020			
Osume	004	020	005	062
OttoVersand	149	004	009	057
	005	062	060	017
	016	033	012	022
	023	001	025	030
	058	059		
Pace	161			
Pacific	005	062	116	085
	115	046		
Pael	019			
Palladium	037	005	041	085
	116	016	149	035
	043	062	023	059
	013			
Palsonic	024	042	005	040
	020	081	062	095
	000	043	096	122
Panama	001	024	019	005
	062	023		
Panashiba	000			
Panasonic	077	011	022	033
	036	058	005	062
	013	061	169	000
	107	015		
Panavision	005	041	062	
Papouw	005	062		
PatheCinema	013	019	037	
PatheMarconi	012			
Pausa	001			
Perdio	013	005	019	025
	062			
Perfekt	005	062		
Philco	062	059	043	023
	013	037	005	
Philex	175	013		
Philips	062	005	016	175
	030	039	033	001
	158	180		
Phocus	135	139	085	
Phoenix	005	062	037	051
	013	019		
Phonola	005	062	175	019

Pilot	062	005	084	083
Pioneer	094	002	005	014
	062	130	037	030
	033	012	013	026
	051	057		
Pionier	037	051		
Plantron	005	062	024	001
Playsonic	085	005	029	086
Policom	012	033	013	006
	060			
Polytron	025			
Poppy	001			
Portland	039	162		
Powerpoint	052	005	062	081
Prandoni-Prince	023	058	033	035
Premier	001	024		
President	108			
Prima	001	024	042	133
Princess	081			
Prinston	115			
Prinz	033			
Profex	001	013	033	035
Profi	001			
Profi Tronic	005	062		
Proline	005	062	071	074
	041	142		
Prosonic	005	062	037	039
	038	080	085	019
Protech	005	062	001	023
	024	043	080	025
	013	051	115	
Proton	015			
Provision	055	005	062	115
	085			
PVision	168			
Pye	005	062	039	042
Pymi	001			
Quadral	020			
Quasar	023	077	110	001
Quelle	005	149	002	012
	057	060	016	033
	004	023	165	001
	024	115	006	010
	080	062	017	
Questa	004			
R-Line	005	062	013	
Radialva	012	020	013	005
	062	026		
Radiola	005	062		
Radiomarelli	058	023	005	062
RadioShack	005	062	015	

Radiotone	001	005	062	037
	043	042	076	080
	024	115		
Rank	006			
Rank Arena	004	066	092	
RBM	006			
RCA	071	009	063	028
	030	092		
Realistic	015			
Recor	005	043	062	
Rectiligne	005	062		
Rediffusion	033	061	004	165
Redstar	005	062		
Reflex	005	062	115	080
Relisys	110	111	123	136
Reoc	085	074	162	
Revox	005	062	037	
Rex	035	041	023	013
	024			
RFT	037	024	005	062
	051			
Rhapsody	019			
Ricoh	005	062		
Rinex	095	043		
Roadstar	115	001	043	005
	062	085	080	020
	024	025	121	159
Rodex	005	062		
Rover	004	111		
Rowa	024	081	084	001
	019	065	005	062
Royal Lux	037	042	028	
RTF	1065			
Rukopir	062	005		
Saba	071	012	063	030
	026	013	058	033
	054	028	061	077
	085			
Sagem	069	047	025	106
	070			
Saisho	058	001	002	013
	024			
Saivod	005	164	062	118
	080	084	115	
Saka?	013			
Sakyno	047			
Salora	013	033	058	035
	061	029	018	049
Salsa	028			
Sambers	058			

Samsung	070	065	005	015
	062	128	009	126
	001	037	024	019
	018	059	013	071
Sandra	019			
Sansui	005	089	062	083
	038	066	047	109
	092			
Santon	001			
Sanyo	018	124	004	002
	037	029	019	001
	013	005	011	062
	051	014		
Save	005	062		
Saville	161			
SBR	005	062	175	
Schaub Lorenz	061	085	033	067
	051	039	168	
Schneider	116	005	062	059
	174	173	030	023
	038	033	020	080
	115	013	076	085
	162	161	164	006
Scotland	013			
Scott	121	015		
Sears	015			
Seaway	074			
Seelver	062	115	005	
SEG	005	062	115	145
	080	052	001	013
	024	074	004	023
	034	019	118	020
	162	160	085	
SEI	149	013	058	005
	062			
Sei-Sinudyne	058	149	005	062
Seitech	125			
Seleco	035	034	013	041
	038	004	024	165
	045			
Sencora	001			
Sentra	003	020	001	
Serino	069	047	019	009
Sharp	009	004	078	175
	058	118	094	143
Shintoshi	005	062		
Shivaki	005	062	046	039
	015			
Show	043	001		
Siarem	013	058		
Siemens	016	060	033	017
	005	062		
Siera	005	062	065	

Siesta	037			
Silva	005	062	019	033
	076			
SilvaSchneider	151			
Silver	004	005	047	033
	062	086	013	
SilverCrest	115	005	062	
Singer	001	150	005	062
	023	045	028	013
Sinotec	095			
Sinudyne	013	033	058	149
	005	062	161	
Sky	005	025	112	015
	062	148		
Skymaster	010			
Skysonic	092			
Sliding	110	112		
SLX	080			
Smaragd	052			
Soemtron	110	136		
Solavox	033	013	061	005
	062			
Sonawa	020			
Soniko	005	062		
Soniq	146			
Sonitron	018	037	029	
Sonneclair	005	062		
Sonoko	005	062	001	024
	025			
Sonolor	018	013	149	061
	033	025		
Sontec	005	062	037	001
Sony	149	002	156	031
	004	005	062	
Sony	009	014		
Sound&Vision	020	039	005	062
Soundesign	015			
Sound Wave	005	062	043	086
Soyea	095			
Spectra	001			
Ssangyong	001			
Staksonic	001			
Standard	005	062	115	020
	001	039		
Starlite	001	013	005	062
	024	042		
Stenway	025	020		
Stern	013	035	024	041
	045			
Stevison	164	151		
Strato	005	062	024	001
Strong	118	117	115	005
	062			

SunicLine	005	062		
Sunkai	032	047	020	069
	005	062	052	110
Sunstar	038	005	062	001
	024			
Sunwatt	047			
Sunwood	005	062	001	
Superla	058	019		
Supersonic	018	062	081	024
	100	047		
SuperTech	001	005	062	019
	020			
Supra	015	039	001	
Susumu	028	020	026	
Sutron	001			
Svasa	100			
Swissline	023			
Swisstec	148	112		
Sydney	019			
Sysline	005	062		
Sytong	019			
T+A	176			
Tandberg	036	041	012	034
	033	013		
Tandy	020	023	009	013
Tashiko	004	014	019	013
	035			
Tatung	151	005	062	058
	002	161	158	129
	168			
TCM	085	135	101	
Teac	081	057	005	145
	115	062	084	080
	047	083	024	162
	015	001	042	025
	043	014	085	117
	157			
TEC	001	023	028	005
	062	033	013	
TechLine	005	062	080	145
	118			
TechLux	121			
Techica	020			
Technica	164			
Technics	077			
TechniSat	005	062	013	132
Technisson	085	135		
Technosonic	005	062		
Techwood	118			
Tecnimagen	062			
Tedalex	043	067	150	001
	083	018	081	065
	113	005	062	

Teiron	001			
Teleavia	012	026	030	
Telecor	005	062	013	020
	174			
Telefunken	071	063	165	065
	012	081	030	084
	054	103	114	093
	148	026	104	028
	007	005	062	051
	085	151		
Telefusion	005	062		
Telegazi	005	013	020	024
	062			
Telemeister	005	062		
Telesonic	005	062		
Telestar	001	005	062	042
Teletech	005	062	080	001
	023	115		
Teleton	013	004	035	
Televideon	013	019		
Televue	005	062		
Tempest	001	005	062	024
Tennessee	005	062		
Tensai	020	005	062	001
	010	039	038	040
	023	086	013	115
Tenson	001			
Tesla	005			
Tevion	059	166	129	136
	005	151	062	101
	076	080	116	085
	115	127	135	
Texet	039	001	019	020
Thomson	071	063	030	026
	012	028	005	062
	019			
Thorn	011	175	012	007
	021	030	033	149
	006	003	055	060
	005	062	002	028
	057	004	039	
Thorn-Ferguson	011	012	175	033
	028	055	007	003
Tiny	122	133		
TMK	015			
Tobishi	020			
Tokai	005	062	080	013
	039	001	115	
Tokaido	115			
Tokyo	019	003		
Tomashi	025	020		
Tongtel	097	065		
Topline	115	080		

Toshiba	056	003	135	004
	006	085	012	087
	017	016	070	161
	001	081	005	119
	118	163	151	131
	077	155		
Toyoda	001	038	024	
Trakton	001	024		
TransContinens	080	115	005	062
	051			
TRANScontinents	110			
Transonic	005	062	047	065
	057	024	081	084
	043	001		
Transtec	019			
Triad	005	062	020	
Trident	058			
Tristar	024	020	175	
Triumph	058	165	062	005
Tsoschi	025			
TVTEXT95	062			
Uher	005	062	039	043
	051	037	049	
Ultravox	039	023	019	013
	005	062		
Unic Line	005	062	048	047
United	085	005	086	062
	161	115	065	164
Universal	005	062		
Universum	165	010	017	048
	060	033	023	053
	049	037	070	043
	002	005	057	004
	006	013	024	062
	041	145	014	118
	149	080	012	034
	072	001	117	160
	115			
Univox	005	062	013	
Utax	013			
V7Videoseven	157	015	112	142
	125			
Vestel	005	013	062	080
	115	118		
Vexa	001	005	062	
Victor	078			
Videologic	020	019		
Videologique	019	020		
Videosat	023			
VideoSystem	005	062		
Videotechnic	019	039		
Videoton	013			
Vidtech	004	015		

ViewSonic	157			
Visiola	019			
Vision	005	024	062	
Vistar	033			
Vortec	005	062		
Voxson	005	062	035	043
	013	015		
Waltham	043	026	005	062
	080	012	115	013
	046			
Watson	115	127	005	062
	013	001	080	020
	059	174	161	145
	142			
Watt Radio	013	019		
Wega	005	062	004	
Wegavox	001	005	062	
Welltech	085			
Weltblick	005	062		
Weston	005	062		
Wharfedale	005	109	059	114
	062	151		
White Westinghouse	019	005	062	162
Windsor	080	115		
Windstar	025			
WindySam	062			
Wintel	085			
World-of-Vision	112	167	110	135
	136	111	125	
Worldview	047			
X-View	168			
Xenius	074			
XLogic	081	108		
Xoro	122	125		
Xrypton	005	062		
Yamaha	077	152		
Yamishi	025	047	020	005
	062			
Yokan	005	062		
Yoko	005	062	020	024
	001	037	029	019
	023			
Yorx	020			
Zanussi	035			
Zenith	162			
Zenor	029			
ZX	161			

<< VCR >>

Brand	Setting number	Brand	Setting number	Brand	Setting number
AIWA	053	HARMAN KARDON	049 022	MGA	022 021 079
AKAI	105 006 021 103 104	HITACHI	083 086 082 053 006	MINOLTA	084 085
	106		116 087 009	MITSUBISHI	084 085 022 021 008
AMPRO	118	INSTANTREPLAY	012 011		127 079 081 080
ANAM	012 011 016 112 113	JCL	012 011	MTC	053 025
	004	JCPENNY	049 084 050 011 025	MULTITECH	102 053
AUDIO DYNAMICS	049 037 005 006		013 090	NEC	049 037 005 006 069
BROKSONIC	057 063 064	JENSEN	006	NORDMENDE	006
CANON	100 012 011	JVC	049 012 011 006 069	OPTONICA	019 010
CAPEHART	024		070 107 071 068 009	PANASONIC	013 017 018 014 115
CRAIG	065 025 110		078		126 015
CURTIS MATHES	012 011 114	KENWOOD	061 053 005 006 007	PENTAX	084 085 012 011 116
DAEWOO	042 059 060 121 122		069	PHILCO	012 053 029
	024 023 043 075 045	LG (GOLD STAR)	001 049 084 085 090	PHILIPS	012 011 053 010 029
	046 044		091 092 093		041 090
DAYTRON	024	LLOYD	053	PILOT	090
DBX	049 037 005 006	LXI	065 088 084 061 074	PIONEER	084 108 069
DYNATECH	053 019		053 090 091	PORTLAND	024
ELECTROHOME	079	MAGIN	025	PULSAR	118
EMERSON	094 074 098 099 097	MAGNAVOX	012 011 053 114 029	QUARTZ	003 061
	012 053 057 058 063		002	QUASAR	011 013 125 015
	021 090 064 073 047	MARANTZ	049 012 011 029 033	RCA	084 085 011 053 025
	101	MARTA	090		114 124 116 035 039
FISHER	065 089 088 060	MATSUI	099 096		126 034 015 038
FUNAI	053	MEI	012 011	REALISTIC	065 089 060 061 012
GE	012 011 116 118 035	MEMOREX	065 060 061 012 011		011 053 025 019 010
	039 034 038		053 019 118 090 026		090
GO VIDEO	030 031		062 054	RICO	036
Brand	Setting number	Brand	Setting number		
RUNCO	123	TOTEVISION	025 090		
SALORA	061	UNITECH	025		
SAMSUNG	051 025 026 027 066	VECTOR RESEARCH	049		
	035 039 075 077 028	VICTOR	069		
	076 052 104	VIDEO CONCEPTS	049 053 021		
SANSUI	109 006 069 110	VIDEOSONIC	025		
SANYO	065 059 060 061 026	WARDS	065 084 074 102 012		
	062		011 053 025 019 010		
SCOTT	074 063 075 064 073		073		
SEARS	065 089 088 060 084	YAMAHA	049 053 005 006		
	061 074 085 012 119	ZENITH	053 069 055 036 118		
	120 128 090		117 090		
SHARP	012 010 020				
SHINTOM	102				
SONY	065 088 012 032 055				
	040 036 056 111 095				
	020				
SOUNDESIGN	053				
STS	084				
SYLVANIA	012 011 053 079 029				
SYMPHONIC	053				
TANDY	060 053				
TATUNG	005 006				
TEAC	053 005 006				
TECHNICS	012 011 017				
TEKNIKA	048 012 011 053 090				
THOMAS	053				
TMK	094				
TOSHIBA	089 084 119 007 079				
	072 075 073				

<< DVD >>

Brand	Setting number
AIWA	031
APEX DIGITAL	014
DAEWOO	020
DENON	008 016
GE	017 018
HARMAN KARDON	034
HITACHI	033
JVC	041
KLH	019
LG	002 003 001 004
MAGNAVOX	011 012
MARANTZ	013
MITSUBISHI	030
NAD	035
ONKYO	024 040
PANASONIC	006 007 009
PHILIPS	011 012
PIONEER	037 038
PROCEED	010
PROSCAN	017 018
RCA	017 018
SAMSUNG	023 028 015 029 026
SONY	021 022 027
SHARP	039
SYLVANIA	036
THOMPSON	017 018 005
TOSHIBA	025 024
YAMAHA	007 032 009
ZENITH	003 001 004

AUDIO

BRAND	CODE NUMBERS
ADC	007
ADCOM	082 092 225 161 269 355 356
AIWA	018 104 202 203 213 211 188 170
AKAI	189
AMC	125 126 127 281 282
ANGSTROM	142
ANTHEM	335 337
ARCAM	141 418
ATLANTIC TECHNOLOGY	342
AUDIO FILE	071
AUDIO MATRIX	167
AUDIO TECHNICA	134
B & K	096 097
BOSE	070 170 224 347 409 460
BOSTON ACOUSTICS	447
CARVER	006 028 061 071 201 214 226 185 022 077 284
CINEMA SOUND	134
CITATION	148 272
CLARION	026
DELPHI	515
DENON	109 215 230 234 259 330 340
ELAN	057 290
ENLIGHTENED AUDIO	099 098
ESCIENT	368 451
FISHER	047 214 182 297
FLEXTRONICS	378
FOSGATE AUDIONICS	231 342
GE	056
GOLDSTAR	008
HARMAN KARDON	231 233 153 154 118 318
HITACHI	020
INTEGRA	275
JAMO	398
JCPENNEY	216
JENSEN	058
JVC	163 191 114 279 291

AUDIO

BRAND	CODE NUMBERS
KENWOOD	026 066 145 192 182 005 280 374
KLH	331
KOSS	216
KRELL	150 072 376 384
KYOCERA	007
LEXICON	120 235 236 237 357 360
LINN	124 377
LUXMAN	137 139 052 165 115 004 009
LXI	056
MAGNAVOX	086 164 152 208
MARANTZ	006 028 031 040 063 185 186 251 265 119 289 296
MCINTOSH	238 286
MERIDIAN	100 012 013
MITSUBISHI	242 243 204
MONDIAL	157 158 042 043 081 112
MYRYAD	276 293
NAD	186 113 283 478 479
NAKAMICHI	111 244 245 172 183 287
NEC	176
NIRO	343
NILES	403
ONKYO	017 046 108 080 209 275
OPTIMUS	026 041
OUTLAW	342
PANASONIC	032 195 219 177 292
PARASOUND	129 130 132 261 294 295 333 334
PHILIPS	249 250 251 063 119
PIONEER	014 039 044 069 168 116 035 078 198 480
POKAUDIO	515
PROCEED	144 268
RCA	010 048 117 156 067 288
REALISTIC	019 056 073 075 095
ROTEL	074 083 085
RUSSOUND	379 391 392
SAMSUNG	016
SANSUI	040 048 110 119 065 228
SANYO	047 059

AUDIO—A

BRAND	CODE NUMBERS
SCOTT	019 091
SHARP	026 094 131 175
SHERWOOD	024 102 106 447
SONY	018 247 248 166 101 184 218 271 369 372 380
SOUNDESIGN	036
SSI	068
SUNFIRE	344 345 346
TEAC	005 019 049 111 212 217
TECHNICS	122 176 193 219 178 177 200 257 262
THETA DIGITAL	136
TOSHIBA	060 087 198 278
YAMAHA	026 253 169 067 173 205 264 232 089 264 274 285 373
ZENITH	143 210

AUX

BRAND	CODE NUMBERS
APPLE	401
DELL	261 262
DWIN	080 253
FAROUDJA	184
GATEWAY	261 262
HP	261 262
HUNTERDOUGLAS	219
KEYSPAN	297
LITE-TOUCH	208 257
LUTRON	158 159 077
NILES	160 187
RUSSOUND	081
SIMA	082
SONY	261 262
X-10	183 093
XANTECH	172 188 189



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