MKTech CB200 HD

- *extremely small and handy device*
- *easy adjustment of LOF and DiSEqC settings*
- *perfect for installers: enlarged presentation of signal bar, acoustic signals*
- *automatic DiSEqC detection: excellent for use with multi-focus antennas*
- *8 transponders can be monitored simultaneously thanks to packet control*

Small in Size – Big in Features

The new dual tuner meter CB200 HD from MKTech is available for the South America market. Shipped inside a neutral, white cardboard box it will take most buyers by surprise thanks to its small size: Measuring only 105 x 170 x 45 mm this must be one of the smallest and most lightweight meters we have ever received for testing. Why do we always rave so much about small and lightweight measuring devices? Well, just pretend to be a professional installer for argument's sake. You'll have to carry along your meter all day long even to the trickiest of places, and that's why size and weight are always two of the determining factors when it comes to making that purchase decision. We also clearly appreciate that buyers won't feel short-changed when it comes to accessories: MKTech ships its latest offering complete with protective case, carrying strap, car charger, mains charger as well as a range of adapter plugs. The built-in battery pack of the CB200 HD is charged with 15V power supply and has stamina for up to four hours of continuous operation. Once it is completely drained it takes roughly the same amount of time for a full charging cycle.

The top side of the meter comes equipped with two F sockets for terrestrial and DVB-S2 signal feeds. Offering a separate input socket for each signal source is a smart idea by MKTech, as it allows measurements of both signals without having to switch cables.

The 3.5-inch colour LCD screen is easy to read, even though you have to try a little harder than with some competing products in direct sunlight. As long as the screen was totally black we could detect some video noise which does, however, disappear when an OSD insert pops up or a channel is presented. The LCD screen comes with a resolution of 320 x 240 pixels.

Right below the screen you can find five status LEDs which indicate operating mode, successful signal lock, active 22 kHz control signal and currently supplied LNB voltage. Further below there are a conveniently positioned On/Off switch as well as four colour-coded function keys that can take care of most features and functions of the CB200 HD. Why most and not all? Well, MKTech has decided to provide dedicated buttons for quick access to some key functions of the meter, such as system settings, angle calculation, signal search, satellite search as well as launching and closing the main menu. Cross-shaped navigation keys, an OK button and a numeric keypad complete the clearly laid out operating concept. In general, all buttons are easy to reach and provide perfect feedback so that after

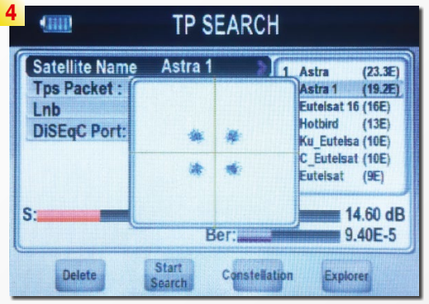
a short period of familiarisation users should be able to operate the CB200 HD without even having to look at it.

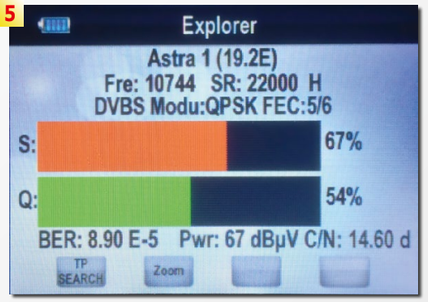
On the bottom side of the meter MKTech has positioned a USB port, a socket for connecting the external charging unit, as well as a mechanical power switch. We would have appreciated a way to feed A/V signals from the meter to an external device and to display external signals on the meter's screen. Neither option, however, is available.

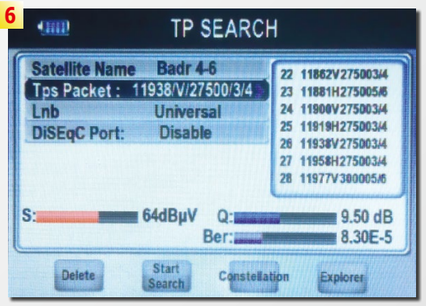
The main menu of the CB200 HD sports a decidedly minimalistic look and feel. This is not a bad thing at all, since it allows operating the meter without having to study the manual beforehand. In System Settings users can select their preferred OSD language, the measuring unit

for the signal level as well as supply voltage through the terrestrial signal input, if required. You won't find many more adjustment options and – quite frankly – you won't need any more either!

This means you're (or rather, the meter is) ready for taking the first signal measurement. All you need to do is look up a dedicated menu item labelled Satellite or Terrestrial. Contrary to many meters offered by other manufacturers MKTech has equipped the CB200 HD with a genuinely up-to-date database of C band and Ku band satellites. A total of 82 satellite entries are available, complete with all their transponder data. So



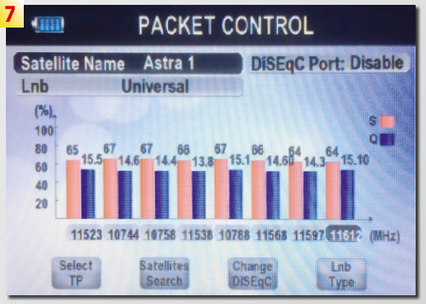


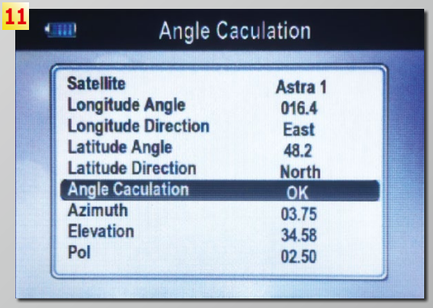


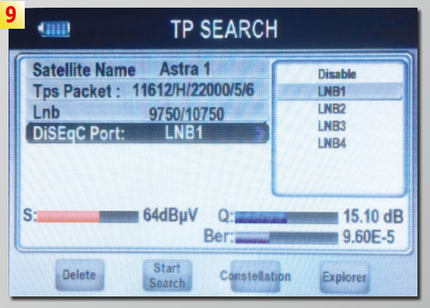
1. Main menu of the MKTech CB200 HD
2. Various measurements in DVB-S2 mode
3. Transponder search
4. Constellation diagram
5. Explorer function
6. Selecting the target transponder
7. Packet Control function
8. Selecting the appropriate LOF frequency
9. Selecting the appropriate DiSEqC ports
10. DiSEqC protocols 1.2 and 1.3 are supported as well
11. Angle calculation
12. DiSEqC 1.2 options

if your antenna is aligned correctly to the desired satellite, you can initiate a transponder search right away and work yourself from correct to optimum alignment. Once the desired satellite and transponders have been confirmed, the CB200 HD begins to measure away immediately and displays signal strength, signal quality and BER on the screen both as bars and with exact numeric values. The currently measured transponders can easily be changed with a single touch of a button, a bonus that pleased us no end during our test. In addition, the LOF and DiSEqC parameters can be adjusted just as conveniently. The manufacturer has pre-set frequently used LOFs that should cover most LNB types, including SCR LNBs, and even if you encounter an LNB that uses a more exotic LOF you're entirely free to enter any frequency manually.

Looking at the technical specifications of a device is all well and good, yet it's only during an in-depth test that some features score more points than others. In the case of the CB200 HD we thoroughly appreciated the fact that the transponder list can be edited right in







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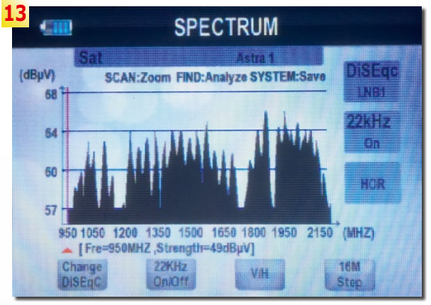

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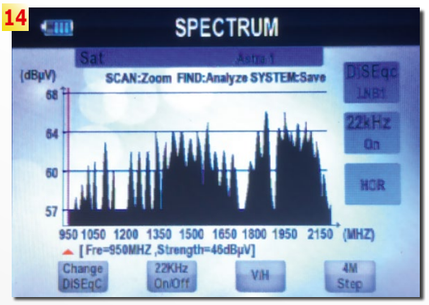

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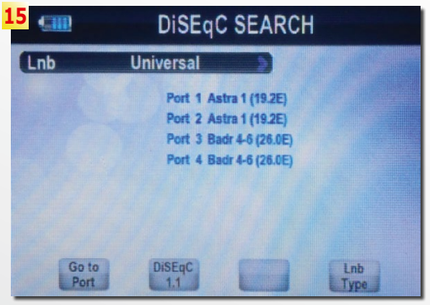

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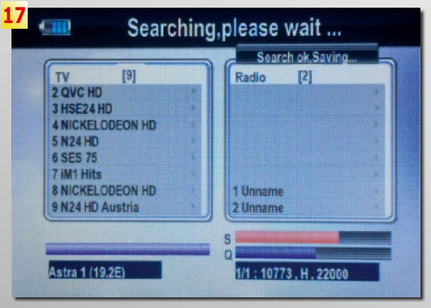

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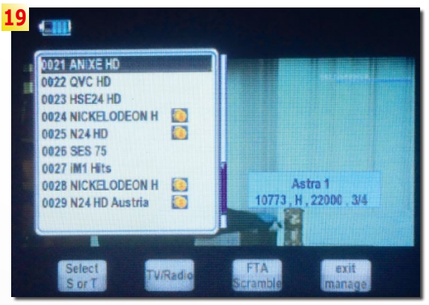

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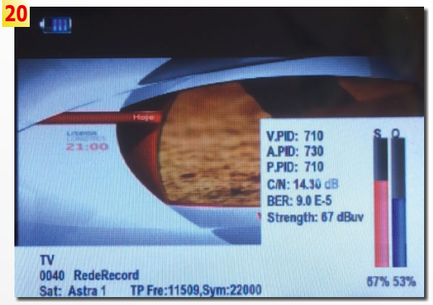

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display it on the screen complete with all its parameters (frequency, satellite, polarisation, PIDs, etc.). Although we know that no meter can ever permanently replace a standard receiver (not least if it does not come with an A/V output), we still can confirm that the CB200 HD offers all basic functions and features for watching TV on its screen. This includes an easy-to-navigate channel list that can be restricted to individual satellites and/or reception types and that can be edited totally hassle-free. Even 720p and 1080i channels will be shown flawlessly on the CB200 HD's small display. PAL, SECAM, NTSC… you name it – the meter will happily deal with any of those colour systems, and of course the meter can create a constellation diagram for each frequency for an optical signal check. We tried it out several times during our test and it invariably worked to our utmost satisfaction.

As a worthwhile alternative for fine-tuning an antenna alignment you may want to use the so-called Explorer function which shows a single transponder complete with all signal quality, signal strength, BER and C/N parameters as well as search mode used, frequency, symbol rate, polarisation and satellite. When working in challenging environments such as up on a roof, both the enlarged signal bar presentation (which can be activated at any time, if required) and the acoustic feedback can be extremely useful helpers in your day-to-day job routine.

Don't we all face the same issue time and again? After a lot of moving back and forth

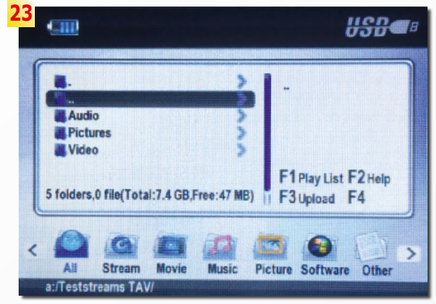
13. Spectrum display
14. Spectrum display with low increments
15. Automatic DiSEqC detection
16. Satellite identification
17. Channel search
18. TV display
19. Channel list
20. Detailed channel information
21, 22. System settings

MKTECH

the antenna we finally catch a signal, but is it really beamed from the satellite we're aiming at? The CB200 HD has a solution for that scenario – it's called Automatic Satellite Detection and works like a charm. Thanks to the meter's pre-stored satellite and transponder database the device is capable of identifying the source satellite of an incoming signal almost instantly. Of course we tried out that feature several times and can confirm that it worked surprisingly reliably, even though you should always bear in mind that the CB200 HD can only detect those satellites that are included in the pre-stored list or have been entered manually. So if you work with some less widely received positions chances are the meter might not be able to identify those. The DiSEqC search feature turned out to work just as smoothly in our test – using it allows the CB200 HD to read out the entire configuration of a DiSEqC 1.0 or 1.1 switch. In combination with multi-focus antennas this is a great benefit and a hugely welcome tool. DiSEqC detection helped us save valuable time, which in the real world translates into money that can be saved. Not a bad deal, don't you think?

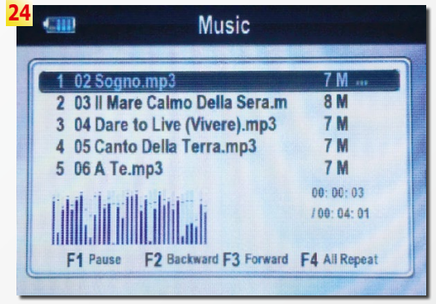
Then there is a menu item with the somewhat mysterious description Packet Control. What's that all about? We believe it hides an extremely helpful feature that allows you to monitor signal level and signal quality of up to eight transponders at a time. If you're dealing with complex distribution setups, for example, Packet Control will quickly identify any signal tilt on one of the transponders. How does signal tilt appear in the first place? Coax cables exceeding a certain length unfortunately tend to cause more attenuation on higher frequencies than on lower frequencies, which in turn may prompt a low-threshold satellite tuner to over-modulate those lower

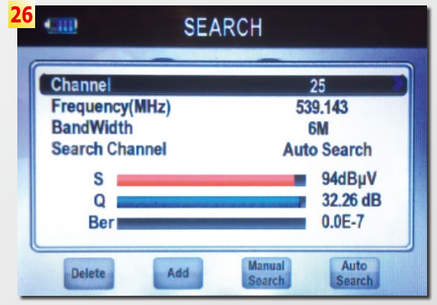
23. USB media playback
24. MP3 playback
25. TS video playback
26. ISDB-T frequency search
27. ISDB-T channel search
28. Frequency identification
29. Spectrum display in ISDB-T mode
30. TV playback in ISDB-T mode with detailed channel information
31. PVR function
32. Recording the currently received channel
33. Recording the currently received channel

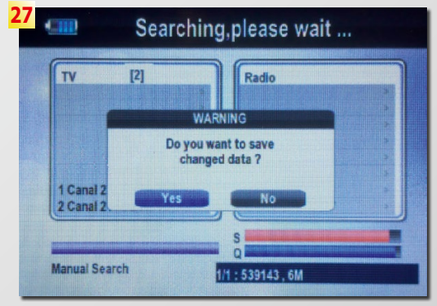


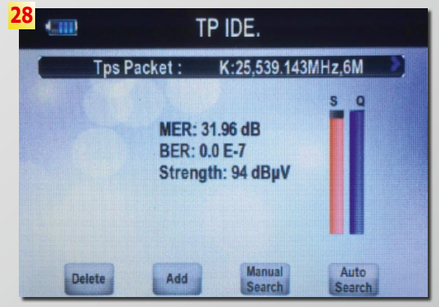
frequencies. With the help of the CB200 HD and its simultaneous presentation of up to eight transponders this problem can be detected right at the outset and can be rectified using a sat slope, for example. A sat slope is a component that is looped into the coax cable in order to add low frequency attenuation so that in the end you arrive at a perfectly balanced distribution signal.

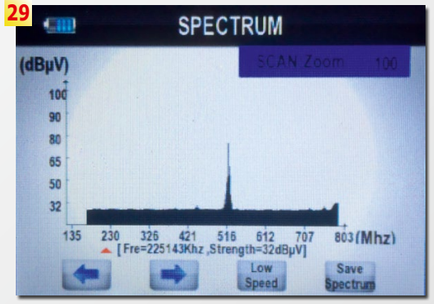
The CB200 HD can be used to control a DiSEqC motor using both the DiSEqC 1.2 and DiSEqC 1.3 protocols,

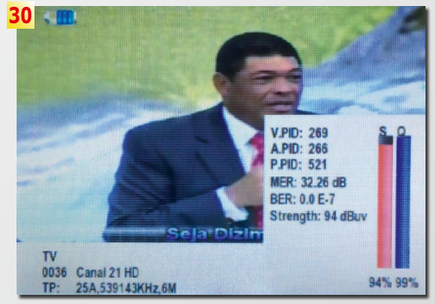












which means you have all necessary movement and adjustment options at your disposal for an effortless setup. What's more, the new MKTech meter calculates the azimuth and elevation values for each desired satellite as soon as the meter's current location is entered. This way all parameters are always at your fingertips, or rather: right before your eyes.

To finish things off, the MKTech CB200 HD obviously also comes with a spectrum display mode, which can even be restricted to a specific frequency range, if need be. In addition, all parameters (polarisation, 22 kHz signal, LOF, DiSEqC) can be changed quickly thanks to corresponding function keys. The displayed bandwidth can be set at either 4 or 16 MHz. As soon as a signal peak in the spectrum has been identified and selected with the help of the navigation buttons, this peak can be measured and evaluated immediately. All you require is a little patience, since the spectrum display reacts rather slowly to changed reception conditions.

From a technical point of view, the CB200 HD supports the QPS, 8PSK, 16APSK and 32APSK modulations in DVB-S2 mode, with symbol rates from 2 to 55 Mbps. The input frequency range extends from 950 to 2150 MHz, as usual, and the input signal level must be between 25 dBµV and 100 dBµV, according to the manufacturer's specifications.

Turning to terrestrial signal measurement now, this section of the meter basically follows the same principles as the DVB-S2 section, but of course is specifically adapted to the peculiarities of ISDB-T. In the frequency selection field users can either enter the desired frequency manually or choose the target channel from a list. Here, too, it is possible to edit existing entries and to add new entries at all times. Any of the listed frequencies can be selected for a manual search.

Similar to DVB-S2 reception, it is possible to perform an automatic signal scan across the entire frequency band.

The Transponder Identification feature clearly indicates MER, BER, signal strength and signal quality in an easy-to-read way, which means aligning a terrestrial antenna for perfect reception becomes child's play.

Packet Control is available in ISDB-T mode as well, just as for DVB-S2, and here, too, it allows simultaneous monitoring of up to eight frequencies on the built-in screen. What about spectrum mode for terrestrial signals? We can tick that box!

Speaking of spectrum analysis, the CB200 HD allows selecting certain criteria to speed up the spectrum display's response time. That's a very clever feature, as it makes antenna alignment with the help of spectrum results so much easier. From a technical point of view, the MKTech meter supports the 16QAM, 64QAM and QPSK modulations with an input frequency range from 107 to 858 MHz. Should your antenna come with active signal amplification and therefore require 5V supply voltage, the CB200 HD can happily provide it.

While the measurement specs of a meter are of course the details everyone's focussing on, we should not forget to look at the received channels of a transponder or frequency and how they can be used or processed. Luckily, the MKTech CB200 HD does not leave us out in the cold in that regard. It even goes the extra mile by not only providing all standard functions we would have expected, but by also allowing the currently received transponder or frequency stream to be stored onto an external storage medium. Now that's what we call a real treat!

The PC Update item of the main menu can be used to update the CB200 HD's software with the help of an external storage medium, but also offers a basic jukebox for playing back MP3 audio and TS video. In addition, you will also find a built-in image viewer. MKTech even throws in an integrated file manager that can be used to delete or rename files on an external USB storage medium and to completely format the storage medium, which is another great idea.

By the end of our in-depth test, the MKTech CB200 HD had become a much loved tool for antenna installation, not least thanks to its truly low weight. We succeeded in perfectly aligning several satellite antennas, with a tricky multi-focus antenna among them. In addition, we were able to enjoy flawless ISDB-T reception in our test center.

EXPERT

OPINION

+ • The MKTech CB200 HD is a very handy and lightweight meter which excels thanks to great usability and a logical and straightforward on-screen design.

– • The F sockets become very hot after prolonged use.