CityCom®
2000

DVB Satellite Receiver
CCR 502 • CCR 502/S
CCR 512 • CCR 512/S

CityCom®

Communication systems

1. Safety instructions

The following section contains important information regarding operation, place of installation and connection of the receiver.
Read these instructions carefully before putting the unit into operation.

Extended absence / thunderstorms

Always switch the unit off via its mains switch on the right side of the front panel during periods of extended absence or at the onset of thunderstorms or withdraw the mains plug from the outlet. This also applies to any other equipment that is connected to the receiver.

However, take into account any possible timer programming and switch the unit on again in good time prior to the recording time.

Mains cable

Make certain that the mains cable (power supply cable) is undamaged. Never put the unit into operation, if the mains cable is damaged.

Cleaning

Withdraw the mains plug before cleaning the unit. Use a dry cloth for cleaning. Clean the surface only and nothing else.

On no account open the housing. There is a risk of electric shock if components within the unit are touched.

Children-at-play

Pay attention that children do not insert objects into the ventilation slots. There is a risk of mortal danger due to electric shock.

Repairs

If your receiver needs repairing or settings need to be changed, have qualified specialists carry this out. Unauthorised opening and attempts at repairs entail loss of guarantee.

The unit's electrical safety can be affected by improper tampering with it.

The manufacturer's liability excludes accidents occurring to the user when the unit is opened.

Connections

The unit may be rendered inoperative or not work properly if the connections are not wired up properly.

Important notes for siting and installation

Place of installation

Every electronic device generates heat. The rise in temperature, however, lies within a safe range. Slight colour changes may occur to sensitive furniture surfaces and veneers over the course of time due to the constant effect of heat. In conjunction with treated furniture surfaces, the unit's rubber feet can likewise give rise to changes in colour. Where necessary, place the unit on a suitable pad.

Ventilation

The heat which is generated in this unit is dissipated quite adequately. Never install the receiver in a cabinet, shelf or rack with inadequate ventilation. Never close off the cooling slots on the unit.

Do not place objects on top of the unit. Maintain a clearance of at least 10 cm above the unit, so that the heat generated within the unit is conducted away without obstruction.

Humidity, exposure to sunlight, heat

Protect the unit against humidity, drips and splashing.

Do not place the unit close to radiators nor expose it to direct sunlight.

Mains voltage

Operate the receiver only from a 230V / 50 Hz mains voltage.
The unit must not be connected to the mains and switched on until after the connections have been set up for the antenna and TV set.

Grounding

The parabolic antenna is to be grounded in accordance with regulations. The relevant local and/or German VDE regulations are to be observed.

Remote control

Place the supplied batteries into the remote control. Ensure correct polarity of the batteries according to the + and – markings inside the battery compartment!

2. Connections

The following connections are located on the rear panel of the unit:

230V / 50 Hz	Connect the mains cable with the mains socket.
AUDIO TV L a. R	Audio output, left and right channel for connection to a stereo system.
TV	Connect the TV socket to your television set with the Scart cable, which is included in the scope of delivery.
VCR	VCR Scart socket for connection of a video recorder.
SAT IF INPUT	Sat IF signal input and output for LNB supply and control signals – Connect the cable from your satellite system to this socket.
SAT IF OUTPUT	IF signal output (Loop-through e.g. to an analogue receiver).
DATA INTERFACE	RS 232 interface for serial data transmission for servicing. 0-modem cable (Pin 2 and 3 crossed, Pin 1, 4, 6-9 are not used).

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Receiver:                      PC:
Pin 2 = RXD ————\  /———— Pin 2 = RXD
Pin 3 = TXD ————/  \———— Pin 3 = TXD
Pin 5 = GND ———————————— Pin 5 = GND
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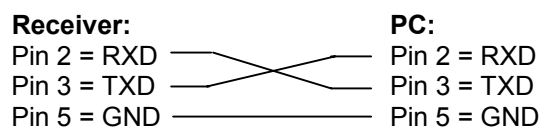
3. Operation

3.1. Local control

Open (and close) the flap on the front panel of the unit by pressing the dotted area (left).

The local control consists of the buttons [STANDBY], [▲] and [▼] for switching the programmes (up/down), as well as [-] and [+] for adjusting the volume.

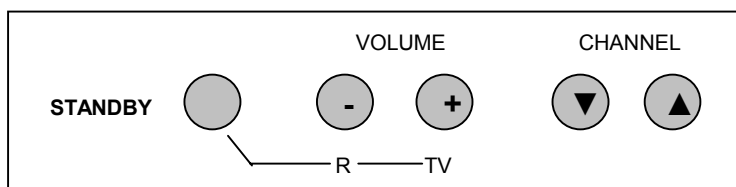To switch between radio and TV, quickly press the button [STANDBY] and within one second the [-] button for radio or the [+] button for TV operation.

[r t]   For a second, the LED display shows the switch-over operation **R**adio / **TV**.

The unit has an On/Off switch with mains separation.

The display of the programme number appears on a 4-digit, green, 7-segment display!

P 9 9 9   **Display of TV programmes**

r   2 5   **Display of radio programmes**

t 1 2 3   **Display t = TV mode (+ programme number of the satellite receiver)**
Note: The unit has been switched to TV operation with the TV button. The picture on the television set comes from the TV set; e.g. with an additional cable connection.

P 2.3.4.   **The points are displayed, when the unit is muted.**

V c r   **Display ‚Vcr':**
The video/audio signal from the video recorder is automatically switched to the television set during play – also in standby.
V c r -   **Display ‚Vcr-' :** Switching in standby.

-   **The unit is in standby and can be switched on by pressing the [STANDBY] button.**

3.2. Functions of the remote control

The unit is switched on in standby by pressing the red button or with the numerical buttons [0] ... [9] .

A description of the remote control functions is integrated in the unit's software. In order to call up the function description, simply press the [RC] on the remote control and then the button, whose function is to be described -The respective text is displayed.
Exit the help menu by pressing the [RC] button again.

The [◄] [►] and [▲] [▼] buttons, which are arranged around the OK button, possess the volume function - / + (Vol -/+) and the programme function - / + (Ch -/+) during normal operation.

3.3. Programme

3.3.1 Programme selection with the numerical buttons [0...9], [▲] , [▼] and list

Setting a programme is carried out by direct entry of the programme number with the numerical buttons (0 is also a programme number).
Switch to the next / previous programme with the [▲] / [▼] buttons.
After pressing the [OK] button two times, a list is displayed which is arranged according to programme numbers. The desired programme can be called up using the [◄] / [►] and [▲] / [▼] buttons and set by pressing the [OK] button. Exit the list by pressing the [OK] button once more or by pressing the [E] button.

3.3.2 Last programme with the [E] button

Press the [E] button to switch between the last two set programmes.

3.3.3 Zapper-function with the [OK] and [◄] [▲] [►] [▼] buttons

If the current „desired" programme is interrupted by advertisements, many users „zap" to a „substitute" programme or even to a second or a third. It easily happens, that the user does not return to the originally watched programme.
The „zapper-function" marks three „substitute programmes," which were ‚zapped to' after the „desired" programme. Only programmes, which are watched for at least 5 seconds, are saved.
The 4 programmes, which were last saved, can be directly called up by pressing the [OK] button and afterwards one of the [◄] [►] [▲] [▼] buttons.

3.3.4 Programme management with 10 favourite lists

The digital television technology provides watchers with a variety of programmes. Depending on the number of received satellites, up to 1,000 TV and up to 1,000 radio programmes are available.
In order to manage such an enormous array of programmes, – who can remember hundreds of programmes along with their assigned programme number? – ten definable favourite lists are available for the user, which allow clear management and sorting of the programmes.

A favourite list is a list, in which any of the selected programmes from a programme pool can be categorised.
The list names are predefined at the factory comparable to the following example. The name of the favourite list can be individually changed. In each favourite list, the programme numbers P000....P999 are available.

Favourite list : Name		Sorted programmes (example)
Example:	F0: ALL	(e.g. all programmes from the programme pool)
	F1: NEWS	(e.g. PHOENIX, n-TV, N-24, Bloomberg........)
	F2: SPORT	(e.g. DSF, EuroSport, Motors-TV, ...)
	F3: MUSIC	(e.g. MTV, VIVA, VIVA zwei, Video Italia, Hit-Channel.....)
	F4: TRAVEL	(e.g. Canal Canarias, Travel-Channel, ...)
	F5: SHOPPING	(e.g. Home Shopping, QVC, Wishline, ONYX, ...)
	F6: CHILDREN	(e.g. KIKA + other programmes for children...........................)
	F7: DIVERSE	(e.g. – *all programmes, which are not yet categorised*)
	F8: ABC	(e.g....)
	F9: XYZ	(e.g....)

The desired programmes can be taken from the programme pool, which contains all the programmes in alphabetical order, and can be copied into one of the 10 favourite lists.

All programmes from the programme pool are also saved in the favourite list 0 = „ALL" upon delivery. The favourite list F0 = ALL contains all the programmes known thus far for satellite receivers. Some of the programmes from the satellites Astra 19 and Eutelsat Hotbird are additionally contained in different favourite lists.

The selection of the desired favourite list is carried out by pressing the [F] button and one of the assigned numerical buttons [0] .....[9].

Note: After selecting a programme, the following display appears:

Current favourite list

Current time

| Fav 0 | P 001 | Das Erste | 20:10 | F | ──► F = free / $ = encrypted
| 20:00-20:15   Tagesschau | ──► **Current programme**
| 20:15-21:45   Tatort | ──► **Following programme**
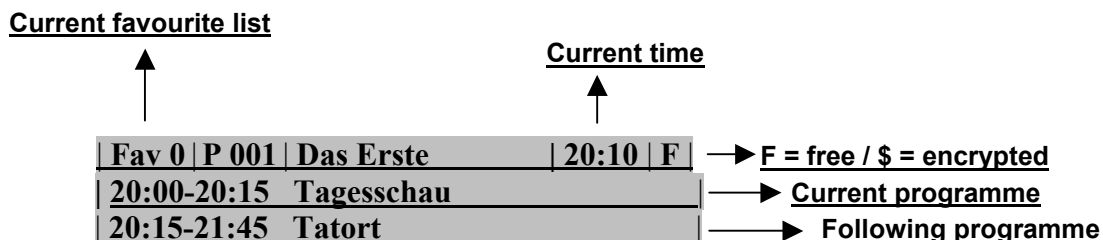
3.4. TV / Radio – switch-over

The switch-over to radio or TV is carried out by pressing the [R] or [TV] button. Both buttons influence the so-called switching voltage of the TV Scart socket.   If you also receive programmes via antenna or cable on your television set, you can switch between the programmes received by your television set and those received by your satellite receiver by pressing the [TV] button, provided that the switching voltage from your television set is recognised and processed.

Note: **All the programme functions (last programme, zapper-function, favourite lists, programme lists and programme pool etc.) used for TV can also be separately used for 1,000 radio programmes.**

3.5. Volume adjustment

a)   The volume of the receiver can be adjusted in 20 steps using the [◄] or [►] button.

L   2 0   The current volume status is displayed in the programme display.

b)   [▶] Sound on/off – switch (mute) - on „sound off," a respective OSD symbol is displayed for ca. 2 seconds! The function „sound-off" is removed by pressing the volume button [◄] or [►].

3.6. Language selection

After pressing the [A] button, a menu window appears for language selection. The number of available languages depends on the programme. Press the [▼] or [▲] to select the language.

When exiting the menu by pressing the [E] button, the originally set language remains active.

When exiting the menu by pressing the [OK] button, then the newly selected language is saved.

Note: **Please note that many programmes only offer one language. However, there are radio stations, which offer up to 20 or more „sub-„ programmes. These programmes can be selected in the radio mode with the [A] button.**

3.7. Timer

The „timer programming" menu is called up by pressing the [🕐] button. Up to 8 timer events can be alternatively entered with TV or radio programmes.

Note: *Keep in mind, that the video recorder must also be set to the same recording time.*

Note: *Please make sure, that no remote control commands are made during the recording time, otherwise unwanted OSD displays will also be recorded. The volume is set to the maximum level during a recording.*

r E c

Once a command is recognised from the remote control, „r E c" is displayed on the programme display on the unit as a reminder that a recording is in progress!

E n d

*The timer recording can **only** be stopped in advance by pressing the [🕐] button. After cancelling the recording, „End" is displayed. The unit now operates as normal.*

If the timer recording is started in standby, the unit switches back to standby after a recording has ended.

[1...8]   Select the next open entry field with the numerical buttons [1]..[8] or with [▼] or [▲].

[►][◄]   Select the entry field for {Date} {Start} {Stop} and {Programme} one after another
(the entry field is indicated in white).

[OK]   Activate the entry in the selected field by pressing the [OK] button
(the entry field is indicated in black).
Enter in the respective event either directly with the numerical buttons [0]...[9] or by switching step-by-step with the [►] [◄] buttons.

[OK]   End the entry with [OK] and select the next entry field.

[E]   After entering the {Date} {Start} {Stop} and {Programme}, you can exit the timer menu by pressing [E] and quit, or enter in another event.

The data for the timer programming - as long as it is transmitted- can also be directly transferred to the timer by pressing the [🕐] button in the menu ‚EPG-...programme overview.'

Deleting a timer programming:

[1...8]   Select the timer line, which is to be deleted, using the numerical buttons [1]..[8] or with [▼] or [▲],

[OK]   and delete the programme data by pressing the OK button.

Note: *If you have accidentally deleted a line and would like to restore the original information, exit the timer menu by pressing the [E] button twice.*

Note: ***Time and date are taken from the DVB data transmitted by the broadcaster. Please correct the „Offset time" in the ‚Installation' menu for summer and winter time.***
For UTC summer time = {+2 h}
For UTC winter time   = {+1 h}

Please take note, that a few „exotic" programmes do not transmit the correct time.
Control the date and time in the ‚Timer programming' menu, when you carry out a programming.

3.8. EPG – Programme information (Basis navigator)

In the EPG (Electronic Programme Guide), information about the current and following programmes is displayed.

The magnitude of this programme-accompanying information is determined by the respective programme provider and varies from programme to programme. Many programmes are transmitted without usable supplementary information (SI data).

It is the same for the programme overview. Some programme providers do not transmit data, others transmit a programme overview, each with supplementary information covering several days.

The EPG-programme information is called up and exited by pressing the [i] button.

a)   Current and following programme

[i]   Shows **title**, **start** and **end of the current programme,**
             and other information about the programme depending on the programme provider!

[i]   Shows **title**, **start** and **end of the next programme,**
             and other information about the programme depending on the programme provider!

[i]   Exits the programme information display.

[E]   Immediately exits the programme display.

b)   Further programme overview and supplementary information

[i]   Activates basis navigator, Displays info about the current programme.

[OK]   Calls up the programme overview!
             You receive a programme list for the current day or the next several days depending on the programme provider.
             With the [▼] [▲] or [►] [◄] buttons you can switch to the desired programme line-by-line or page-by-page.

[OK]   When you have called up the desired programme, you can then call up more detailed information by pressing the [OK] button. If supplementary information is not available, a corresponding message will be displayed.
             If the text of the supplementary information exceeds the page, you can scroll up and down line-by-line using the [▼] [▲] buttons.

             Exit the display of the supplementary information by pressing the [OK] or [E] button – You return to the programme overview.

c)   Timer programming

             The data from the programme overview can be transferred to the recording-timer by pressing a button. If a programme overview is available, then select the desired programme, and directly copy the data into the recording-timer by pressing the [🕘] button.
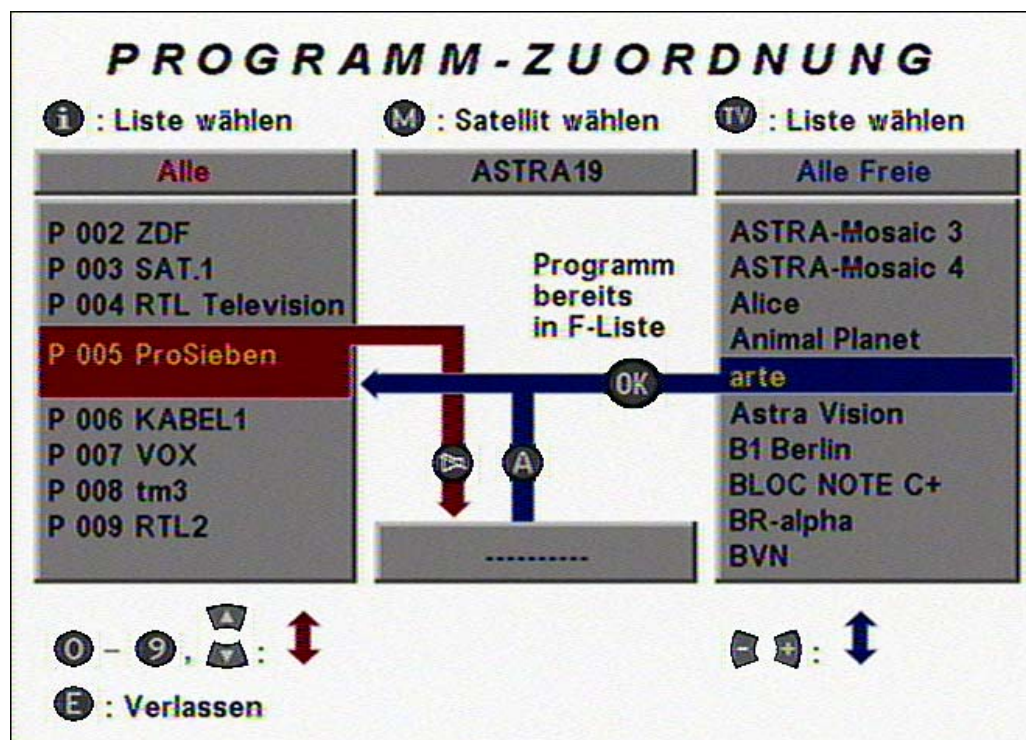
4. Menu structure

4.1. Programmes

4.1.1 Favourite list

Access the main menu by pressing [M], and then press the [OK] button twice.

Sorting, exchanging, copying and deleting programmes – all in one menu!

[i]	Selects one of the favourite lists 0...9.	
[M]	Selects the satellite (e.g. Astra, Eutelsat or other).	
[TV]	Selects the programme source (e.g. NEW or ALL programmes).	
[▼] [▲]	Selects the targeted position in the favourite list (point of blue arrow).	
[◄] [►]	Selects the programme from the source-programme list (right window). The programmes are categorised in alphabetical order.	
[▶]	Takes the current programme from the favourite list and places it in the centre field (withdraw).	
[A]	Copies the programme from the centre field into the favourite list (= add).	
[OK]	Transfers the programme selected in the source-programme list to the favourite list (left window) (= copy).	

Exchanging: Move the desired programme to the red bar with [▼] [▲] or by entering the programme number.
Place it in the centre field using the [▶] button.
Select the desired programme number with the [▼] [▲] buttons or [0...9].
Add the programme by pressing the [A] button– **finished!**

Deleting: Move the programme, which is to be deleted, to the red bar using the [▼] [▲] buttons (or by entering the programme number).

Place it in the centre field by pressing the [▶] button.

Exit the menu with the [E] button and ‚delete' with the [OK] button – **finished!**

Note!   **„Deleted" programmes, which are taken out of the favourite list, are still available in the programme pool and can be added at any time!**

The switch-over to the left menu window is done with the [▼] and [▲] buttons, and the switch-over to the right menu is done with the [◄] and [►] buttons.
Here, the setting focus is also switched to the left or right window –which means that the programme, whose programme name is displayed in yellow writing, is set.
You will see by each action, copy, change or delete, the respective picture in the currently selected window.

The search also finds channels, which contain no usable TV programme. A test picture for example can be recognised right away and does not unintentionally appear in one of the programme lists.

Note!   **With the [F] button, the transparency of the display can be switched between variable and solid.**
In mode ‚var' the transparency can be increased or reduced by pressing the [◄] and [►] buttons.
When sorting and copying programmes, this function is very helpful, because a quick assessment regarding the type and content of the programme is possible at a high transparency.

Copying: Set the desired source programme with the [◄] [►] buttons.
Then select the position in the favourite list, where the programme should be added by using the [▼] [▲] buttons or directly by using the numerical buttons [0...9].
Press the [OK] button– **finished!**

Note!   **The unit recognises programmes, which are already saved in the current favourite list – The following message**

> **Programme**
> **already**
> **in F-list**

is displayed over the symbol when pressing the [OK] button!

Note!   **If you have accidentally deleted programmes, or would like to restore the made changes, then exit the menu with the [E] button and press the [E] button once more.**

Right after pressing the [OK] button, the made changes are saved!

4.1.2 Changing names of the favourite lists

First, press the [OK] button.
Select the entry field {NAME} with [0....9] or [▼] [▲] and activate it by pressing [OK].
The letters (capitalised a. small) or digits can be selected with the [▼] or [▲] button.
You can move the entry position to the right and to the left with the [►] or [◄] button.

After entering the desired name, the entry field is deactivated by pressing [OK].

4.1.3   Programme pool

The programme pool contains all programmes in alphabetical order. Press the [M] button to select the satellites. Press the [TV] button to select free or encrypted programmes. In „All Free" („All CA") you will find all the free (all unencrypted) programmes of the selected satellite, and also the new free or encrypted programmes after a satellite search.

[▼] [▲] Select programmes in the rows   [◄] [►] Select programmes in the columns

All selected programme are immediately set by the receiver and displayed in the background. For encrypted programmes, the respective CA module must be equipped. With the [F] button and (within 2 seconds) with the [◄] or [►] button, the transparency of the screen display can be changed.

(OK)   The programme names given from the broadcasting stations can be individually extended or changed by pressing the [OK] button.

(M)   Selection of the satellite with the [M] button.

(TV)   Selection of free or encrypted programmes with the [TV] button.

(▶)   After pressing the [Mute] button, individual programmes can be deleted – e.g. programmes, which the company has set.

(R)   Here, the programme pool which is activated with the [M] and [TV] buttons can be cleared out, which means all „unused" programmes or also all displayed programmes can be deleted (see also 'CLEAR OUT' under 4.5.2).

(i)   Display of **antenna signal** and **reception parameters**
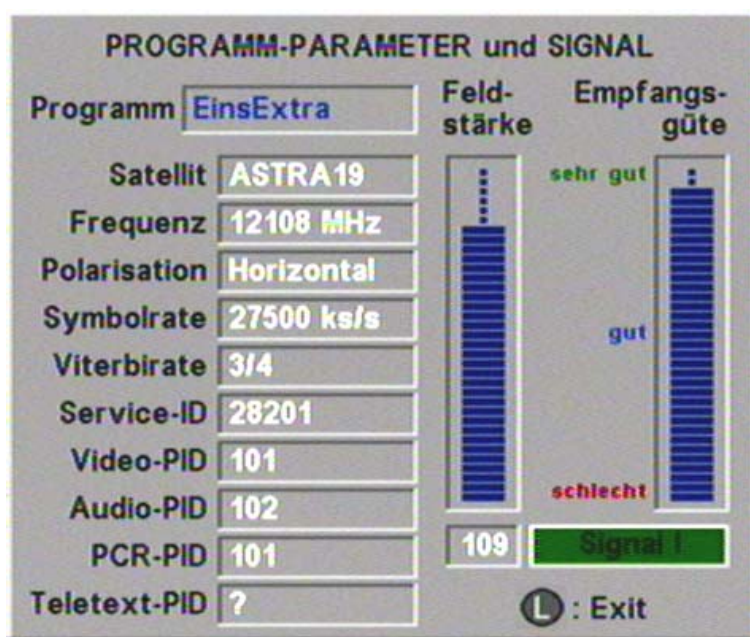
In the submenu „Antenna signal" you can optimally align your parabolic antenna if needed. Turn the antenna to optimise the signal strength and the figure of merit of reception. For very weak signals, the signal strength scale can also go to 0 – Then, optimise the signal with the scale for the figure of merit of reception.
If the message „no signal" appears, and only the signal for the signal strength is displayed, then the antenna is probably aligned to a (not receivable) satellite for analogue signals.

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4.1.4 Parental lock

The 5-digit password (PIN) is set to **00000** at the factory.

a) Changing the password (PIN)

Select the „Parental lock" menu with the [4] button in the main menu „Programme!" Select the entry field {PIN} by using the [2] button or the [▼] button, and activate it by pressing [OK]. Enter in the ‚**old'** and **your ‚new'** PIN according to the following steps.

1. Enter in the current PIN! (= 00000 initially)
2. Please enter in the new PIN!
3. Please re-enter the new PIN!

Attention!   Do not forget your PIN!
Resetting the unit to the factory setting is only possible at the service centre ESC!

All the programmes are unlocked at the factory – You can lock each individual programme against unauthorised setting.

To mark the programmes which are to be locked, press the [RC] button in the **„Favourite list"** menu or the **„Programme pool."**
A „**?**" is then placed in front of the current programme name. Afterwards, the next programme is called up, so you can continue to mark several programmes one after another by repeatedly pressing the [RC] button.
In order to delete a marking, press the [RC] button once more on the desired programme.

Example: Sky News
? Super Action
? Super Spezial
Südwest BW

b) Activating the parental lock

In order to activate the lock on the programmes, which are marked with a „**?,**" switch the entry field {Lock} to **ON** in the „Parental lock" menu, and confirm it by exiting the menu with [OK].

When calling up the marked programmes, you will asked to enter in **your** 5-digit PIN.

Note: *Please note, that after activating the parental lock, the menus, „Favourite-list",*
„Programme pool" and „Search," can only be called up by entering in the 5-digit PIN.
This avoids someone from overcoming the parental lock, e.g. by deleting the marking or
setting the locked programmes via the transponder search (...also the parental lock
cannot be bypassed via the timer!).

Note: *In order to deactivate the parental lock for a short time, e.g. at night, you can switch the*
*entry field {Lock } in the „Parental lock" menu to **OFF**.*
*The „**?**" markings will not be changed and remain after activating the parental lock*
*again, which means when the entry field {Lock} is switched to **ON** again!*

4.2. Search

4.2.1. Satellite search

The satellite search occurs via all frequencies of the selected satellite. Select the desired settings in the order of the menu:
The selection of the individual parameters is carried out after the activation with the [OK] button and then with the [►] or [◄] button.

We recommend to start the search from time to time, in order to find new programmes. Here, use the {**bold**} displayed basic settings.
If you want to specifically search for an individual programme, you reduce the searching time by restricting the known parameters, e.g. **Low** and **22**.

    (1) the desired satellite   {**ASTRA**} > {Hotbird} > {Sat 3} > to {Sat 8}
    (2) the band   {**Low/High**} > {Low} > {High}
    (3) the symbol rate   {**22+27.5**} > {22} > {27.5} > {FREE}
    (4) or a free symbol rate   {**XXXX**}
             (only possible, if the symbol rate has been changed to {FREE} *under point (3)!)*
    (5) and start the search by pressing the [OK] button.

        Choose, if you want to search for unencrypted or encrypted programmes or both: Selection : „FREE" or „CA" or „FREE+CA."

Note: Some of the encrypted programmes can always or at times be received as free programmes.

Special note: The unencrypted ORF programmes are found under ‚FREE!'

4.2.2. Transponder search

In the transponder search, all programmes of a transponder are searched for.

    (1)   **Satellite**
    (2)   **Frequency**
    (3)   **Polarisation**
    (4)   **Symbol rate**

If the parameters (satellite, frequency, polarisation, symbol rate) of the searched programme are known, then the transponder search can be used.

If e.g. a new programme is added to a known programme group, it is sufficient to set a programme from this programme group before via the programme selection – the required parameters are taken over by the transponder search.

If the message **„No signal!"** appears in the „START" line, reception is not possible. Please check the parameters, satellite, frequency, polarisation and symbol rate once more.
The search starts, once **„Signal!"** is displayed.

    (5)   Start the search with the [OK] button.

Encrypted programmes are indicated with „**$**." Programmes, which you do not want to include in the programme pool, can be individually deleted by pressing the [TV] button.
New programmes are indicated with „**+**." These programmes are added to the programme pool by pressing the [OK] button.

4.2.3. Manual entry (for experts)

If the satellite or transponder search does not find the desired programme, all important reception parameters can be manually set. The manual entry is very helpful, when e.g. the desired programme is known by the receiving data but is not continuously transmitted.

4.3. Satellite

The satellite ASTRA is set at the factory. The other 7 satellites, e.g. Hotbird, are pre-programmed. For extending your receiving system, you can make the required settings for the 7 pre-programmed satellites in the ‚Satellite' menu.

Activate the desired satellite number, e.g. with the numerical buttons [1...8], and call up the entry menu with the [OK] button.

(1) Entering or changing the name

> Activate the entry field {NAME} with the [1] button, and then activate the field with the [OK] button.
> With the [▼] or [▲] button, you can select the letters (capitalised a. small) or digits.
> With the [►] or [◄] button, you can move the entry position to the right or to the left.
> After entering the desired name, the entry field is deactivated by pressing the [OK] button again.

(2) Enter in LO1
(3) Enter in LO2

> LO1 a. LO2 are pre-set to 9750 MHz a. 10600 MHz at the factory.
> If the LNB LO frequencies deviate from the pre-set values, you must enter in the appropriate values here. Activate the field with [OK] and enter in the LO frequencies with the numerical buttons [0].....[9]. Then, end the entry by pressing [OK].
> Please make sure, that a ‚digital' compatible LNB is integrated in your receiving system.

(4) Enter in the orbit position

> The parameter „Orbit position", possible values 1...4, must be given for controlling the DiSEqC.

(5) Release

> {ON}   The selected satellite is released for your receiving system.
> {OFF}   The selected satellite is locked.

4.4. Installation

4.4.1. Time offset

After switching the unit on via the mains switch or after a power failure, the time and date for the timer is taken from the received data. In order for the time and date of the receiver to comply with the current local time, the deviation from the normal time must be given.
The offset for the UTC summer time is {+ 2} hours and for the UTC winter time is {+ 1} hour.

Please check or correct the time offset for initial operation and then for the time change in spring and fall.

(1) Call this up with the digit [1] or with the [▼] [▲] buttons. Then, activate it with the [OK] button, and set the desired time difference with the [►] [◄] buttons. The change is completed by pressing the [OK] button.

Note: When the time offset is wrong, the programme times will be incorrectly displayed.

4.4.2. Menu language

(1)   Select the **language.**

The **menu language** can be switched between {German } and {English} .

(2)   Select the **font.**

The automatic changeover of the font is defined in the DVB standard – Unfortunately not all broadcasting institutes keep to this standard, and characters in a text can appear in the wrong font.
The automatic font changeover is provided in the unit, but different fonts can also be set if needed so that e.g. Greek text is displayed in the correct font making it readable.
Selection: {Auto} {Standard} {Latin} {Cyrillic} {Arabian} {Greek }{Hebrew}

4.4.3. Signal paths

Activating and changing individual fields is carried out as follows.

Select the desired entry field {XYZ} with [0....9] or [▼] / [▲], and activate it by pressing [OK].
The parameters are set with the [▼] or [▲] button.
With [OK] the selection is completed.

(1)   TV - **SCART** - VCR   **OUTPUT**
- - - - - - - - - - - - - - - - - the following combinations on the TV and VCR socket are possible!

CVBS	CVBS	
CVBS	YC	
RGB	CVBS	**(RGB** offers the best picture quality on the television set)
RGB	**YC**	(**YC** –you can use this for a SVHS video recorder)
YC	CVBS	
YC	YC	

CVBS   : = Composite Video Broadband Signal

FBAS   : = Complies with CVBS

YC   : = Complies with S-Video (Y: „Brightness", C: „Croma")

(2)   **TV > VCR**   (Video return path)

If {ON} is selected, the video and audio signals are passed on from the TV socket to the VCR socket also in standby.
If {OFF} is selected, the power consumption is ca. 0.5 watts less.

(3)   **VCR signal**   **INPUT**

For VCR replay, you can choose between {CBVS / RGB} or {YC} = S-Video for connection of an SVHS video recorder.

(4)   **Picture format**

When the unit is set to {4:3}, all programmes will appear in 4:3 format.
When the unit is set to {16:9}, the programmes, which are transmitted in broadband format and the appropriate recognition is transmitted, are automatically switched to 16:9 representation.
The automatic adaptation of the video width only occurs if your television unit can process and display 16:9 formats (Switching voltage 16:9 = 6 Volt).

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4.4.4. LNB settings

(1)   **LNB**
     {ON}   Standard setting
     {OFF}   Operation without LNB signal (e.g. on special systems with several subscribers)

(2)   **In standby**

     {OFF}   Standard setting

     Attention!   ***Only use the setting {OFF} for individual systems, otherwise the receiver supplies the LNB with power even in standby. The power consumption of the receiver can increase from typically 2 watts to up to 10 watts in standby.***

     {ON}   In standby, the LNB voltage remains switched on, e.g. for supplying power to a system with several subscribers.

4.4.5. DiSEqC (**Di**gital **S**atellite **Eq**uipment **C**ontrol)

In the DiSEqC menu, the control signals must be set according to the requirements of your satellite system.

(1)   **22 kHz signal**
     {OFF}   22 kHz not active
     {High/Low}   22 kHz switches between high and low band
     {Pos. A/B}   22 kHz switches between 2 satellites

(2)   **Tone burst**
     {OFF}
     {High/Low}   activates the tone burst depending on the receiving frequency
     {Pos. A/B}   selects the orbit position 1/3 or 2/4
     {Opt. A/B}   switches between the orbit position 1/2 and 3/4

(3)   **DiSEqC**
     {OFF} , {ON}   Select {ON}, when you operate the receiver on a DiSEqC compatible satellite receiving system.

(4)   **DiSEqC repeat** (used for cascaded switching matrices)
     {OFF}   no repetition of the DiSEqC signal
     { 1 }   the DiSEqC signal is repeated 1 time.
     { 2 }   the DiSEqC signal is repeated 2 times.

(5)   **UFO**

„UFO mini" and „UFO micro" are specific SAT systems from the company Kathrein. Please take the required parameters from the respective operating manuals.

     (1) UFO mini   {OFF } / {ON}
     (2) Remote Freq.   {XXXX}
     (3) UFO micro   {OFF} / {ON}

With the [M] button, access the main menu. The desired submenus are activated by pressing the numerical buttons [1]....[X] or the programme buttons [▼] / [▲]. The selected submenu is then outlined in colour, and the respective help text appears. This activated submenu is called up by pressing the [OK] button. The other items in the submenu are accessed in the same manner.
By pressing the [E] button, you can skip one step higher in each menu (or exit the menu).
After exiting the menu with the [E] button, the message „save changes" appears on the screen. Press [OK] to save the changes.

4.4.6. Download-over-air (Software update via satellite)

In the submenu „Download" you can individually download operating software and programme lists of your receive via the satellite ASTRA (Update via download-over-air).
To do so, your receiving system must be aligned to the satellite ASTRA 19.2° east.

Keep in mind, that your individual programme assignment in each of the ten favourite lists in TV and RADIO are overwritten by the current programme lists when updating the programme lists!

a)   Start the software download in the INSTALLATION menu after selecting the menu (6) „Download" with the [OK] button. The download proceeds in several phases, and each of the phases are accompanied by respective information! You can end these phases at any time!

b)   Searching the download channel on the satellite ASTRA. This search occurs the first time the unit is put into operation and can last several minutes.
When starting the unit again, the saved download channel is directly set.

c)   Downloading the receiver recognition This process can also last several minutes.

d)   The following selection box appears according to the availability of new data (operating programme or programme lists) on the data carrousel.

Download	
1	Receiver-Software
2	Programme-Lists
CH+/- Select OK	

d)   After selecting number 1 receiver-software, the following menu appears!

ATTENTION
Download-Software-Version V Y.Y
Receiver-Software-Version V X.X
Continue?
YES = [OK]   NO = [E]

e)   After pressing the [OK] button, a version check is carried out. If an older version is found on the data carrousel, a respective note appears – If necessary, you can cancel the download at any time.

Downloading the data can last up to one hour depending on the occupancy of the data carrousel!

g)   Save the downloaded data.

Attention! During this phase, please do not switch off the unit!

4.5.   CA (Conditional Access) = Encrypted programmes (CCR 512)

4.5.1   General information

To receive encrypted programmes, you need a Common Interface CA module (CAM) and a Smartcard from your service provider.
Note, that the CA modules with the respective Smartcards only decode programmes from your service provider. If you have subscribed to programmes from several service providers, you may have to alternatively change the different CA modules and/or Smartcards.

- Follow the instructions from your service provider regarding CAM and Smartcard.
- Switch the unit to standby. Open the front flap and insert the CAM into one of the two module positions . Insert a second CAM into the other module position, if available.
- Insert the Smartcard into the respective CA module.
- The module and Smartcard are correctly inserted, when you can easily shut the front flap.
- Leave the CA modules in the provided plug-in positions.

Th Smartcard is accessed via a 4-digit PIN code (Personal Identification Number). Please observe the instructions from your service provider.

After activating the „CA" menu by pressing the [OK] button, you can call up various information via your CA modules and Smartcards.
The amount and content of this information is determined by the CAM or Smartcard, and does not come from the receiver. Please refer to the instructions and documents from your service provider.

4.5.2   Receiving encrypted programmes

You can receive hundreds of encrypted programmes depending on the satellite.
You have two possibilities to set the programmes from **your** service provider.

a)   **Via satellite search**

- **SEARCH:**   Start the automatic search (refer to 4.2.1) by selecting „CA" (= Search for encrypted programmes). You then receive **all** encrypted programmes of the selected satellite in the „Favourite list" menu under „New CA" (refer to point 4.1.1 Favourite list).

- **COPY:**   The list in the „Favourite list" menu (see 4.1.1) in the right window is in alphabetical order. Select the programme of your service provider with the [▶] or [◀] button, and copy the desired programmes in one (or several) of your favourite lists!

- **CLEAR OUT:**   When you have a variety of CA programmes in the programme pool (see 4.1.3), which are not decoded by your CA module, you can remove this „CA trash" from the programme pool.
  Delete all ‚unused' programmes, all programmes which have not been copied into one of the 10 favourite lists, with the [R] button in the ‚Programme pool' menu.

b)   **Via transponder search**

- **SET:**   Refer to the documents from your service provider for the receiving parameters, and enter these into the respective fields of the transponder search (see 4.2.2). After starting the search by pressing the [OK] button, you receive the appropriate programmes, which you can save in the programme pool by pressing the [OK] button.
  In the case that the programmes are distributed on several transponders, repeat this process again.

- **COPY:**   Select the „Favourite list" menu and „New CA" again, and copy the programmes of your service provider into your favourite lists.
  Here you can also remove the "CA trash" (see above)!

5. Glossary

Band Frequency band of a satellite.
Low-band and high-band

CA (Conditional Access) stands for encrypted programmes.

CVBS Composite Video Burst Sync :
Video-Standard for TV or VCR units

DiSEqC Digital Satellite Equipment Control

DVB Digital Video Broadcast

EPG Electronic Programme Guide

Favourite list List of selected programmes from the programme pool.

Free Freely received (unencrypted) programmes.

GHz Abbreviation for gigahertz (Giga =billion)

LNB Low Noise Block Converter – Electrical unit on the parabolic antenna for reception of satellite signals.

LO Local Oscillator – is a part of the LNB –Conversion of the satellite signal into a frequency range receivable by the receiver.

MHz Abbreviation for megahertz (Mega = Million)

MPEG Moving Picture Expert Group
Standardising committee for coding and compressing pictures.

OSD On Screen Display – display of information on the screen.

PID Packet Identification for video, audio and teletext etc.

PCR Programme Clock Reference

Pool Programme pool –collection of receivable TV and radio programmes.

RGB Video standard (Division into 3 individual signals for **r**ed, **g**reen and **b**lue).

SVHS Super Video Home System – Video recorder standard (S-Video).

Symbol rate means the data amount, which is transmitted per second.
(in MS/s Megasymbols/Second or kS/s Kilosymbols/Second)

Transponder A digital transponder can simultaneously transmit several TV and radio programmes on one transmitting frequency.

VCR Video cassette recorder.

YC (Y= brightness, C= colour signal) Video signal standard for SVHS recorder.

‚Zap' Frequently switching the programme with the remote control.

6. Technical data

Programmes

- 1,000 memory positions for TV programmes and 1,000 for radio programmes.
- 10 individually occupied favourite lists, each with 1,000 programme positions.
  (e.g. for programme categories SPORT, NEWS, MUSIC etc..).
- 8 Satellites (can be individually activated).
- 24 characters for programme or station names.
- Programme selection with 1-, 2- or 3-digit entry.
- Programme selection via UP/DOWN buttons.
- Programme changeover for 2 programmes with one button (Last Programme).
- Quick selection of the last 4 watched programmes – zapper function.
- Selection of programmes from the programme list.
- Programme pool in alphabetical order and sorted according to satellites, free, new free, encrypted and new encrypted programmes.
- Copying, sorting and deleting of programmes, all in one overview menu.

Search

- Automatic satellite search (SCPC compatible) for TV and radio programmes.
  With choice of the satellite, high-/low-band, permanently and freely definable symbol rates, for free (and encrypted) programmes.
- Automatic transponder search – finds TV/radio programmes of a transponder.
- Changing programme names.

OSD   (On Screen Display)

- Clear menu structure with variable and opaque transparency.
- Integrated operating manual and function description of the remote control.
- Menu language German and English.

EPG (Electronic Programme Guide)

- Quick programme information about the current and following programme.
- Programme overview with supplementary information covering the next several days (according to the broadcasting station).
- Easy data transfer to the timer (programme, start and end, date).

Video / Audio

- TV-socket   RGB, YC (S-Video /SVHS), FBAS
- VCR-socket   YC and FBAS
- Automatic switch-over from VCR to TV
- Automatic switch-over from TV to VCR in standby (selectable).
- Separate Cinch sockets for L/R audio.
- Volume adjustable in 20 steps. Mute.
- Language selection for TV programme transmitted in several languages and selection of additional programmes in radio operation.
- Stereo 24 bit 96 kHz- Audio $\Sigma\Delta$ DAC

Further features

- Local control for programme + / -, volume + / -, standby and radio/TV-switch-over.
- 4-digit LED display (green).
- Timer for 8 events (TV or radio).
- Optimal alignment of the parabolic antenna according to signal strength and figure of merit of reception.
- Teletext via TV.
- Prepared for UFO mini, UFO micro (Kathrein specific).

RF range

- Sat IF frequency range   950 – 2150 MHz
- Input level ranges   43 – 83 dBµV
- Reception threshold (EB/NO)   <4.5 dB

TV system digital

- Modulation, FEC, demultiplexer   DVB-S-Standard
- Video definition   CCIR 601 (720 x 576)
- Input data rate   2 – 45 MSymbols/s
- Bit rate   1.5 – 15 Mbit/s
- Video - voltage/impedance   1 V/75 Ohm
- S / N   > 53 dB

- Audio decoding   MPEG-1/2, Layer 1+2
- Bit rate   32 / 44.1 / 48 kHz
- Audio frequency range   0.04 – 20 kHz

CPU / Memory

- 32 Bit RISC CPU   60 MHz tact (intern)
- FLASH   2 Mbytes
- DRAM   2 Mbytes
- SDRAM   8 Mbytes

Power supply

- Mains voltage   230 V (+10 / -15%) / 50 Hz
- Power draw LNB = 400mA/18V   25 W max (22 W typ. incl. 2 CA modules) for CCR 512
                                   12 W max (19 W typ.) for CCR 502
- Power draw without LNB   12 W max (10 W typ.)
- Power draw standby   2.5 W max (<2 W typ.)

Connections

- Sat IF input / output   F-connector
- TV / VCR   Scart socket
- Audio   2 x Cinch socket

Software update

- Separately via data interface for: a) Operating programme,
                                       b) TV programme lists,
                                       c) Radio programme lists,
                                       d) Unit setting
                                          [RS 232 Sub D, 9-pin (0-modem operation)]

- Separately via satellite for: a) Operating programme,
                                       b) TV and radio programme lists,

General

- Dimensions (W/H/D in mm)   335 mm 68 mm 280 mm
- Ambient temperature   + 5 °C to + 40 °C
- Weight   2 kg
- Remote control   26 buttons
- Operating manual
- Mains switch

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CityCom® Communication systems, a company of the Kathrein group, Schlierseestraße 4, 83022 Rosenheim

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