AS07-STCA 4K

SAT-TV-CATV
FIELD SIGNAL METERS

EN **USER GUIDE**

Please read this manual carefully before using your Signal Analyzer.

MADE IN TÜRKİYE

CE

ENGLISH

ENGLISH USER GUIDE INDEX

SAFETY INSTRUCTIONS:

Matters to Consider:

To prevent any harm to yourself or your device, strictly follow the instructions below.

Before cleaning your device, unplug the charging cable, turn it off with the Power On/Off button and clean it with a dry cloth.

Do not use accessories or additional equipment that are not recommended by the manufacturer of the device, as they may damage the device and void the warranty of the device. While carrying your device, protect it from impacts and falls, otherwise the device may be damaged. Be sure to carry your device in its bag and do not carry it in boxes such as tool bags or with equipment that may be damaged, otherwise the device will be out of warranty.

Do not use your device outdoors in rainy and snowy weather to protect it from liquid contact. If you smell smoke, any other smell or hear different sounds from inside the device, please turn off your device and contact service.

Charge your device with the recommended charging adapter and in-car cigarette lighter charger. Chargers that are not suitable for use will damage the batteries inside your device, overheat and explode, and may harm you. These situations are the responsibility of the user. When using charging adapters, make sure that they are powered by 12Volt-3000mAh (Center +). Do not leave the device on, the batteries in the device left on will lose their function over time.

Lighter charger, charging adapter and batteries are not covered by warranty as their lifespan varies depending on use. Be careful about short circuits when connecting your device to LNB and antenna amplifiers, otherwise your device may be damaged.

Use suitable low radiation cables for signal input/output, especially when working with high levels. Only use your device to make measurements in systems whose negatives are connected to ground potential.

CAUTION: The battery used may present a fire or chemical burn hazard if seriously mishandled. Under no circumstances should you disassemble the battery, incinerate it or heat it above 65 °C.

Service Related Topics:

Do not try to repair your device yourself. When you open the cover of your device, it will be out of warranty. For all device-related services, contact your dealer or technical service.

Use batteries sold or recommended by the manufacturer.

AS07STCA-4K

SAT-TERR-CATV FIELD SIGNAL METER

Description:

AS07STCA-4K is a light, portable, ergonomic, user-friendly interface and 4K image processing field measurement device designed to ensure the best performance of analog and digital TV System installations. There are also various CCTV (AHD/TVI/CVI), HDMI and CVBS video input features for system installers. DVB-S/S2 Satellite band, DVB-C Cable TV band (ANNEX A/B/C), DVB-T/T2 Terrestrial TV band (ISDB-T) and Mobile GSM (2G-3G-4G-5G) bands at 40-2150Mhz covers the range.

AS07STCA-4K measures many digital and analog parameters that installers may need in a fast and accurate range with various algorithms. It also shows broadcasts in SD-HD-FHD-4K video resolutions on the screen. It enables installers to provide accurate and fast service in all their services with TV measurement and spectrum Analyzer functions.

GENERAL SPECIFICATIONS

DVB S-S2 / T-T2 / C / J.83B / ISDB-T / GSM MOBILE COMBO Field Signal Analyzer
Single Rf input 40-2150mhz 75 ohm F Connector
20-100dBuV Satellite Band Measurement (± 3 dB Sensitivity)
20-105dBuV Catv-Terr Measurement (± 3 dB Sensitivity)
7” high resolution touch screen
Signal Measurement Screens
Spectrum Analysis Screens
Constellation Screens
Table Measurement screens
Multi Level Measurement Screens
Tilt-Limit Measurement Screens
Rf – aBer – bBer- Per – C/N – Mer – Link Margin Measurement
Video input for AHD-TVI-CVI and Analog CCTV cameras
HDMI In/Out and AV In/Out Capability
H.264, H.265 4K video display
Program List and Audio&Video PID information on one screen.
1.9 GHz High-speed Processor – 16GB Memory
7000mAh 7.4V replaceable Lith-Ion battery can work for 3-4 Hours.
Software and frequency plan update via LAN Network 100M or USB
Windows PC software to prepare frequency plan
Programmable 50 Catv Plans, 50 Terresterial Plans, 250 Satellite Memory
10,000 Frequency and Channel Memory
Backlit numeric silicone keypad
Battery protection and the automatic shut-off feature
Led torch light for dark environments
Voltage Test screen for end user testing.
2 kg with battery
Dimensions 250mm X 180mm X 50mm
Operating Range 0 °C to +50 °C
Relative Humidity 90%
With Carrying Bag and Silicone Case
12Volt - 3A Charger and Car charging cable
Menu in 20 Different Languages
Time Zone and Time - Date Setting

DVB-S/S2 FEATURES:

Frequency Band	: 950 – 2150 Mhz frequency measurement range
Measuring Range	: 20-100dBuV Satellite Band Measurement (± 3 dB Sensitivity)
Measurement Screens	: RF Power, aBER, bBER, MER, C/N and LINK MARJIN
Memory	: 250 Satellite Memory + 10.000 Channels
MER	: 0 ~ 20dB
Symbol Rate	: 1 ~ 45Ms/s
LNB Supply	: Auto/13V/18V/21V, 500 mA max
Spectrum Analysis	: Spectrum Analyzer with real time and image memory
Span	: 10-20-50-100-200-500-Full Spectrum Span ranges
NIT Search	: Automatic NIT frequency recognition and channel scan on the Spectrum screen
Multi-Level	: Displaying 4 TP for 1 satellite and 8 TP for 2 satellites in one screen
Dual TP Level	: Ability to measure 2 satellite signals in one screen for Dual Feed lnbs
Diseq-C	: TONE - 1.0 – 1.1 – 1.2 – 2.0 - USALS
Unicable	: UNICABLE I (EN50494) – UNICABLE II (EN50607-dCSS)
LCN	: Yes
LNB	: 34 LNB types and 3 User Defined LNB Types
Power Unit	: dBm, dBuV, dBmV
Table Measurement	: Satellite Frequency Measurement and saving to USB memory as *.cvs
Call	: Single TP / All Satellite / Blind Scan / NIT Scan
Auto Port	: Automatic discovery of Diseq-C ports
Constellation	: QPSK - 8PSK
FEC	: DVB-S:1/2, 2/3, 3/4, 5/6, 7/8 –
	: DVB-S2: 1/2, 2/3, 3/4, 5/6, 8/9, 9/10, 2/5, 3/5
Audible Warning	: Warnings based on Power Level

DVB-C & J.83B & DVB-T/T2 & ISDB-T FEATURES

Frequency Band	: 45 – 1002 MHz frequency range
Digital Meas. Range	: 25-100dBuV Satellite Band Measurement (± 3 dB Sensitivity)
Analogue Meas. Range	: 20-105dBuV Satellite Band Measurement (± 3 dB Sensitivity)
Digital Meas.Screens	: RF Power, aBER, bBER, MER and LINK MARJIN
Analog Meas. Screens	: RF Power, C/N , Δ V/A
Memory	: 50 Frequency Plans
MER	: 5 ~ 40dB
Antenna Feed	: 5V/12V/20V, 500 mA max
Spectrum Analysis	: Spectrum Analyzer with real time and image memory
Span	: 10-20-50-100-200-500-Full Spectrum Span ranges
NIT Search	: Automatic NIT frequency recognition and channel finding in Spectrum
Constellation	: DVB-C - 16, 32, 64, 128 , 256QAM J.83B – 64, 256 QAM DVB-T - QPSK, 16, 64QAM DVB-T2 - QPSK, 16, 64, 256QAM ISDB-T – DQPSK, QPSK, 16QAM, 64QAM
LCN	: Yes
Power Unit	: dBm, dBuV, dBmV
Table Measurement	: Frequency Plan Measurement and saving to USB memory as *.cvs
Call	: Single Frequency / All Plan
Analogue TV Systems	: M/N/B/G/H/I/D/K/L

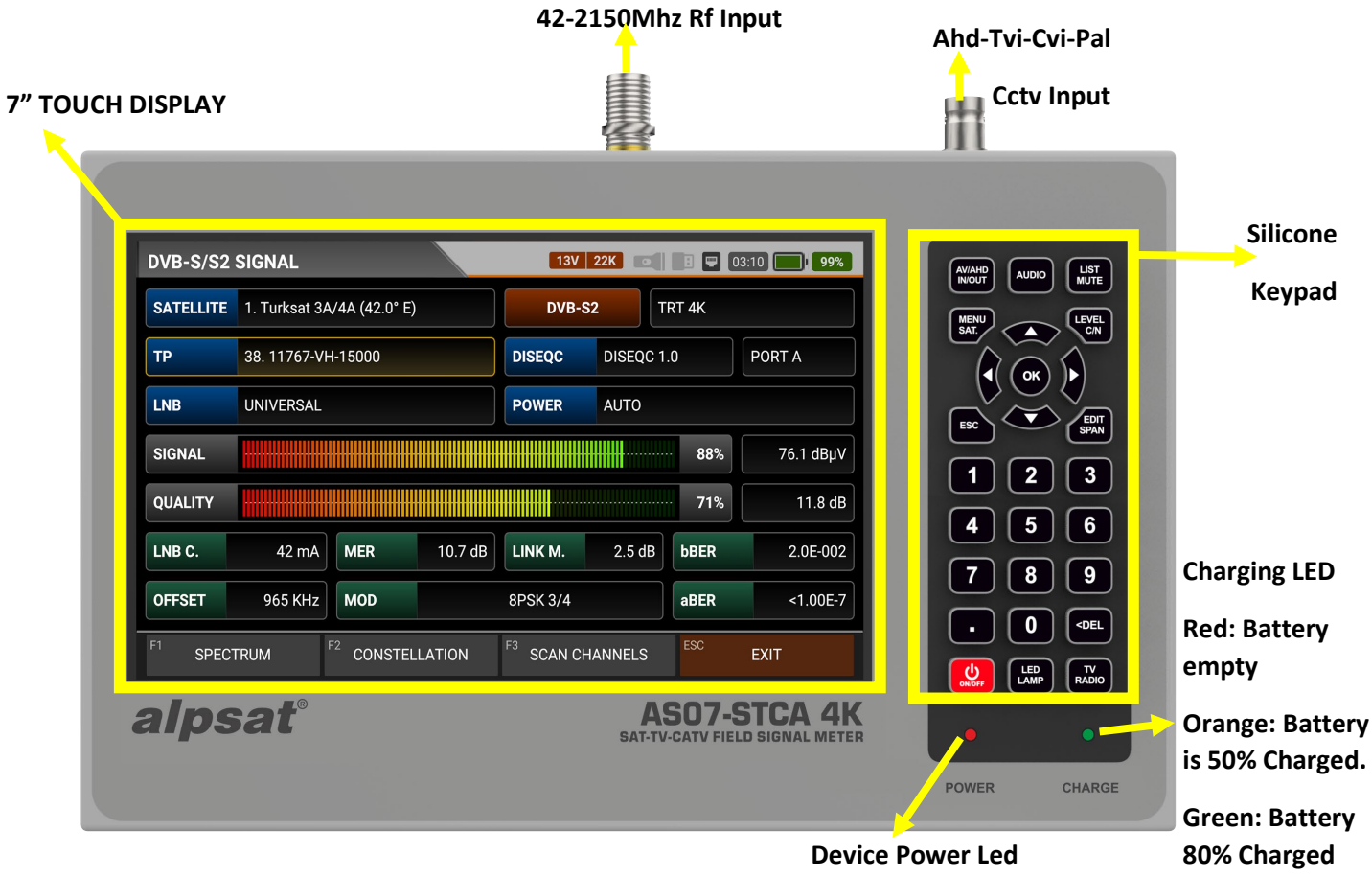
GSM MOBILE FEATURES

GSM	: 900 MHz
DCS	: 1800 Mhz
UMTS 3G	: 2100 Mhz
4G LTE	: 800 Mhz
5G Low	: 700 Mhz
Signal Meas. Range	: 15-105dBuV Satellite Band Measurement (± 3 dB Sensitivity)
Analog Meas.Screens	: RF Power
Spectrum Analysis	: Spectrum Analyzer with real time and image memory
Span	: 10-25-50-100-Full Spectrum Span ranges
Power Unit	: dBm, dBuV, dBmV

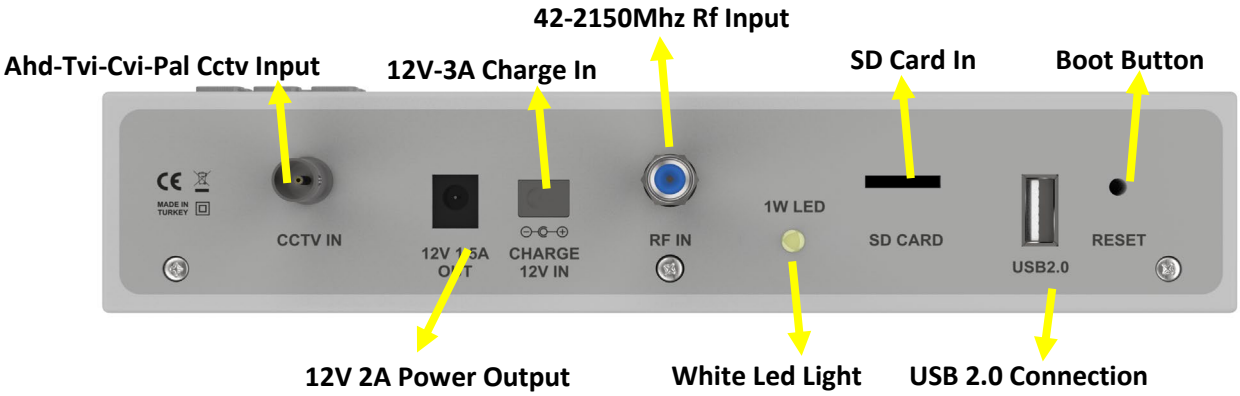
CCTV – A/V – HDMI INPUT FEATURES

ANALOG	: PAL - NTSC AV ıNPUT
AHD	: 1MP, 2MP, 3MP, 4MP, 5MP, 8MP
TVI	: 1MP, 2MP, 3MP, 4MP, 5MP, 8MP
CVI	: 1MP, 2MP, 4MP, 8MP
HDMI IN	: SD – HD - FHD
HDMI OUT	: SD – HD – FHD -4K
AV IN	: PAL - NTSC AV Input
AV OUT	: PAL – NTSC 576p

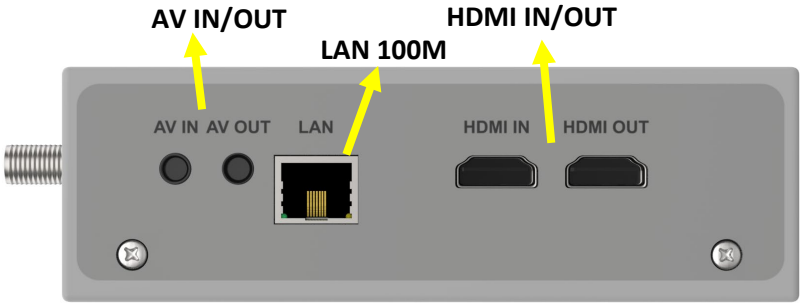
FRONT CONTROL PANEL VIEW



TOP VIEW



SIDE VIEW



PRODUCT CONTENT and EQUIPMENT:

1pc AS07STCA-4K Device and Silicone Protection Case:

The product will be protected from harmful effects such as dust, dirt and moisture with the silicone protection case included in the box with your device. Please do not carry your device in a toolbox. The silicone protection case is not enough for jamming and hard impacts. Your device may be out of warranty.

1pc 12V-3A Charger:

You can keep the device constantly charged with your 12 Volt output electric charging adapter so that you can use your device in environments where there is no electricity. Keep the charging adapter away from pinching, impact and overloading. Do not open to repair or inspect.

1 pc 12 Volt Battery Charger:

You can keep the device constantly charged with your 12 Volt output battery charging adapter so that you can use your device in environments where there is no electricity. You can charge your device while travelling with in-car charging. Keep the 12 Volt Battery Charger adapter away from pinching, impact and overloading.

1 pc HDMI Cable:

You can test 1080p Video and Audio from external sources with the HDMI input on your device. The HDMI output also allows you to transfer the display of the on-screen Signal Measurement menus to different monitors. This allows you to test HDMI cables and sources.

1 pc A-V Tos Cable:

The AV input on your device allows you to test external Video and Audio signals. You can also test devices that require focus and direction adjustment, such as security cameras.

1 pc BNC patch Cable:

You can connect the video inputs of AHD-TVI-CVI-PAL cameras to the CCTV BNC input on your device and then test the direction, angle and focus settings.

1pc 12V Output Supply Cable:

This is a patch cable that you can use to supply the camera or RF amplifier from the 12V-2A output on your device.

2 pcs F-F InterConnector:

Use continuously your F-F Interconnector on your device. The Tuner input of your device will not be affected by wear, tear and overuse by only replacing the F-F Interconnector.

1 pc F-Male Antenna InterConnector:

You can easily connect cables from Catv and Terr antenna sockets with the F-Male InterConnector.

1 pc F-Female Antenna InterConnector:

You can easily connect cables from Catv and Terr antenna sockets with the F-Female InterConnector.

1 pc F Connector Rotation Apparatus:

You can easily turn it with this apparatus in multiswitch and diseqc connections where the F connector is difficult to rotate.

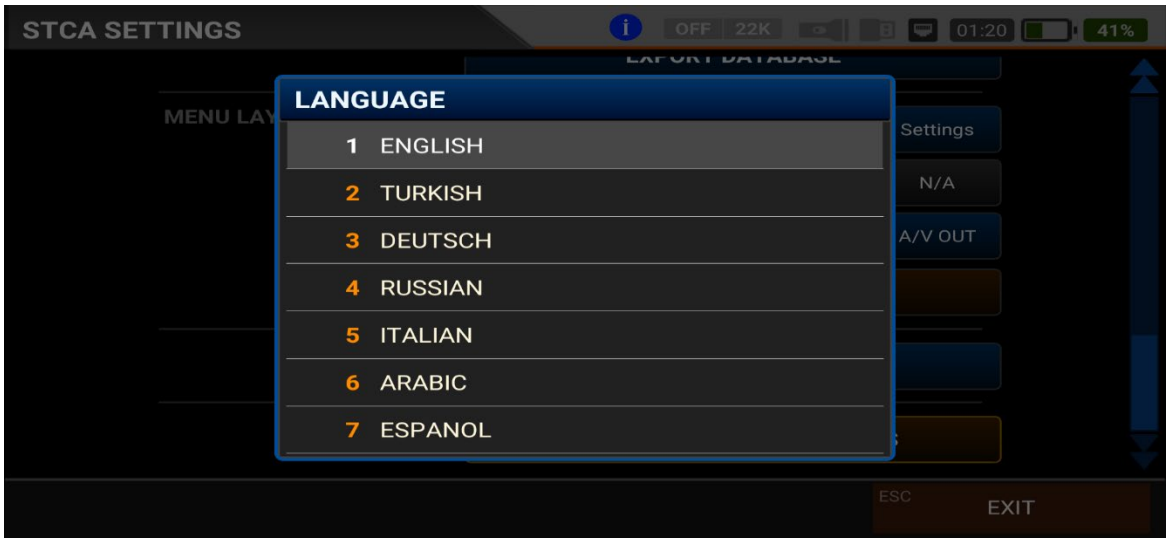
1 pc Protective Carrying Case:

The Carrying Case and Protection Case protects your device against negative factors such as dust, dirt and drops. You can safely carry your device in your hand with the side handle and on your shoulder with the neck strap. You can use it in sunny environments with the sun visor.

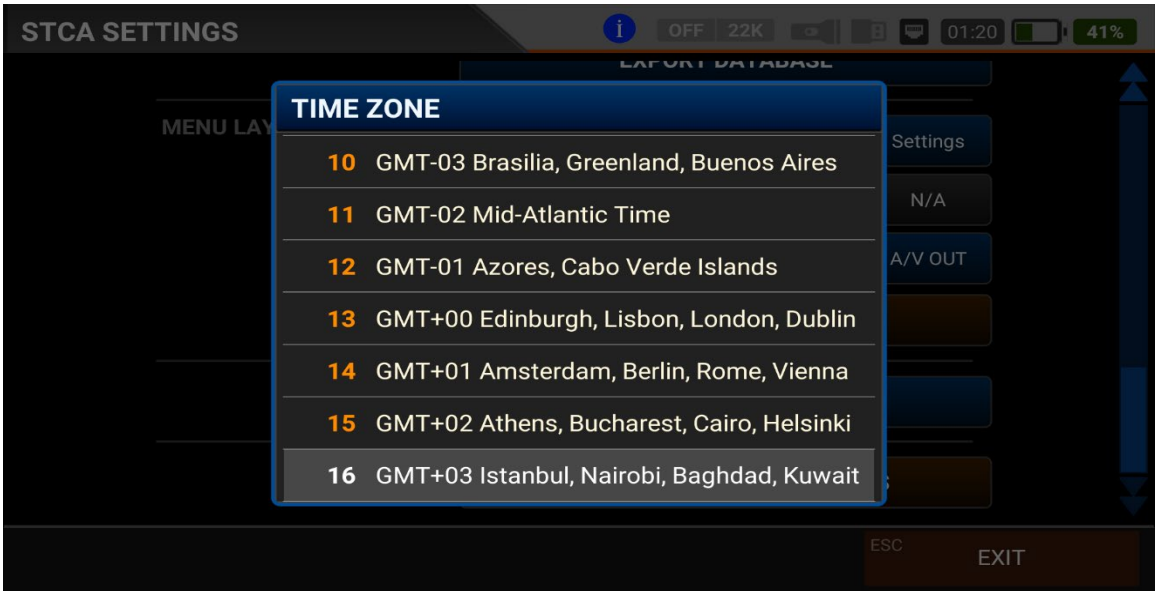
MAIN MENU AND DESCRIPTIONS:

STARTING THE DEVICE:

Turn on your AS07STCA-4K device by pressing the POWER ON/OFF button and select the language you want to use from the box that appears at the first startup. (Warning: If your device does not react in any case, you can reset it by holding the ON/OFF button for 10-15 seconds.)



Then, select the time zone you are in or the time zone in which you want to use your device. In this way, when the device receives the time information together with the signal from the satellite when the time information is obtained automatically by connecting to the internet via Lan or when the time information is entered, the measurements made will be memorized together with the time information.



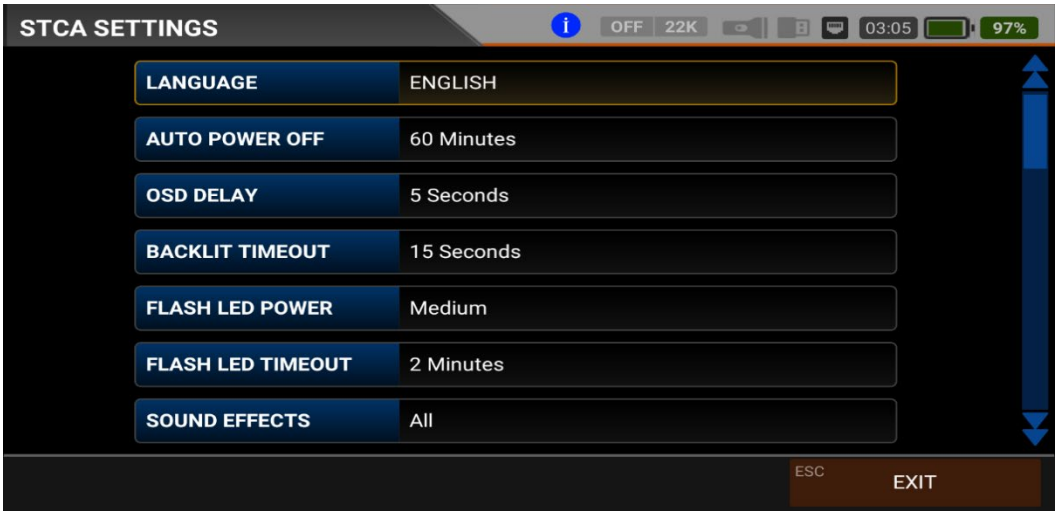
The screen will then blackout and the MAIN MENU will appear. You can select the systems you want to measure and the video systems you want to view on this screen.

MAIN MENU:

The Main Menu of the AS07STCA-4K device has a user-friendly structure. From the Settings menu, you can remove function icons that you do not want to appear on the home screen and change their position on the screen.

1. Help page: It opens the guide page for the function in the current menu.
2. LNB supply: 13/18/22Khz indicates feed on/off position.
3. Led Indicates that the flashlight is working.
4. It becomes visible when the USB is plugged in.
5. It becomes visible when the LAN cable is connected to the network.
6. It indicates the operating time of the device's battery.
7. It indicates the operating charge percentage of the device's battery.
8. DVB-S/S2: Measurement menu for Satellite TV system signals.
9. DVB-C: Measurement menu for cable TV system signals.
10. DVB-T/T2: Measurement menu for terrestrial TV system signals.
11. Settings: You can customize the operation of the device with the user-friendly menu.
12. GSM MOBILE: Measurement menu for 5G-4G-3G-2G-Gsm Mobile downlink signals.
13. J.83B: Measurement menu for Cable TV Annex B, TV signal or internet signals.
14. ISDB-T: Measurement menu for terrestrial TV system signals from Japan-Brazil-Philippines, etc.
15. AHD/TVI/CVI/PAL: Camera setting and test menu with CCTV input.
16. HDMI IN: Test menu for external 1080p HDMI signal.
17. HDMI OUT: Test menu by transferring an HDMI image to a monitor or Display.
18. A/V OUT: PAL video test with AV output.
19. Software version and date: This information will be coloured yellow when new software is received when the device is connected to the internet via Lan. You can go to the settings menu and update the software.
20. It will appear in this field when it receives an IP address when the device is connected to a network via Lan.

AS07STCA-4K DEVICE SETTINGS



LANGUAGE: You can choose from languages such as ENGLISH / TURKISH / GERMAN / RUSSIAN / ITALIAN / ARABIC, etc...

AUTO SHUTDOWN 5-10-20-30-30-60 Minutes/Off: if you leave the device on and do not press any buttons, it will turn off automatically after the time selected in auto power off. This will protect both your device and battery life.

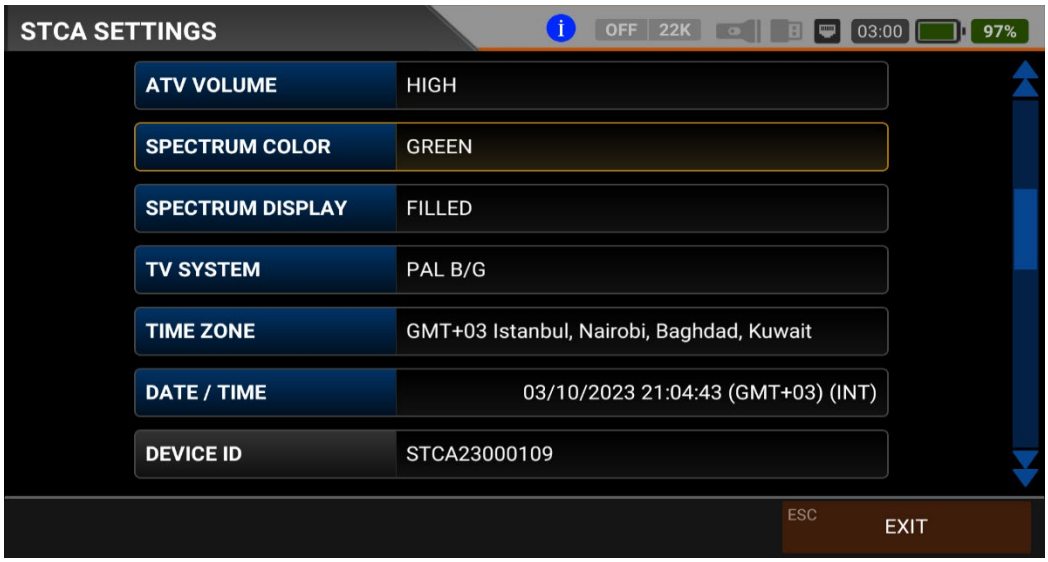
OSD DELAY: 1-2-3-4-5-10 seconds. You can set how long the OSD menus remain open on the screen.

KEY LIGHT: You can set how long the backlight of the silicone keypad stays on.

FLASHLIGHT LED POWER: You can change the power of the flashlight in Min/Medium/Max.

FLASHLIGHT LED DURATION: You can change the duration of the flashlight on for 1/2/3/4/4/5 minutes.

SOUND EFFECTS: You can change the sounds that the device outputs as All / Call Sound Only / Effects Only / All.



ATV SOUNDS: You can adjust the volume level you want to output while showing terrestrial and cable analogue TV images.

SPECTRUM COLOUR: You can set the colour of the RF level in the spectrum area.

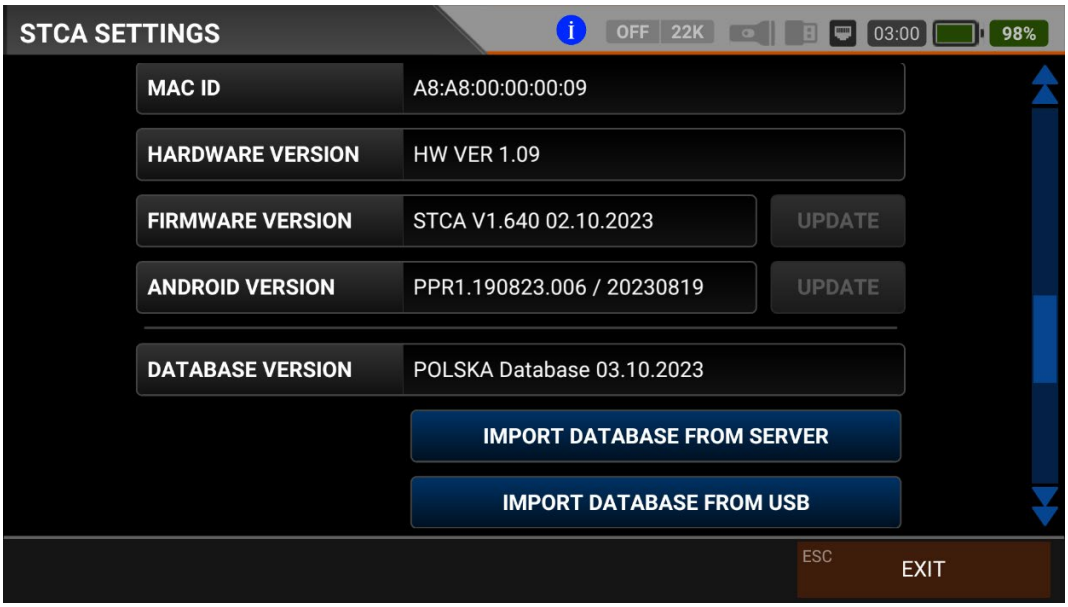
SPECTRUM VIEW: You can show the upper point of the spectrum level as Linear or Full.

TV SYSTEM: It determines the standard to be selected for the device for the channels found by the Table Search or Automatic Search menus for Analogue TVs.

TIME ZONE: You can adjust all GMT zone settings.

DATE / TIME: The device's Date and Time are set automatically when you watch any channel, when the LAN cable is plugged in, or the user can set it manually each time the device is turned on. The device will not memorize the time and date.

DEVICE ID: It shows the serial number of the device.



MAC ID: It indicates the MAC ID defined for the device.

HARDWARE VERSION: It indicates the hardware version of the device.

SOFTWARE VERSION: It indicates the version of the device's software. When the UPDATE box is active, you can update the firmware.

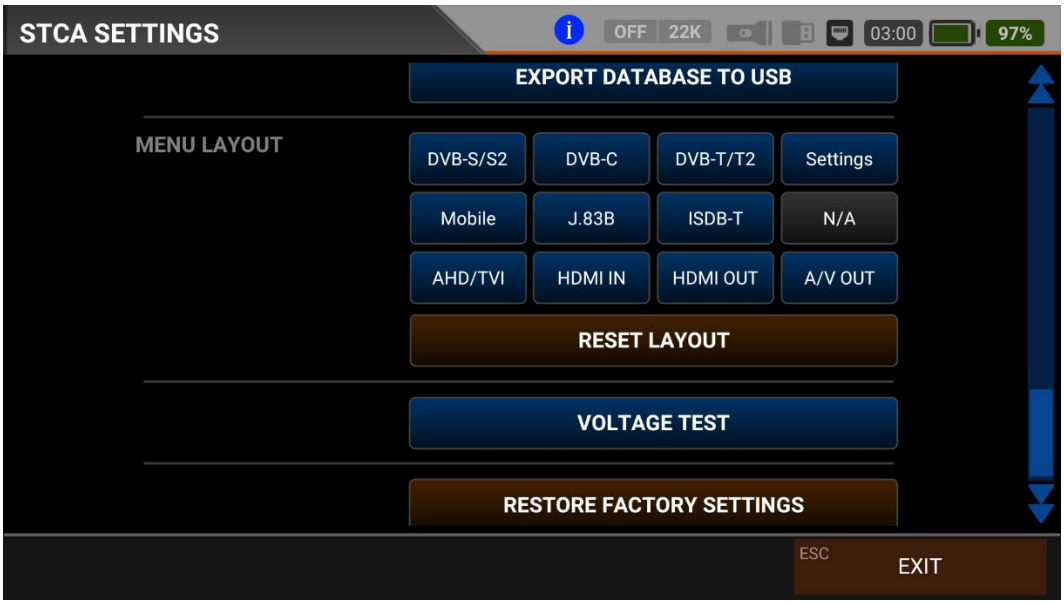
OPERATING SYSTEM VERSION: It indicates the operating system version of the device. You can update the device operating system when the UPDATE box is active.

DATABASE VERSION: It shows information about the databases you have used.

EXPORT THE DATABASE FROM THE SERVER: You can quickly update your device's frequency plans by uploading a ready-made database file containing all the settings and frequency plan changes for your country or continent from the server to your device.

EXPORT DATABASE FROM USB: You can upload the databases that you have previously stored or edited in a PC program to your device via USB.

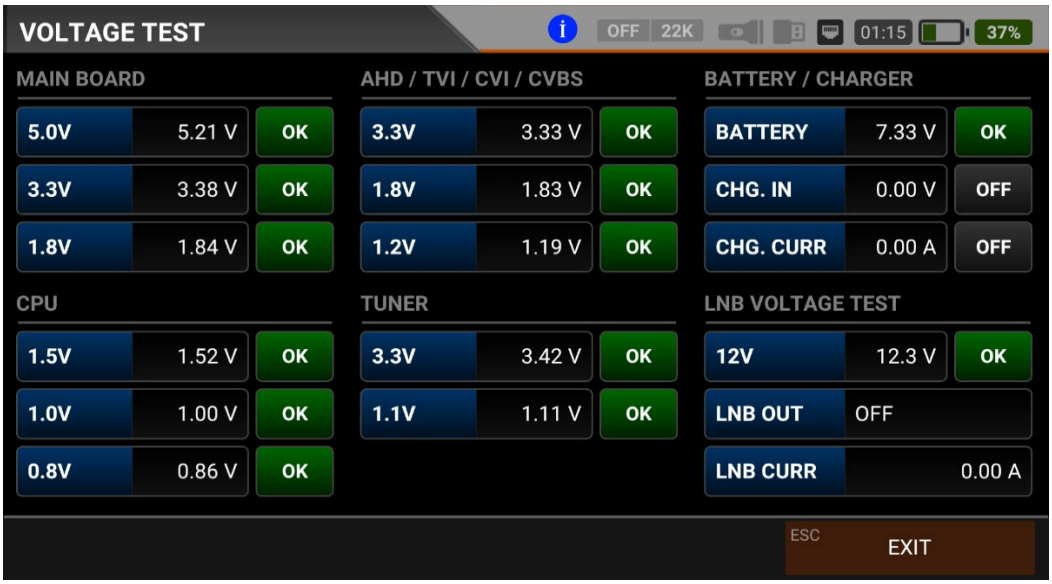
EXPORT DATABASE TO USB: You can save all Satellite, Frequency, Channel, Plans, and settings used by the device to USB and reuse them later or change them with a PC program. You can share it with other users and carry different database records for different regions in your USB Memory.



MENU LAYOUT: You can change the location of the boxes in the MAIN MENU according to your own ease of use and remove the boxes you do not use.

RESET LAYOUT: If you have moved the boxes in the MAIN MENU, reset it, and it will be as before.

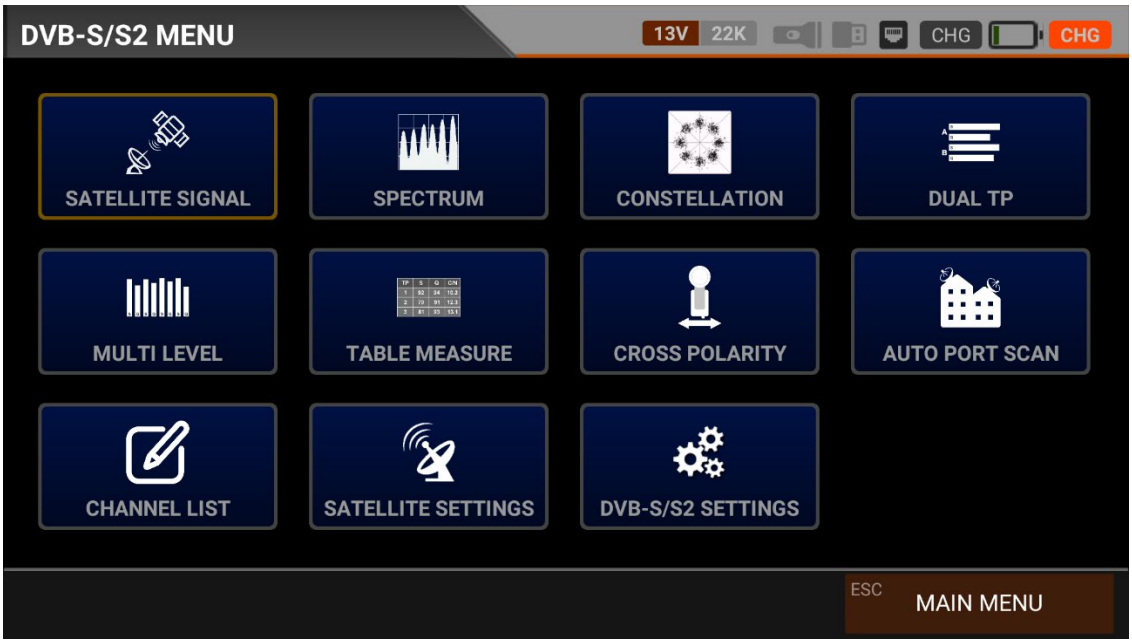
RESTORE FACTORY SETTINGS: You can restore the Satellite, Frequency, Channel, Plans, and settings on your device to their original state. If you have done a lot of processing and you don't want to lose this information, you can export your device in its best condition to a USB memory by appearing EXPORT DATABASE. You can upload this database to the device after each Factory Reset.



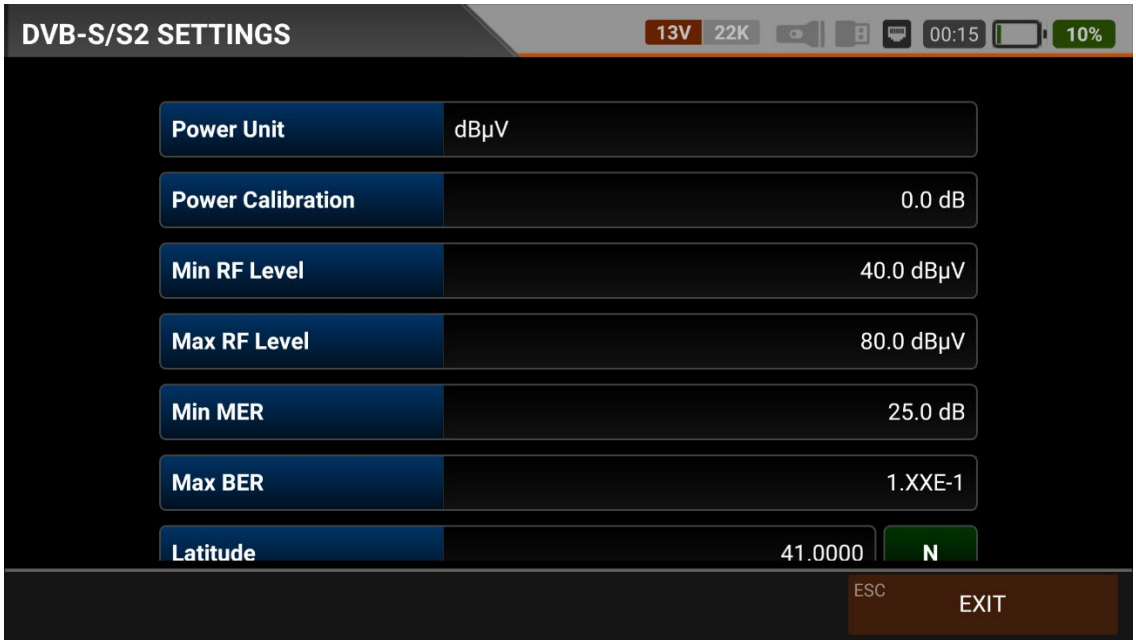
VOLTAGE TEST You can see the supply VOLTAGE values of the electronic circuits that ensure the stable operation of the device. If it is within the desired values, the boxes will appear OK in GREEN colour. If you have a problem with your device, you can get preliminary information and contact the service if there are Red Error messages by going to this menu.

INSTRUCTION FOR USE ON DVB-S/S2 SATELLITE TV MEASUREMENT:

Enter the DVB-S/S2 menu on your AS07STCA-4K using the touchscreen or the direction and OK buttons on the silicone keypad.



DVB-S/S2 SETTINGS:



Power Unit: You can see the signal levels on the display in dBuV/dBm/dBmV units.

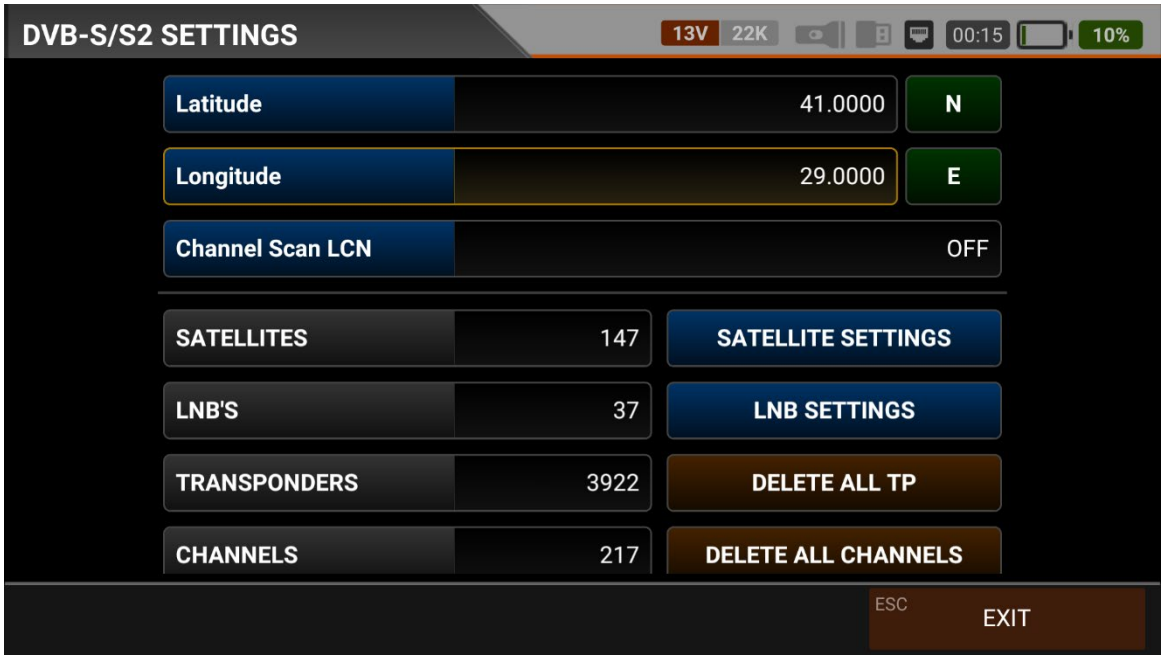
Power Calibration: The margin of error of the measurement levels may increase depending on ambient temperatures and time of use. You can, therefore, change this value to plus + or minus - to calibrate the levels closer to the correct level.

Min RF Level: If this is less than the RF level value when measuring the signal, the correct installation is not confirmed.

Max RF Level: If the RF signal level you set is higher than this value, it may damage the system or prevent correct distribution.

Min MER: When the MER value drops below this level, the device will not confirm that the installation was done correctly.

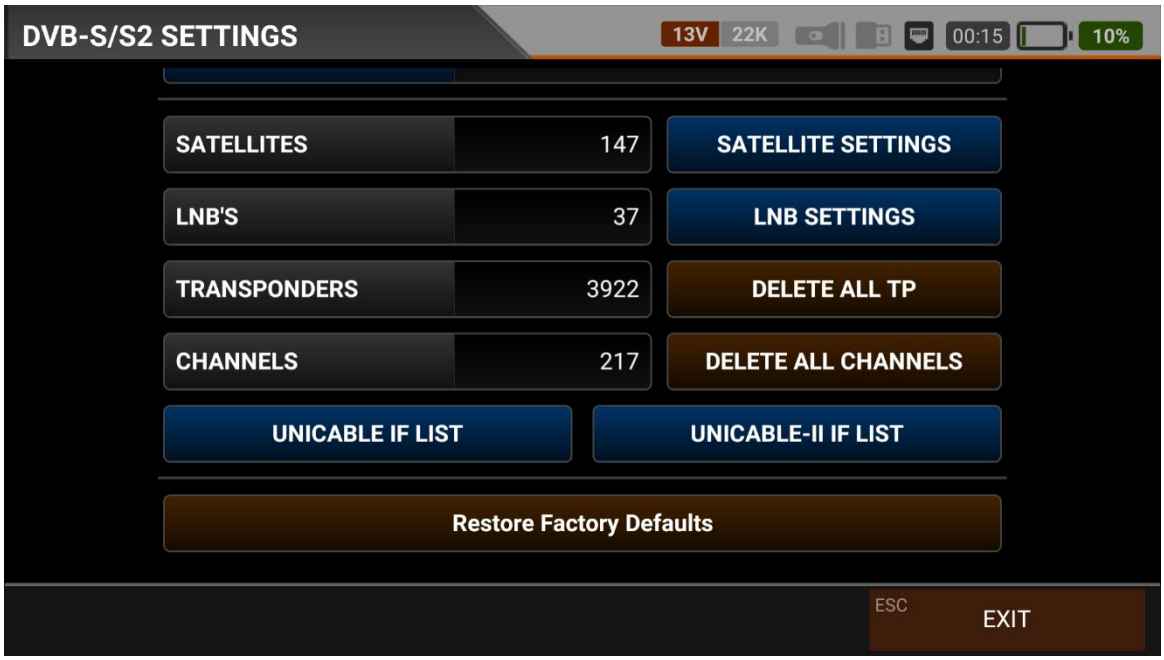
Max BER: You can choose how much the Bit Error Rate data rate can be.



Latitude: You can enter the Latitude of your current location.
Longitude: You can enter the Longitude value of your current location.
You can have settings such as the Diseq-C engine automatically processed by entering these two values according to your location.

LCN Scanning: The device sorts the Channel assignment on the scanned platform frequencies according to the LCN (logic channel number) value.

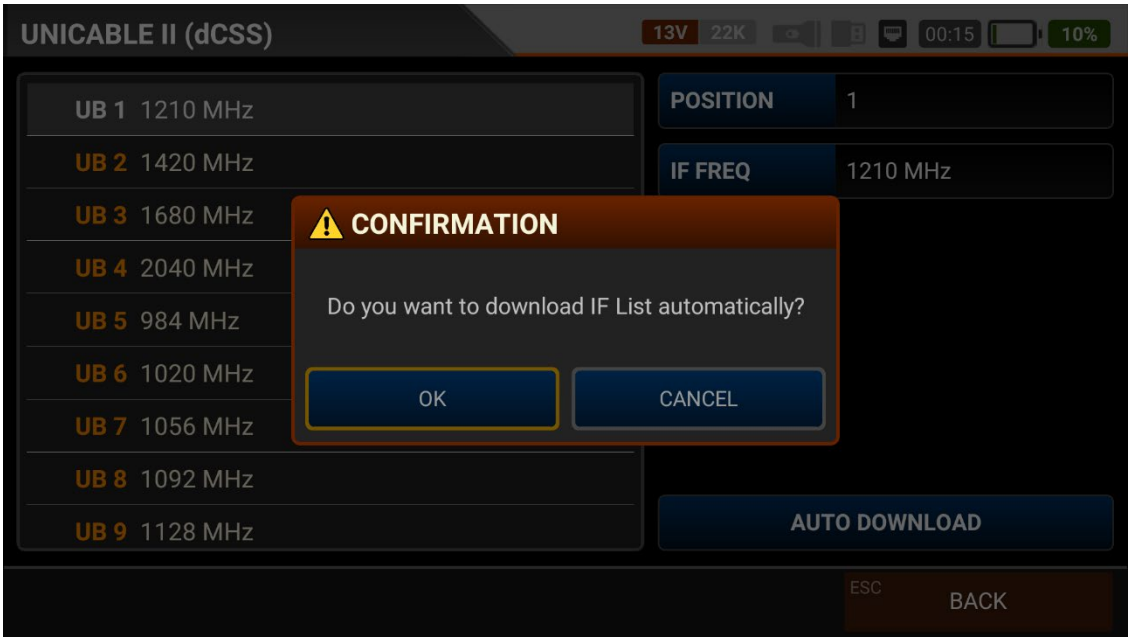
SATELLITES: It shows the number of satellites in memory. You can switch to the Satellite Settings Menu and add, remove, and change the Satellite/TP sequence yourself.

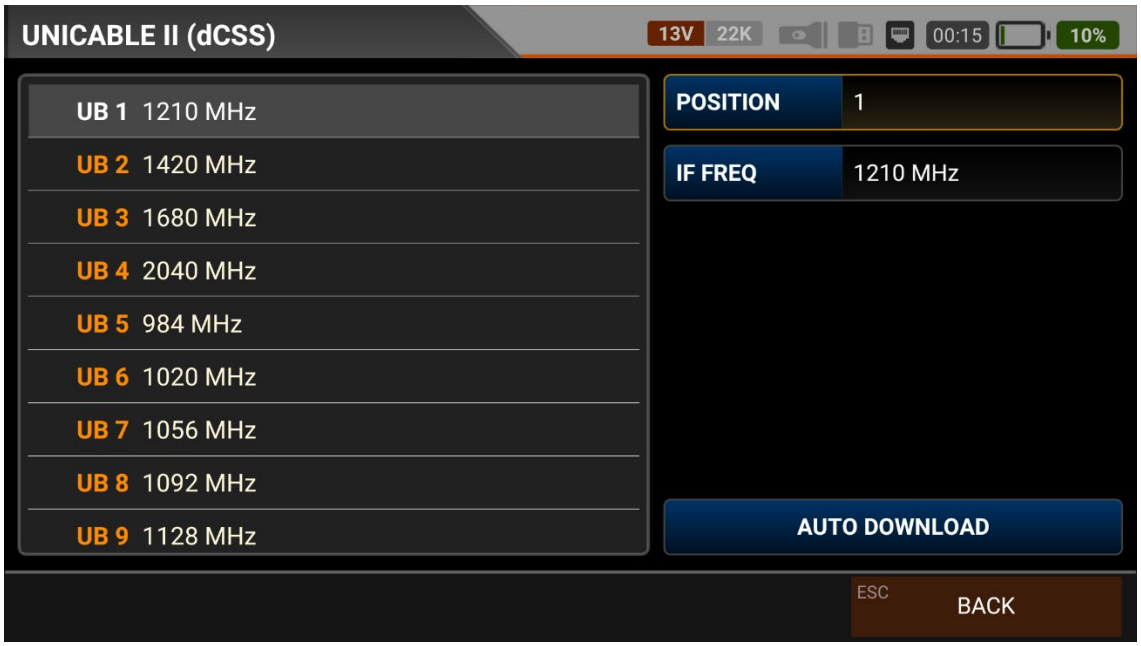


LNBs: It shows the number of LNBs in memory. You can switch to the LNB SETTINGS Menu and change the user LNB settings so you can add an LNB type that is not in memory.

TRANSPONDER: It shows the number of TPs in memory. You can delete all TPs here.

CHANNELS: It shows the number of CHANNELS in memory. You can delete all Channels here, reducing the space they occupy in the device's memory.





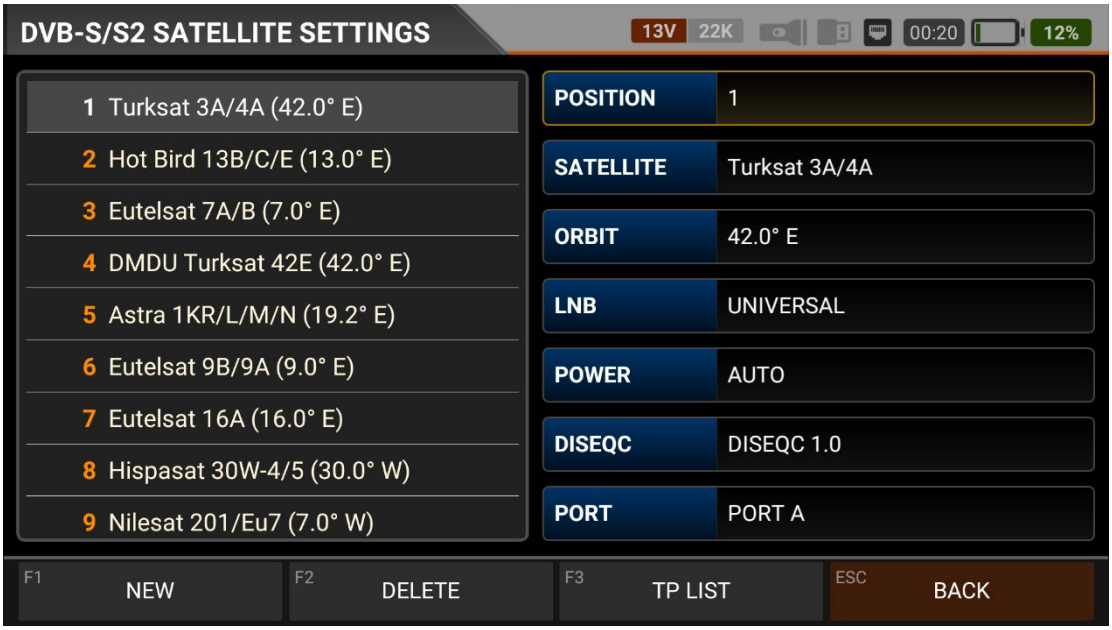
UNICABLE-I IF LIST: You can set the UB User frequencies of UNICABLE-I in EN50494 standard from this menu.

UNICABLE-II IF LIST: You can set the UB User frequencies of UNICABLE-II in EN50607 standard as Automatic or Manual from this menu.

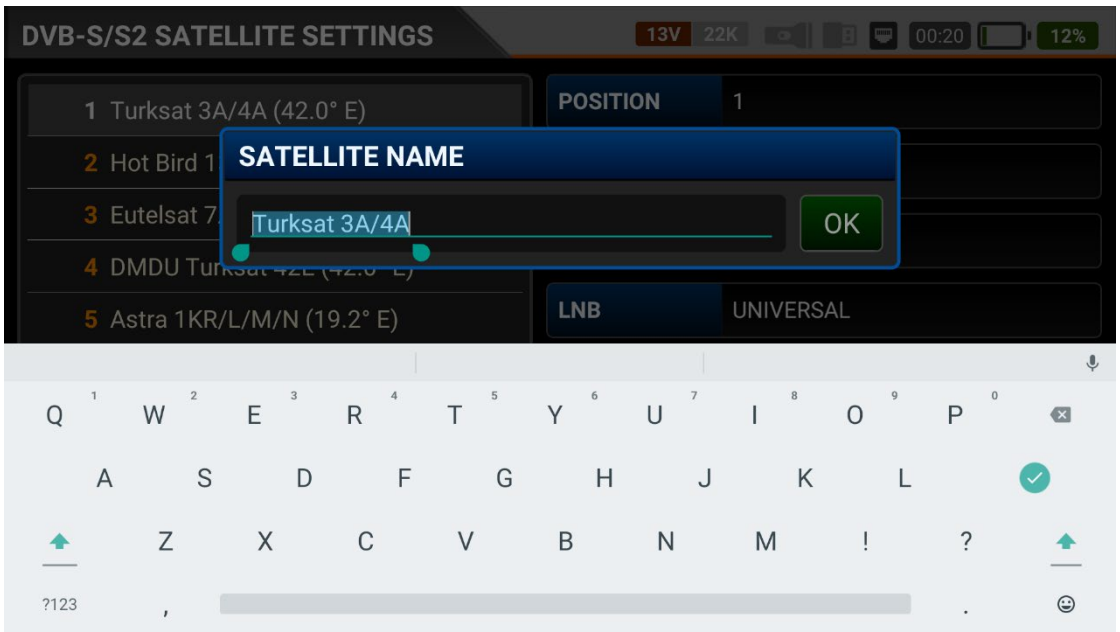
Factory Reset: The device can restore all information in the DVB-S/S2 Satellite menu to factory defaults.

Note: You can press and hold the ON/OFF button for 10-15 seconds to RESET and restart the device when the device does not respond to any of the buttons.

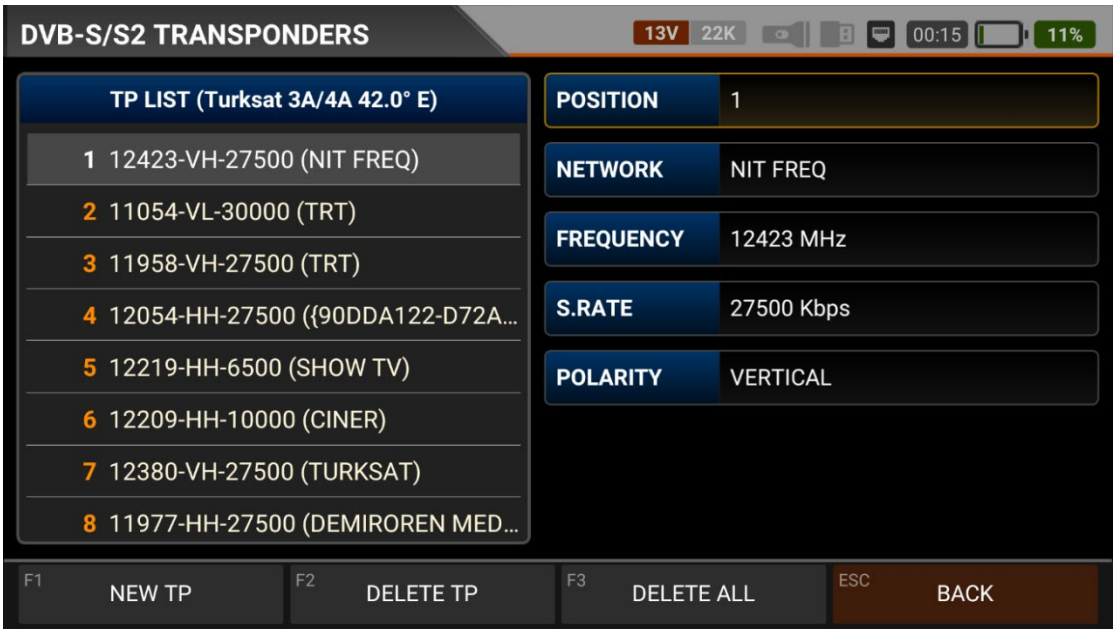
SATELLITE/TP SETTINGS:



You can change the order, name, orbit, LNB setting, Diseq-C settings and other parameters of the Satellite from this menu.

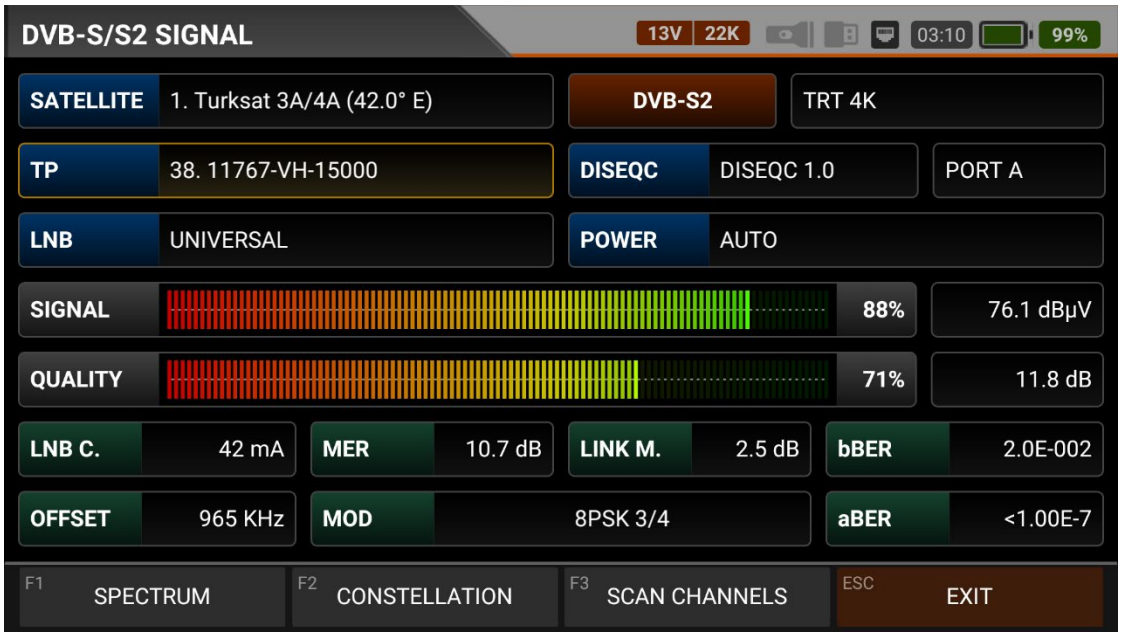


You can add to the satellites in the device's memory with the "NEW" box, delete the current satellite with the "DELETE" box, and change the name of the satellite by touching the satellite name.



You can add or delete TP frequencies and change the network name and parameter settings on the satellite you will measure by touching the TP List box.

DVB-S/S2 SATELLITE SIGNAL MEASUREMENT:



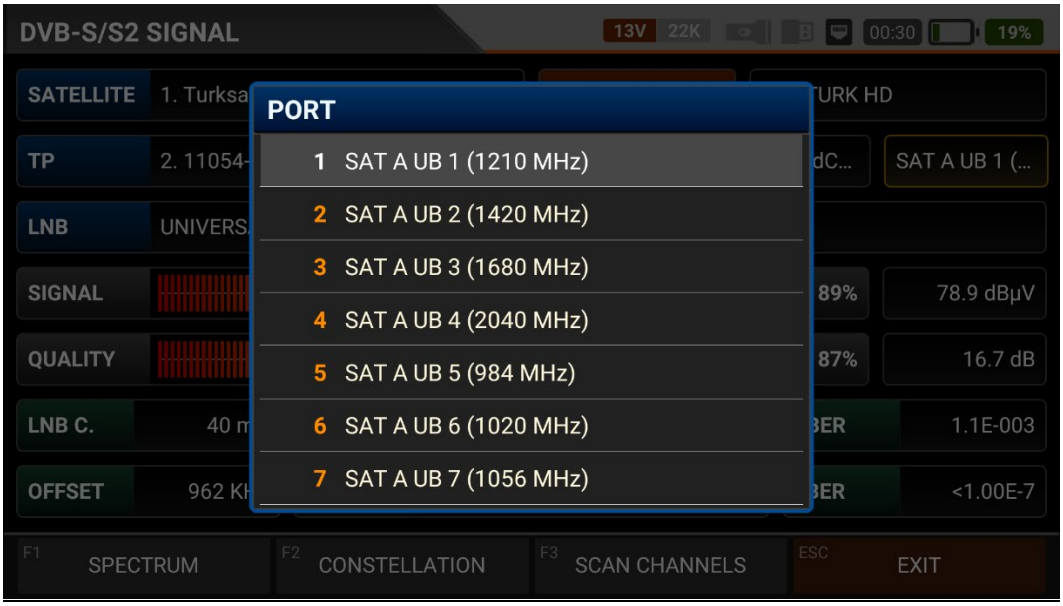
Your AS07STCA-4K is capable of measuring DVB-S/S2 - QPSK/8PSK signals. It can also show SD-HD-FHD-4K TV channels. You can select the satellite, transponder, Diseqc Type and lnb type you want to adjust your dish antenna or check the signal levels and see the signal values on the screen. You can also make more detailed settings with the SPECTRUM and CONSTELATION box.

SATELLITES: The satellite names in the device's memory will respectively be shown when you touch the box or press the OK button. You can add new satellites or change this order in the Satellite/TP Settings menu.

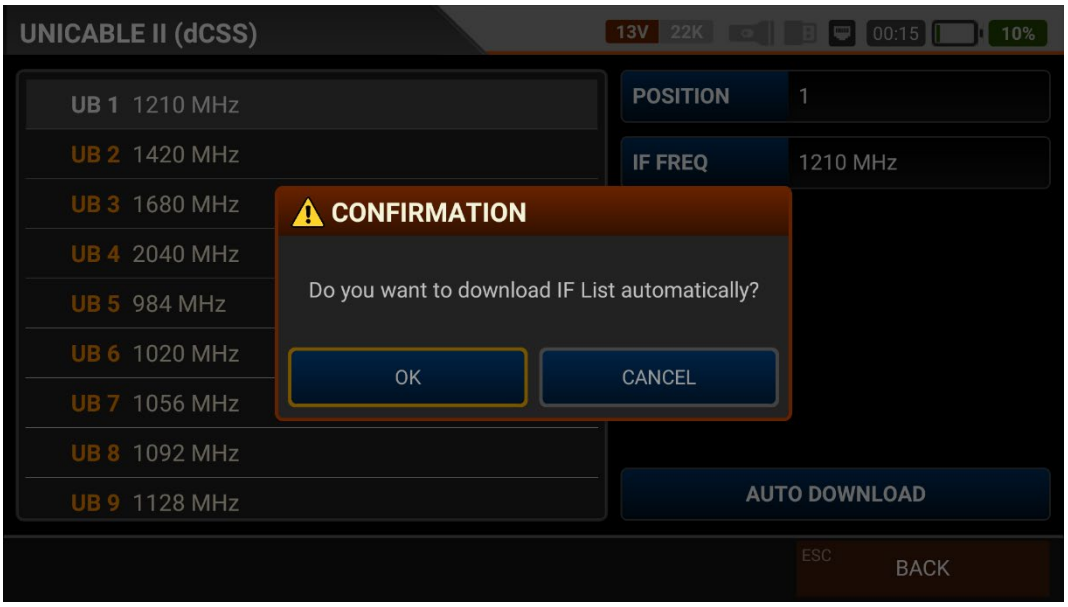
TP: It shows the TPs on the satellite you have selected. You can change TPs with the right and left buttons or by touching the box.

DISEQC: You can select NO / TONE / DISEQC 1.0 / DISEQC 1.1 / DISEQC 1.1 / DISEQC 1.2 (MOTOR) / USALS / UNICABLE I (EN50949) / UNICABLE II from this box. You can select the port of the switch type you have selected from the box next to it.

UNICABLE MODE: You can operate the device in UB mode by selecting UNICABLE I (EN50949) / UNICABLE II (dCSS).



Touch and hold the Box, and the device will communicate with Unicable and download UB frequencies automatically after making the selection.



You can then change all UB frequencies one by one, either automatically or manually.

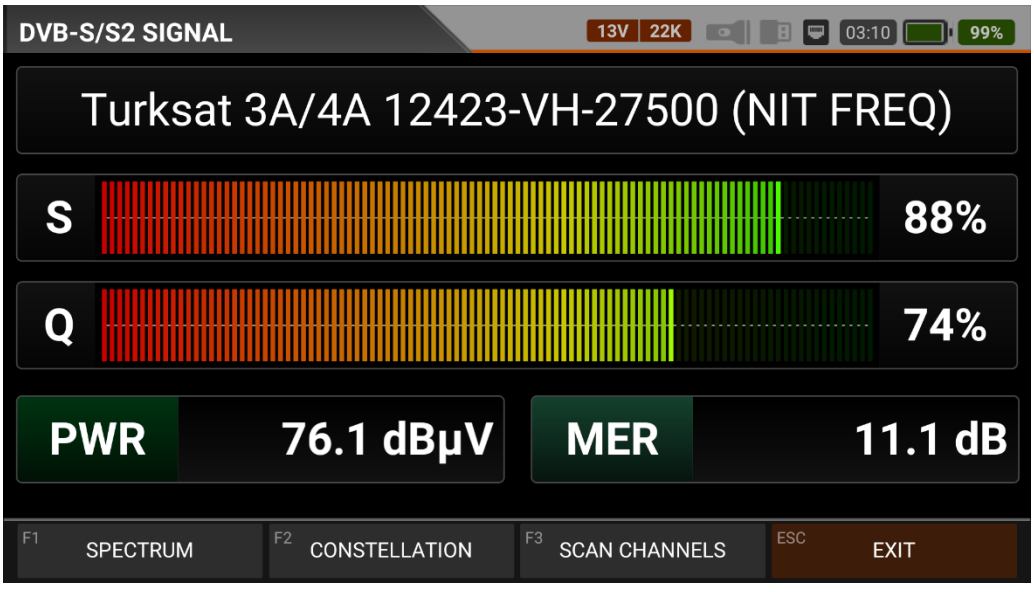
LNB: The device has 34 ready-made LNB types and three user-defined LNB types for a total of 37 LNB types.

POWER: You can change the LNB supply power from this box with the OFF/13V/18V/13V/13V22KHZ/18V22KHZ/18V22KHZ/21V/AUTO options.

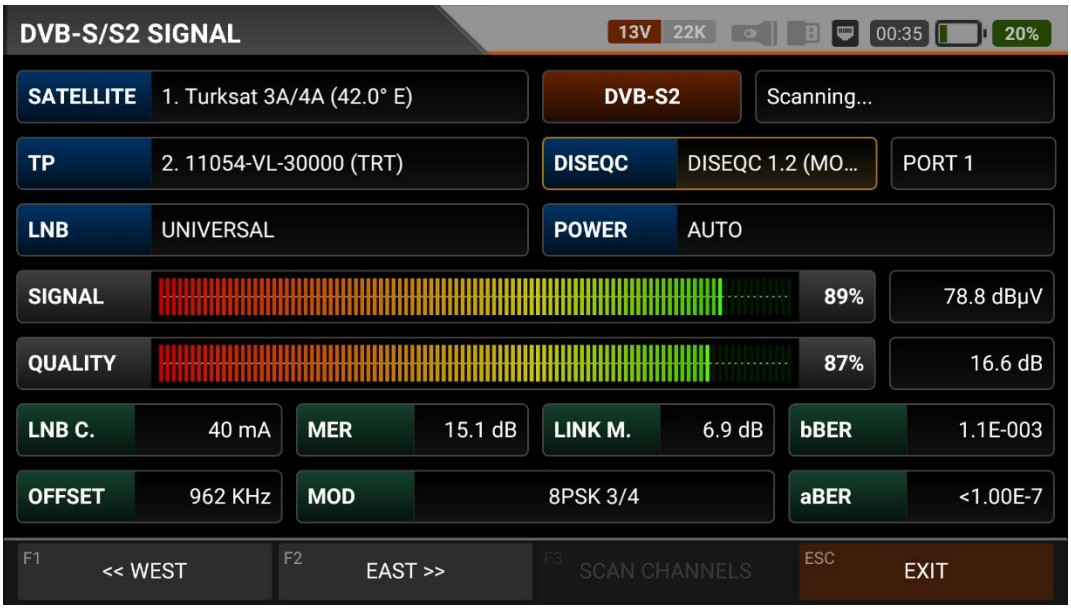
SIGNAL: You can see the RF signal level at the frequency you have selected on the screen as a graph with bars from Red to Green and as a percentage (%). You can see the RF level in "dBuV, dBm, dBmV" in the box to the right.

QUALITY: You can see the SNR value at the frequency you have selected on the screen as a graph and percentage (%) with bars from Red to Green. You can see the SNR value in "db" in the box to the right.

You can use a measurement display with a larger font by touching the signal bar.



Diseq-C Motor 1.2: Select the Diseqc 1.2 Motor from the DISEQC TYPE section. You can see the SIGNAL levels, and at the same time, you can manually rotate your Diseqc 1.2 Motor to EAST / WEST by pressing the EAST / WEST boxes.



MER (Modulation Error Rate) is a metric used to measure the performance of the digital modulation of the signal in the communication system. MER is measured between 0-20db to check the ideal level of the signal after effects such as noise, low aspect ratio, phase noise, carrier suppression, distortion, etc., in our DVB-S/S2 device.

LINK MARGİN It can be used to know when the Total power of the frequency crosses the saturation threshold. A signal needs a safety margin that exceeds the threshold for good reception; the Link margin must be greater than zero (0).

bBER: The Previous Bit Error rate indicates the proportion of uncorrected bits in the incoming signal. bBER should be at the lowest level.

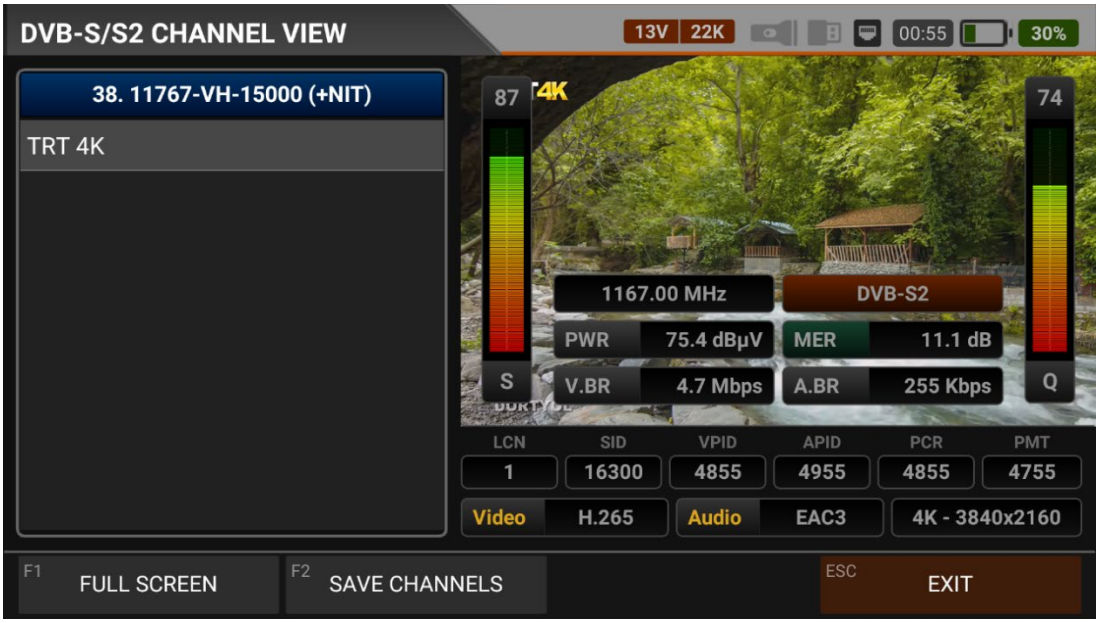
aBER: Next Bit Error rate shows the proportion of bits in the incoming signal after correction. aBER should be at the lowest level.

LNB CURRENT: You can see the current drawn by the LNB and Switches from the device in this box.

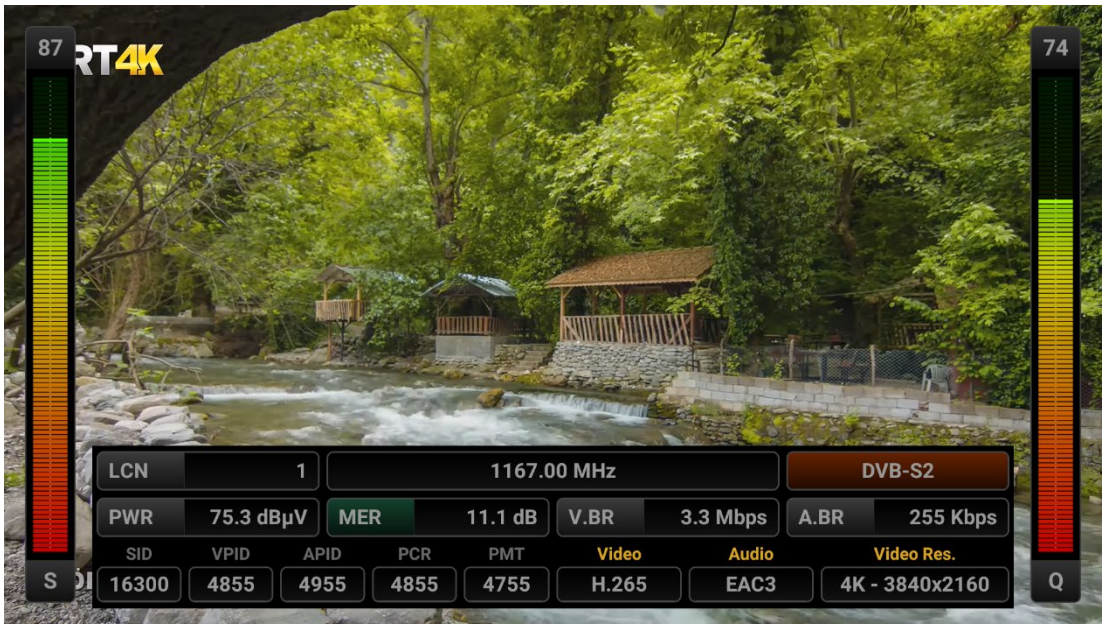
OFFSET: It indicates the frequency deviation when locking to the TP frequency.

MODE: The Modulation and FEC values will be displayed in this box when there is enough signal from the TP frequency.

You can check that the signal levels are at the highest values. You can use the RIGHT / LEFT buttons to change sequential satellites or transponders. TV Channel names will appear in the upper right corner when you catch the signal. You can touch this tile and see the Channel View. This allows you to check that you are on the right satellite. You can select channels from the left side once in the Show Channels menu.

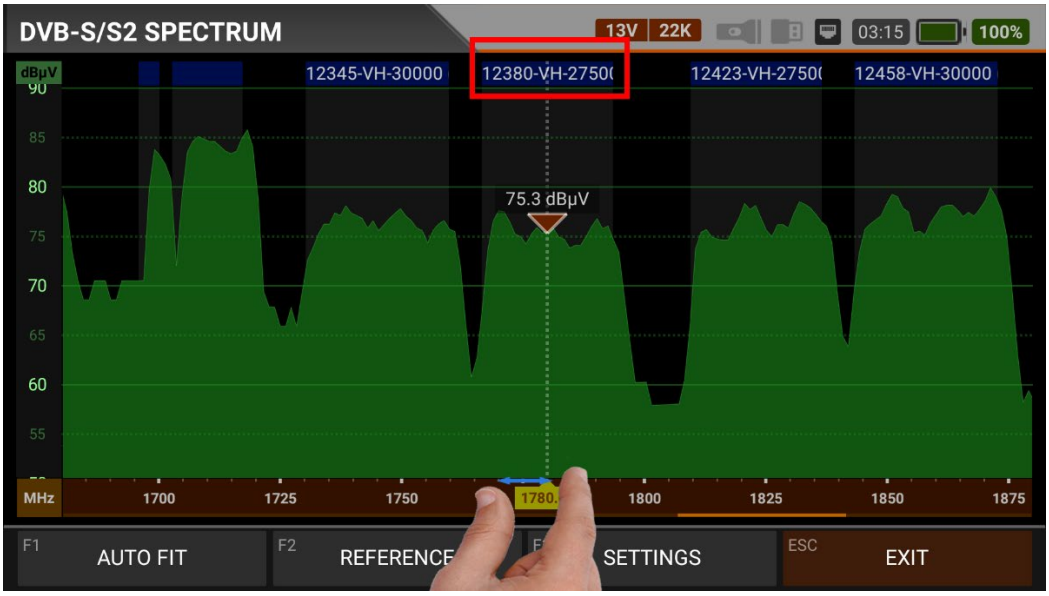


You can enlarge the image by touching it and see both image and signal levels, AV bitrate rates and PID values on the same screen by pressing the LEVEL button.

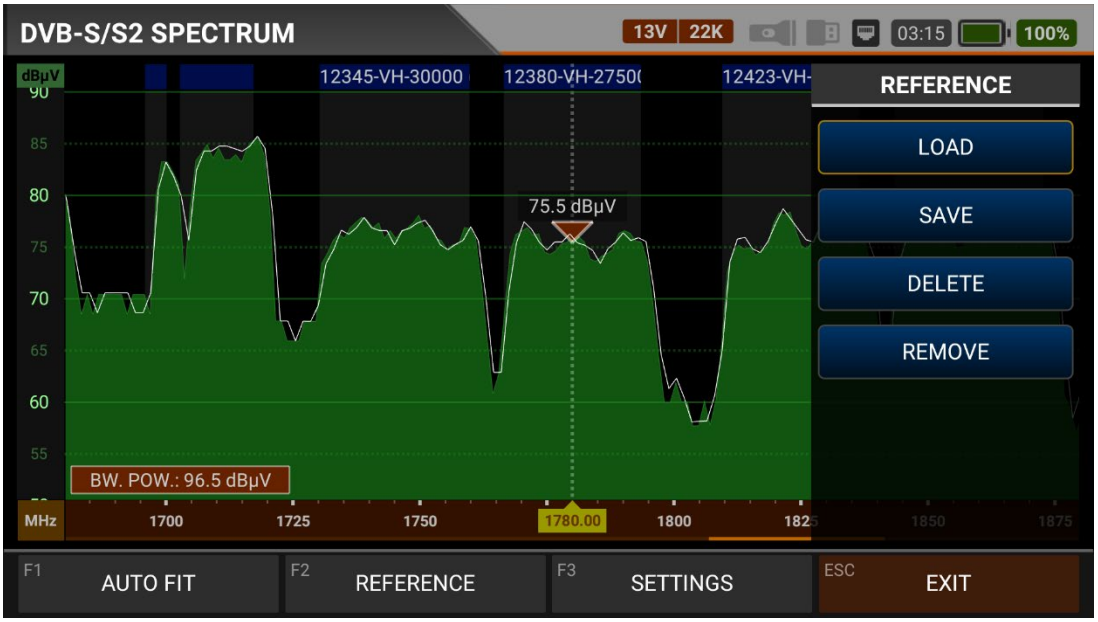


DVB-S/S2 SPECTRUM ANALYSIS:

This mode shows the strength of signals in a specific frequency range and helps you visually identify abnormalities in the RF signal. Select the SPECTRUM ANALYSIS box from the DVB-S/S2 SIGNAL menu. The marker will start above the Tp IF frequency you measure. (If you enter directly from the Main Menu, You can touch the START box and switch to the spectrum screen.) after making your satellite, TP, LNB voltage and Diseq-c settings.



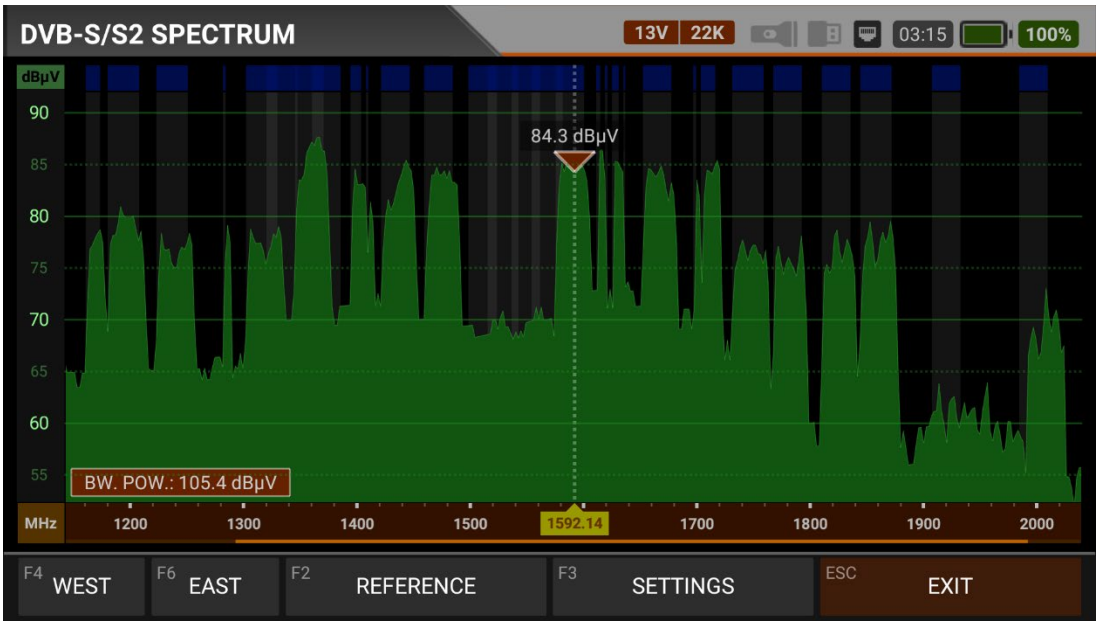
You can change the SPAN (frequency range) with the EDIT button on the spectrum screen or by using two fingers in the red area. If you enter the spectrum menu by selecting a frequency, you can see the selected TP frequencies and other TP frequencies of the same polarity in the red box. This allows you to control the entire TP frequency plan in the selected polarity.
You can slide the red marker triangle to the point you want to measure by touching your finger on the screen.



REFERENCE: You can SAVE the top points of the spectrum as a white line, and then you can RECALL them from memory and re-install them with the same settings.

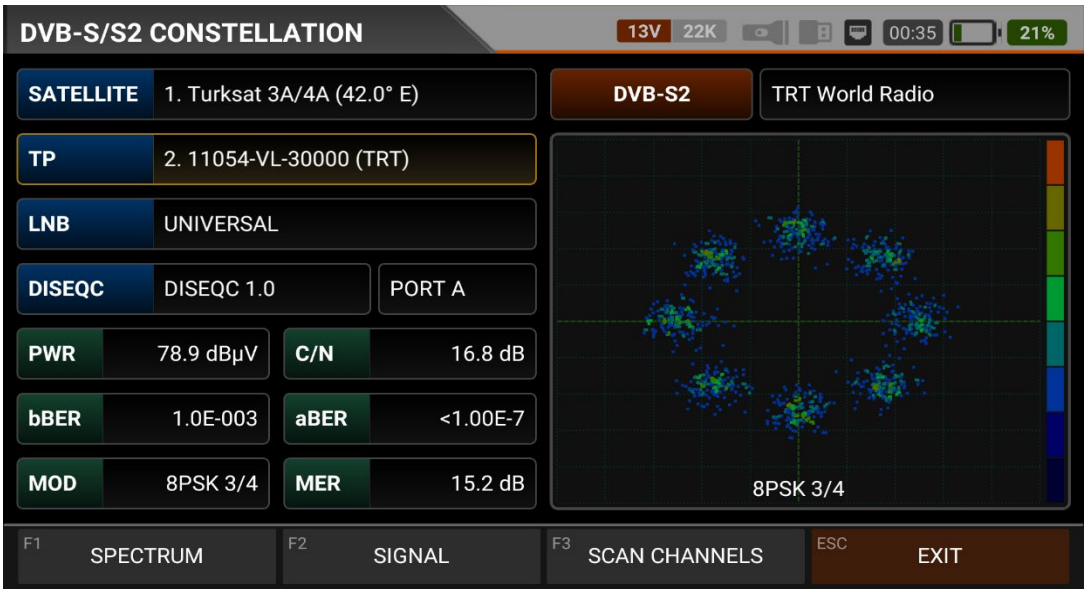
FIT: You can fit the Min/Max levels of the signals on the screen by touching this box so you can easily see the lowest and highest signals in the whole spectrum.

SETTINGS: This menu allows you to turn on/off the Tp Frequency Plan indicated by the blue bars. You can change the operating mode of the spectrum quickly and precisely. You can export the spectrum display as a *.CSV file and as an IMAGE file to USB.



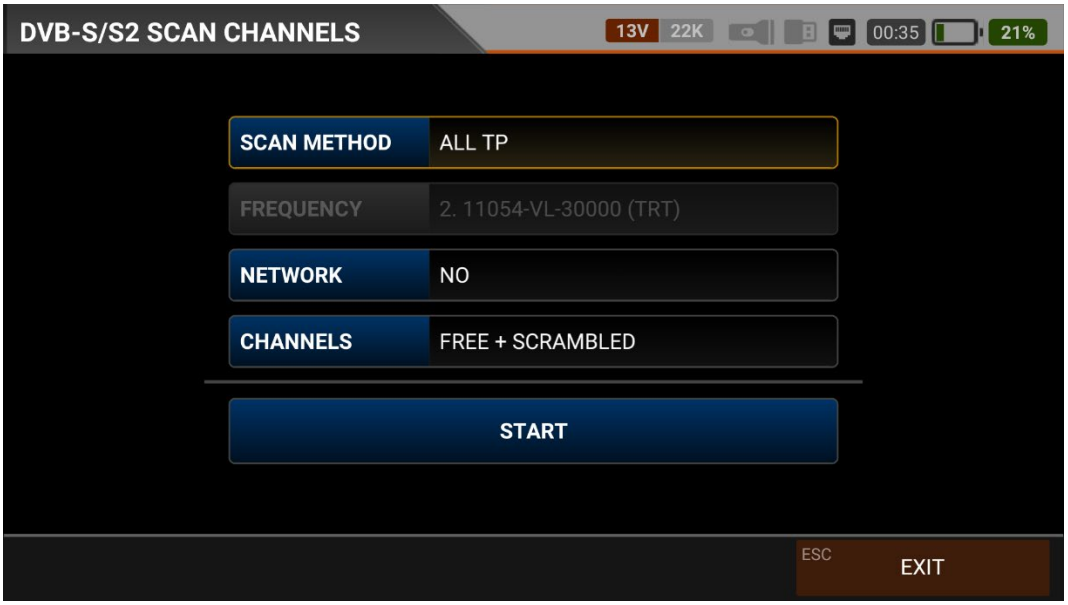
Firstly, select Diseqc 1.2 Motor from the DISEQC TYPE section of the Spectrum Analysis menu where you want to use the Diseq-C engine feature. You can see the SPECTRUM levels, and at the same time, you can manually rotate your Diseqc 1.2 Motor to EAST / WEST by pressing the EAST / WEST boxes.

DVB-S/S2 CONSTELLATION:



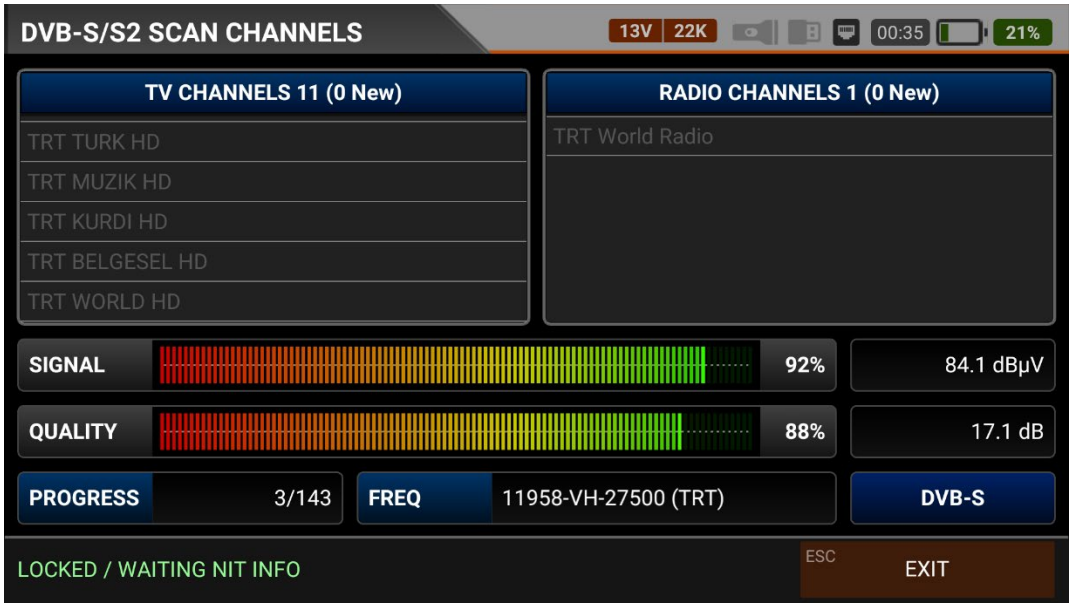
The Constellation menu shows the accuracy of the coordinates of the Digital I/Q symbols received at any time in a graph. In this way, you can also understand the accuracy of the modulation (such as Qpsk, 8psk). You can see a collection of respectively 4 and 8 coordinate points for QPSK signals and eight coordinate points for 8psk signals in the Constellation diagram of the Tp Frequency you measure after touching the Constellation box from the DVB-S/S2 Signal menu. The closer this collection of coordinate points is to each other and in a narrower area, the accuracy will increase.

DVB-S/S2 SCAN CHANNEL:



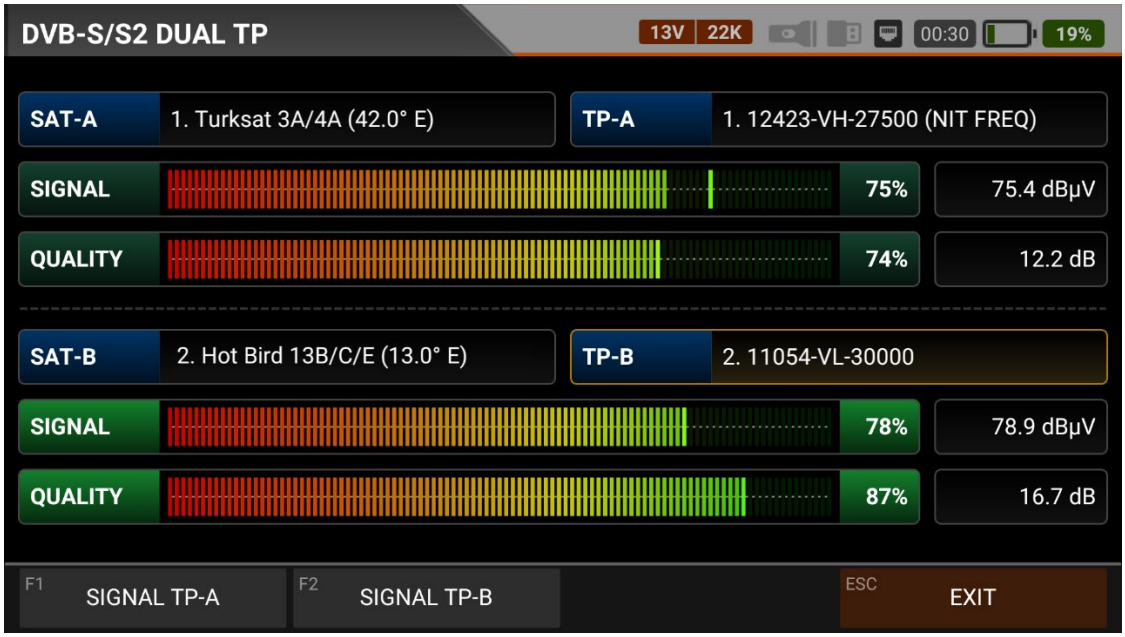
Once you have optimized the signal levels, you can do a SCAN CHANNEL by touching the "Scan Channels" box.

You can perform scanning operations as SINGLE TP / ALL TP and BLIND SCAN, add the channels found to the CHANNEL LIST, and then monitor and measure from the channel list.



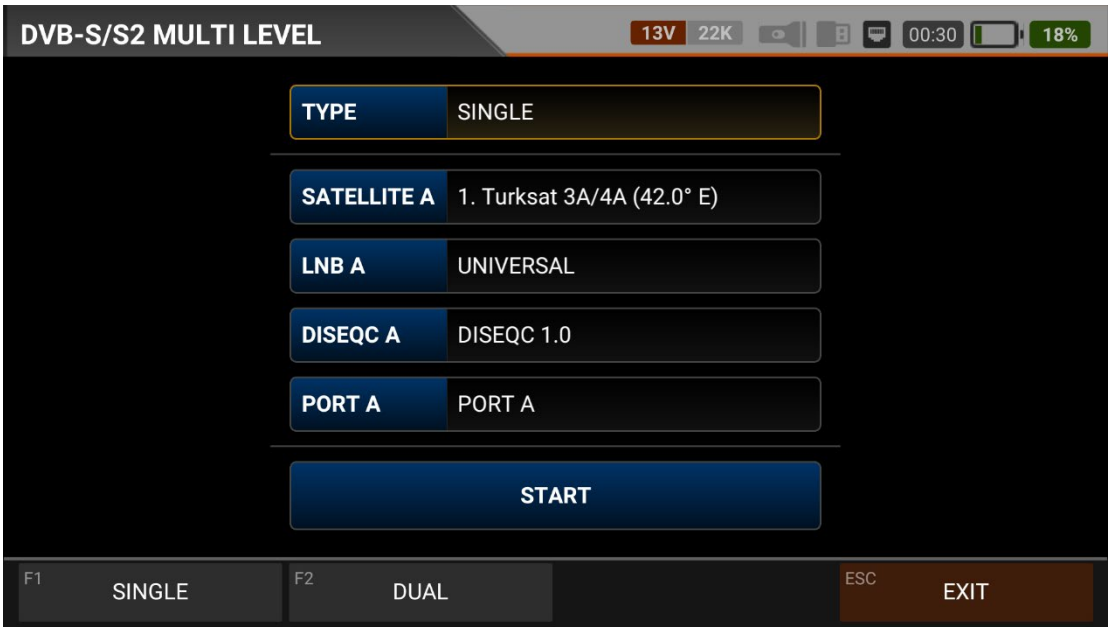
DVB-S/S2 DUAL TP MEASUREMENT:

Select DVB-S/S2 by touching the DUAL TP CONTROL menu in the MENU. In the Multi-Level Control menu, the signal levels of one frequency from 2 different satellites at two different Diseq-C switch ends are displayed on the same screen. In this way, Monoblock Lnb, multiple Lnb connection apparatus installations or Multiswitch tests can be done very easily.

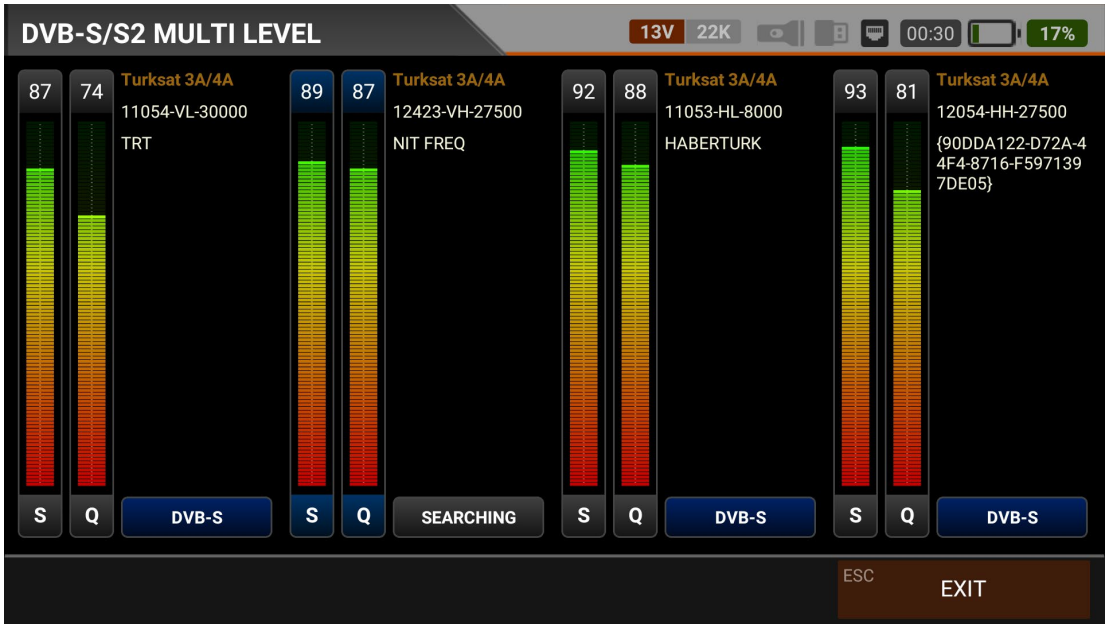


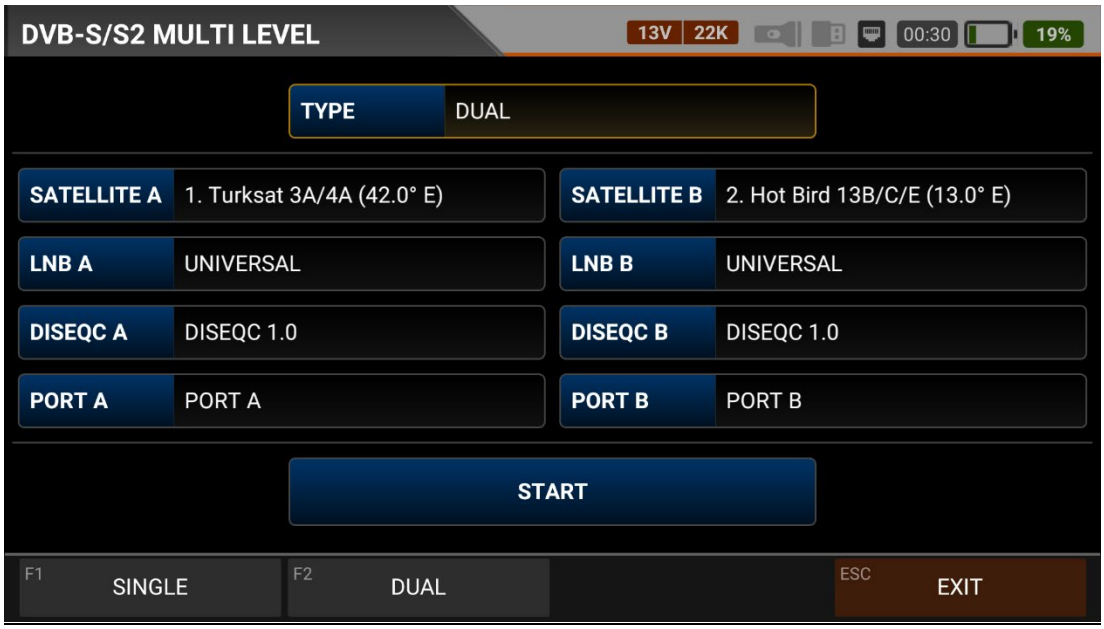
DVB-S/S2 MULTI-LEVEL MEASUREMENT:

Select MULTI-LEVEL CONTROL from the DVB-S/S2 MENU. The Multi-Level Control menu allows the signal levels of multiple TP frequencies to be displayed on the same screen at the same time.

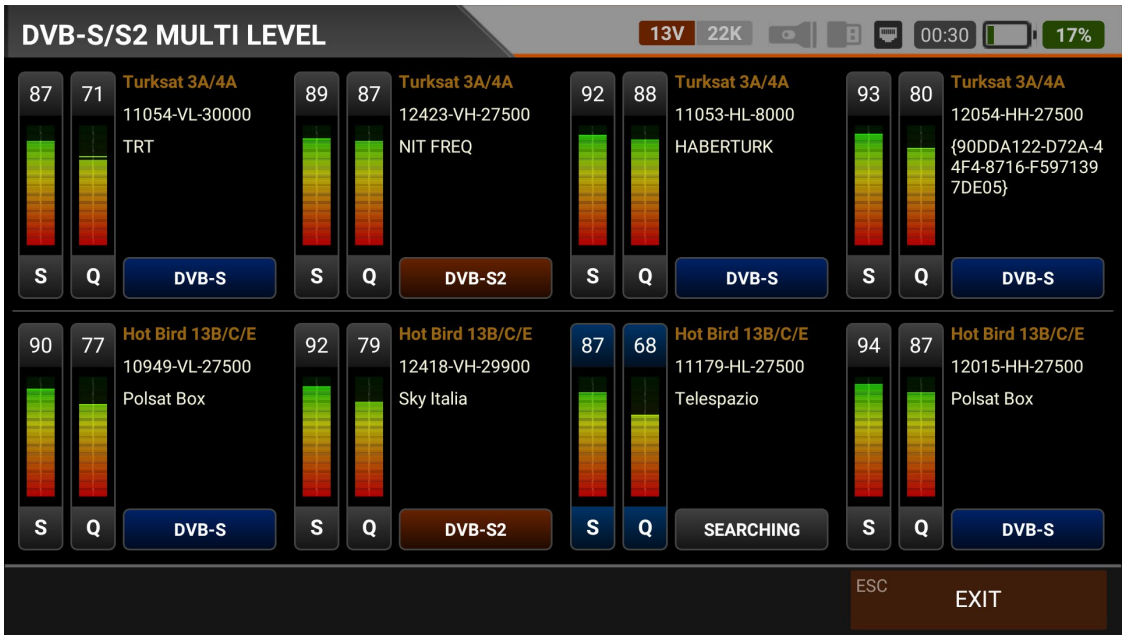


SINGLE SATELLITE CONTROL: Select SINGLE as the type and touch START after making the necessary SATELLITE settings. As shown in the screen below, the signal levels of 4 different frequencies from 1 satellite can be seen on the same screen. This allows you to check that the signal levels and antenna tuning are correct at all frequencies. You can look at the ports of the Quattro LNBs that supply the multiswitches one by one.



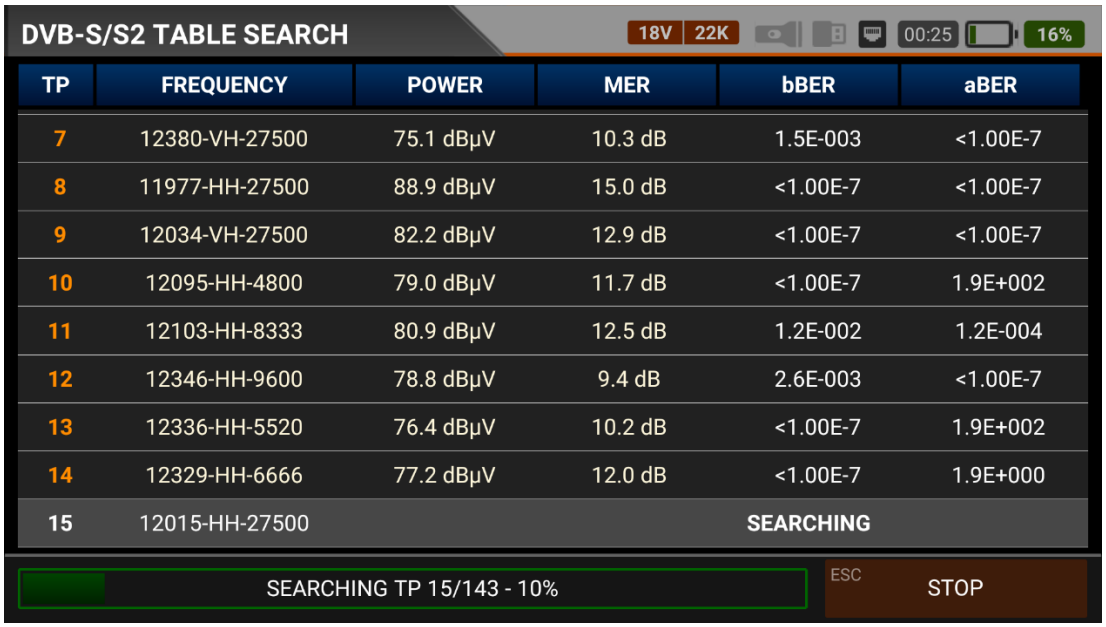


DUAL SATELLITE CONTROL: Select DUAL as the type and touch the START box after making the necessary SATELLITE settings. As shown in the screen below, the signal levels of 8 different frequencies from 2 satellites can be seen on the same screen.

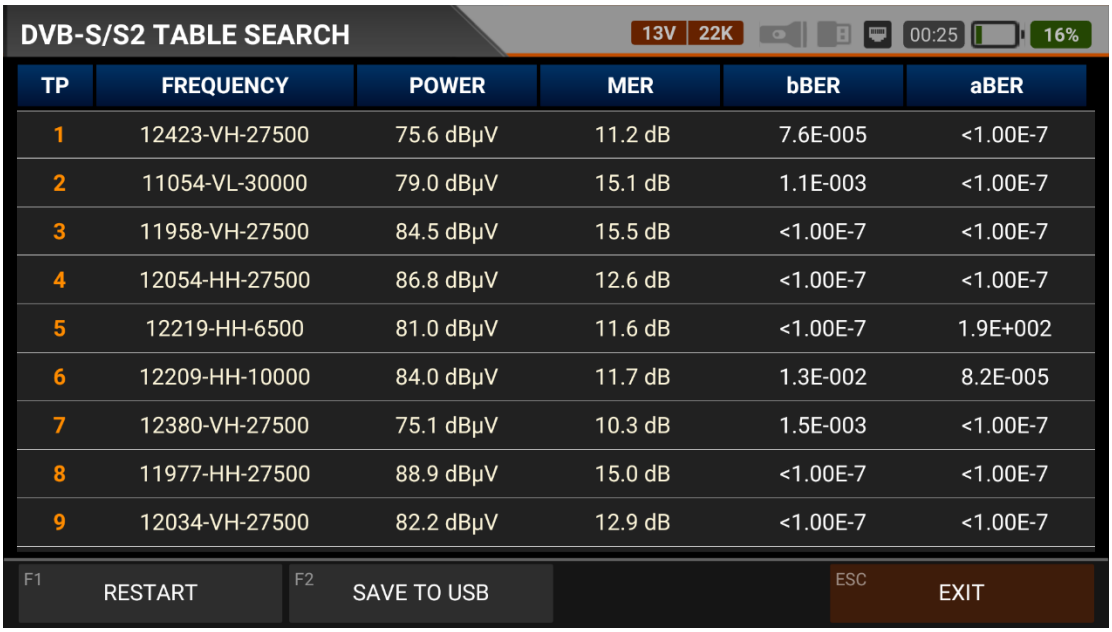


You can test the accuracy of Multiswitch and System assemblies by seeing all frequencies on the same screen. The device will sort the TPs on all satellites according to their VL/VH/HL/HL/HH polarity. This allows you to check the accuracy of 8 cables from 2 satellites in multiswitches.

DVB-S/S2 TABLE MEASUREMENT:

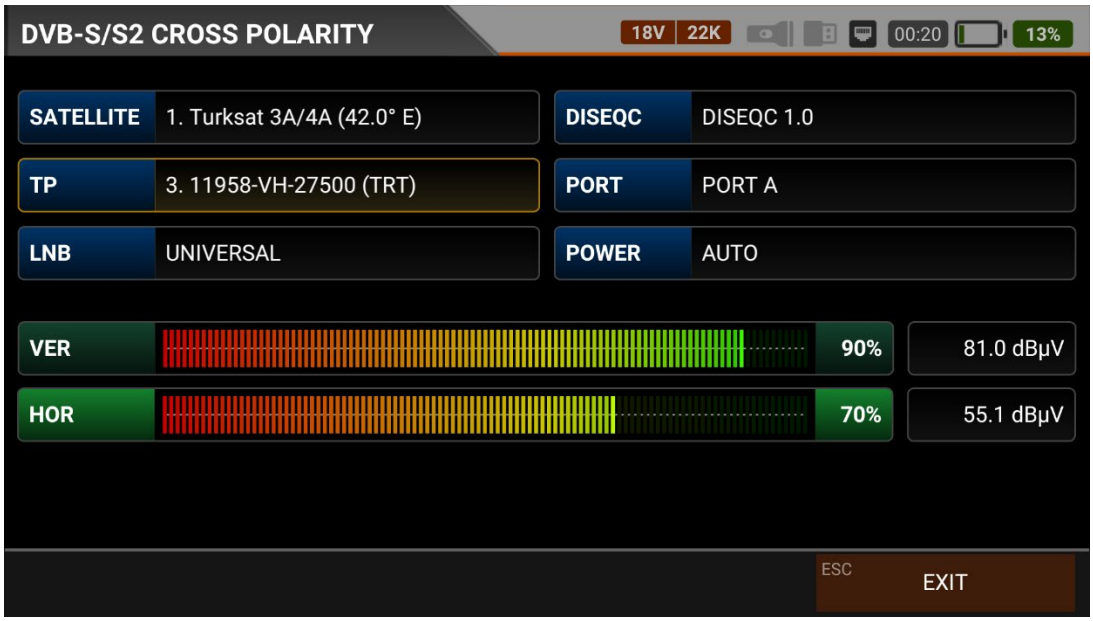


You can check the signal values of all TPs of the satellite you have selected by using the TABLE MEASUREMENT menu when you have completed the antenna installation or when you go to service the subscriber.



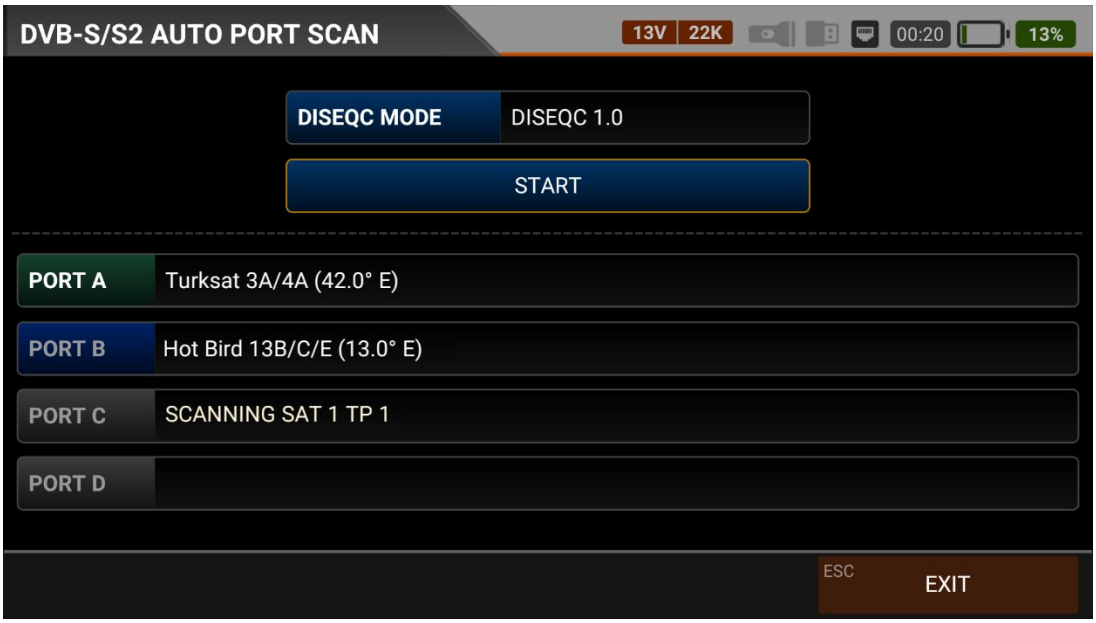
You can see which TP has the problem and compare the frequencies with each other. You will see the tables in the pictures after all TPs have been scanned. You can save the entire table to USB and store the measurement with the "SAVE TO USB" button after all operations are finished.

DVB-S/S2 CROSS POLARITY:



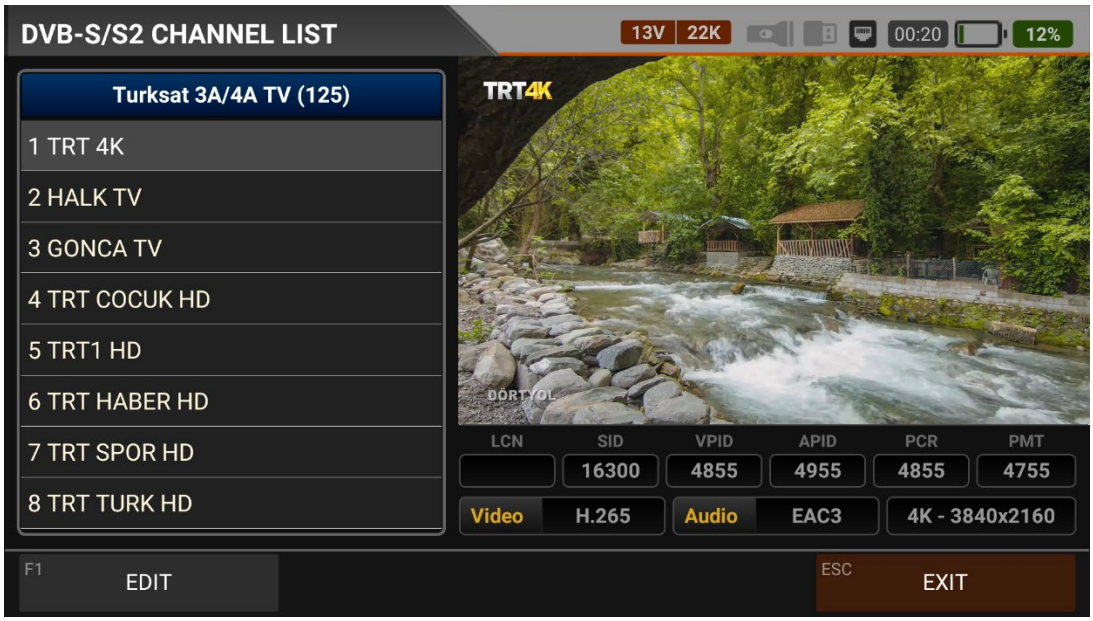
The purpose of this menu is to adjust the LNB according to the signal level at the opposite polarity of the selected frequency. We set it so that the top signal level is the highest. If the signal at the bottom moves in the same direction as the signal at the top, both should be set to the highest or if it moves in the opposite direction, the upper signal should be set to the highest and the lower signal to the lowest.

DVB-S/S2 AUTO PORT SCAN:



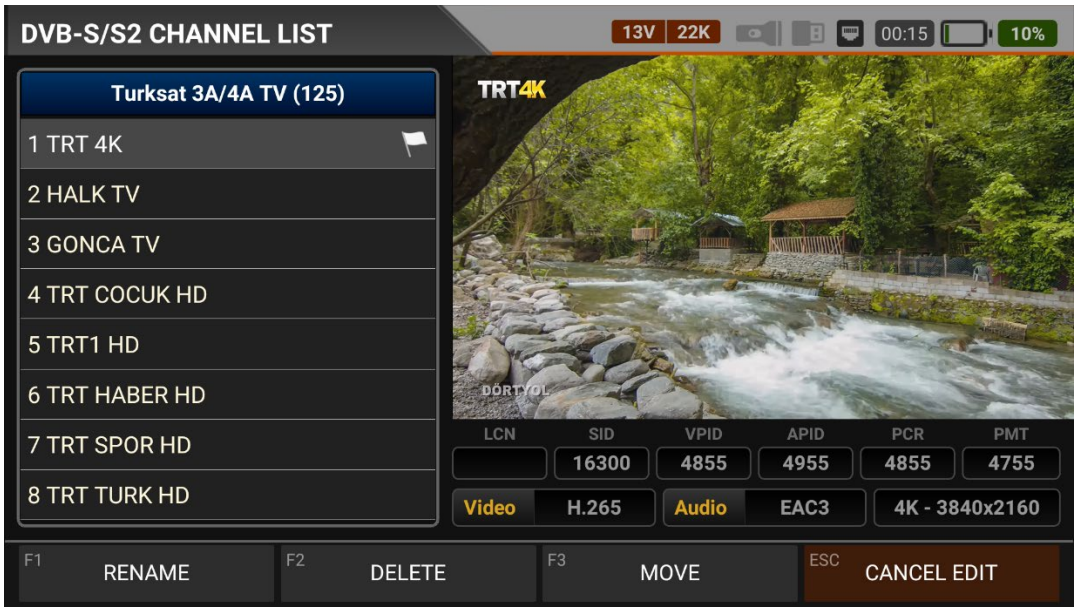
We can see which satellite the Dish Antenna is facing or which satellites are connected to which ports of our Diseq-C Switch. This way, you don't have to go near the antenna or find cables. Diseq-C 1.0 and Diseq-C 1.1 protocols are installed and ready to use inside your device. You can use it in all 4 and 8 Diseq-C switches.

DVB-S/S2 CHANNEL LIST

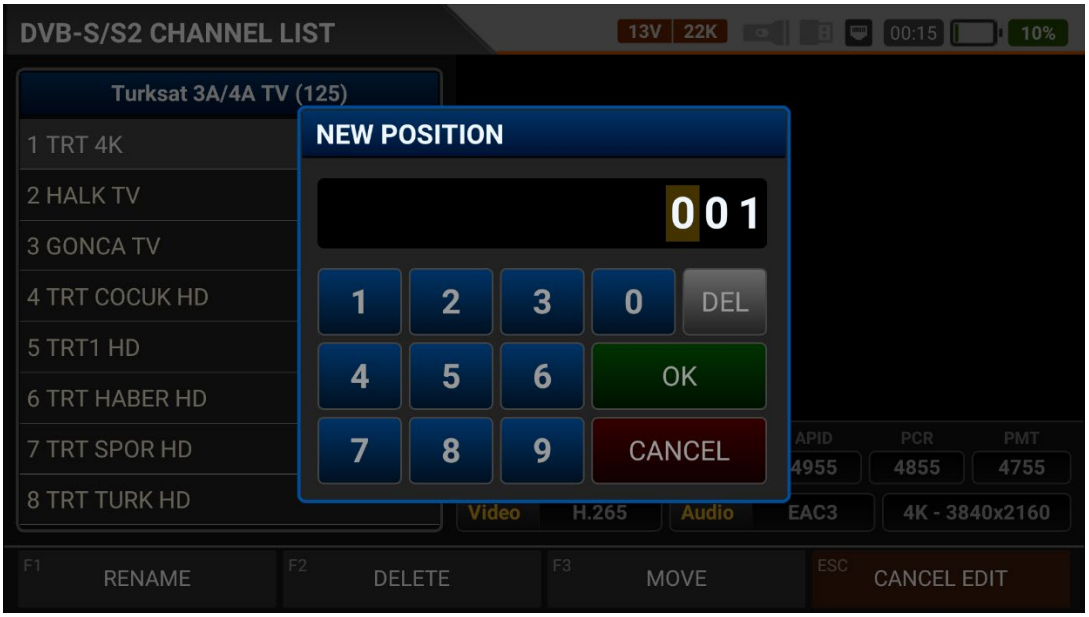


DVB-S/S2 can be displayed by touching the CHANNEL LIST from the MENU. You can select, delete, and relocate TV and Radio channels individually or by satellite name in the Channel List menu. You can select channels from the left side. You can enlarge the image by touching it and pressing the LEVEL button to see both the image and the Signal levels, AV bitrate rates and PID values on the same screen.

SORTING BY SATELLITE: Press the MENU button or touch the Satellite after entering the CHANNEL LIST menu and select SATELLITE from the display. In this case, only the channels of the satellite you have selected will be displayed. You can see the list of radio channels on the screen with the TV / RADIO button.



You can touch on the EDIT box and then perform the CHANGE NAME / DELETE CHANNEL and MOVE CHANNEL process.

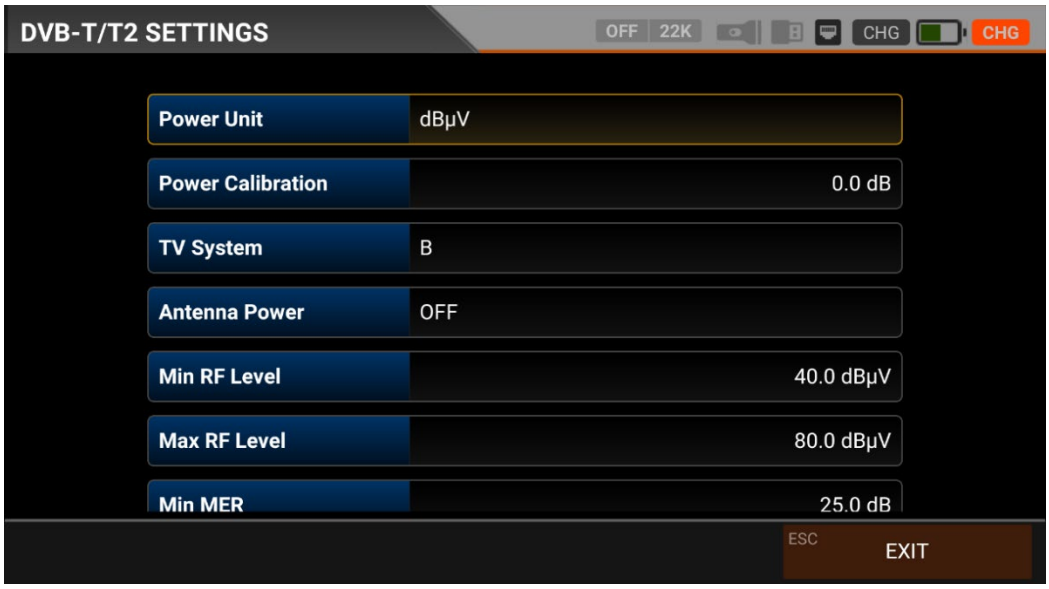


You can enter the number of the new position to move the channels to when you touch on a Channel or touch all the channels you want to move in BULK and press the MOVE box. Single channel and batch channels will be transferred to the new position, respectively.

INSTRUCTION FOR USE ON DVB-T/T2/ANALOGUE TERRESTRIAL TV MEASUREMENT:

Enter the DVB-T/T2 menu on your AS07STCA-4K using the touchscreen or the direction and OK buttons on the silicone keypad.

DVB-T/T2 SETTINGS:



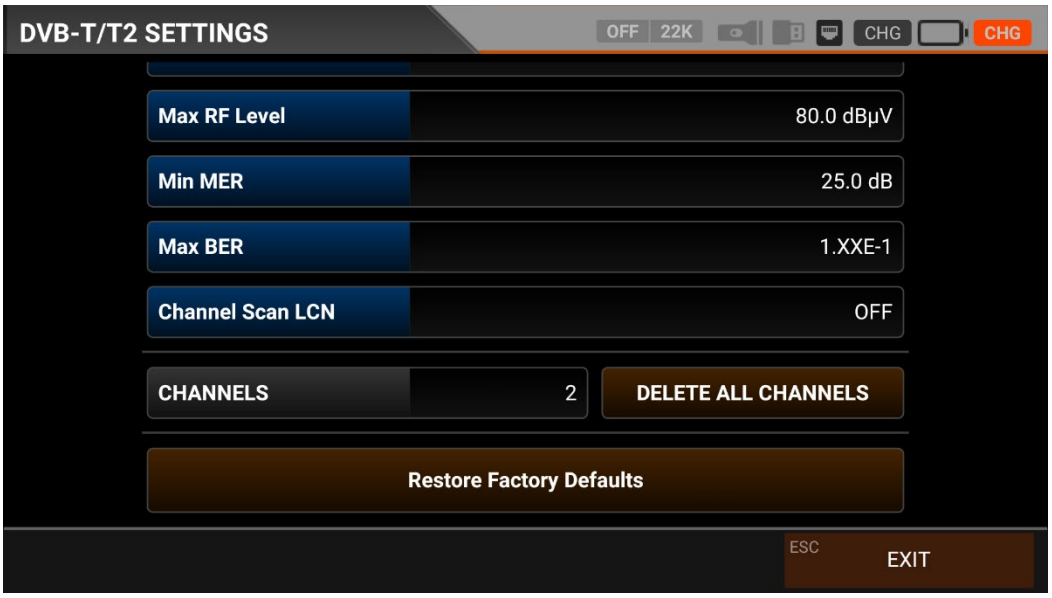
Power Unit: You can see the signal levels on the display in dBuV/dBm/dBmV units.

Power Calibration: The margin of error of the measurement levels may increase depending on ambient temperatures and time of use. You can, therefore, calibrate the levels closer to the correct level by changing this value to plus + or minus -.

Antenna Power: You can supply your Line Amplifier by selecting Off / 5V / 12V / 20V.

Min RF Level: If this is less than the RF level value when measuring the signal, the correct installation is not confirmed.

Max RF Level: If the RF signal level you set is higher than this value, it may damage the system or prevent correct distribution.



Min MER: When the MER value drops below this level, the device will not confirm that the installation was done correctly.

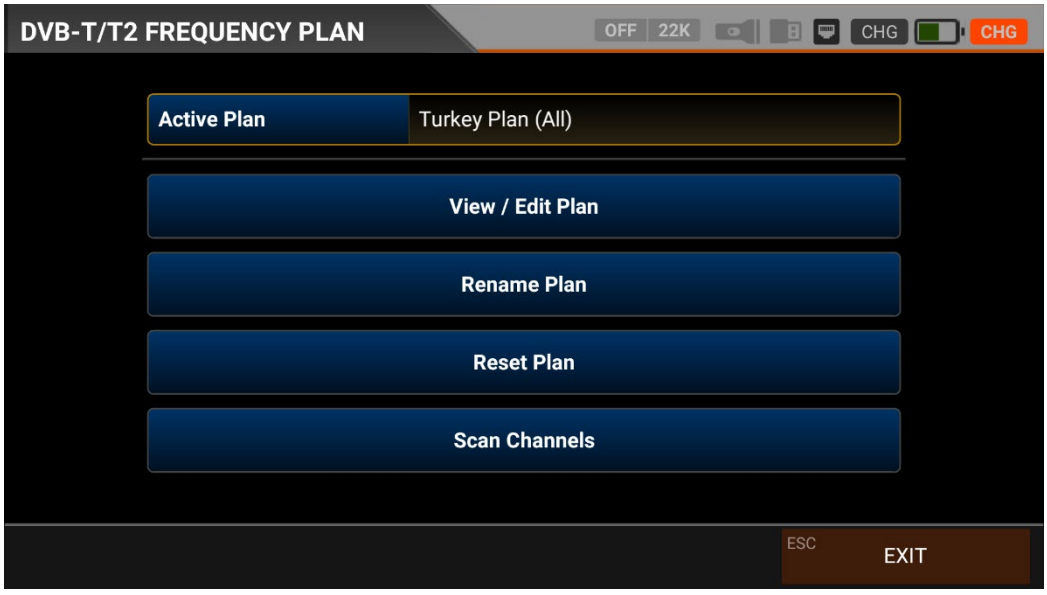
Max BER: You can choose how much the Bit Error Rate data rate can be.

LCN Scanning: The device sorts the Channel assignment on the scanned platform frequencies according to the LCN (logic channel number) value.

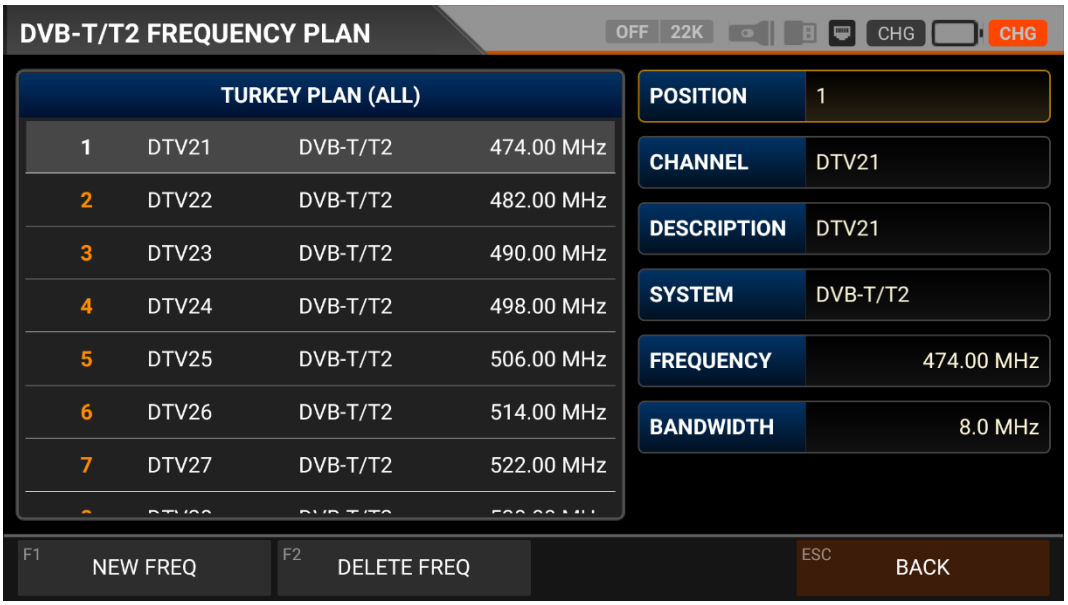
DELETE ALL CHANNELS: It deletes all channels in the DVB-T/T2 menu.

Factory Reset: It restores all database information in the DVB-T/T2 menu to factory settings.

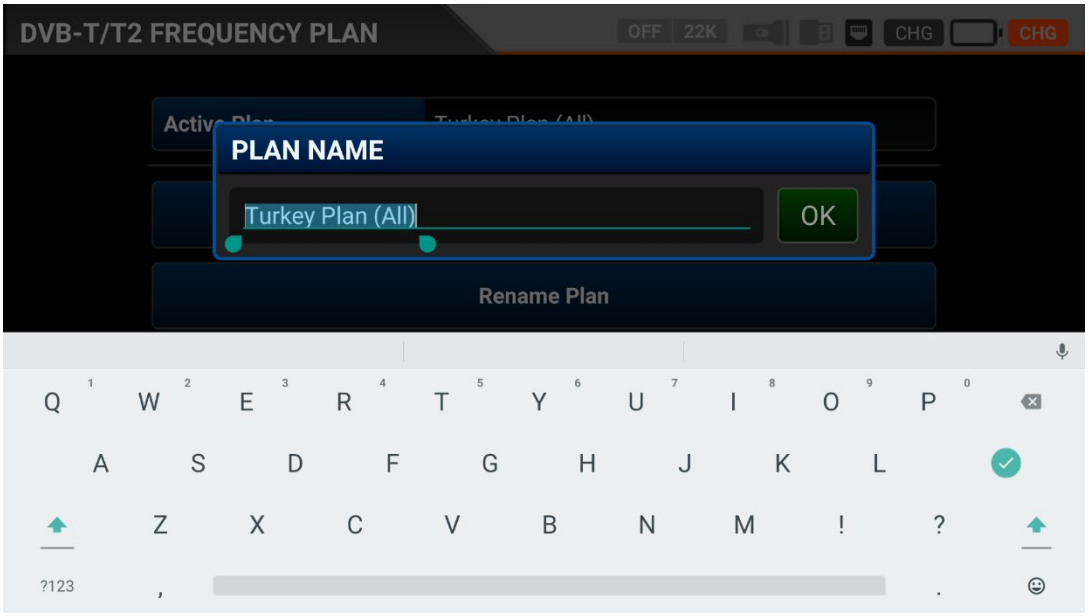
DVB-T/T2 FREQUENCY PLAN:



Your device can store dozens of Frequency Plans for each system in its memory to be used in your own installations or operator deployments.

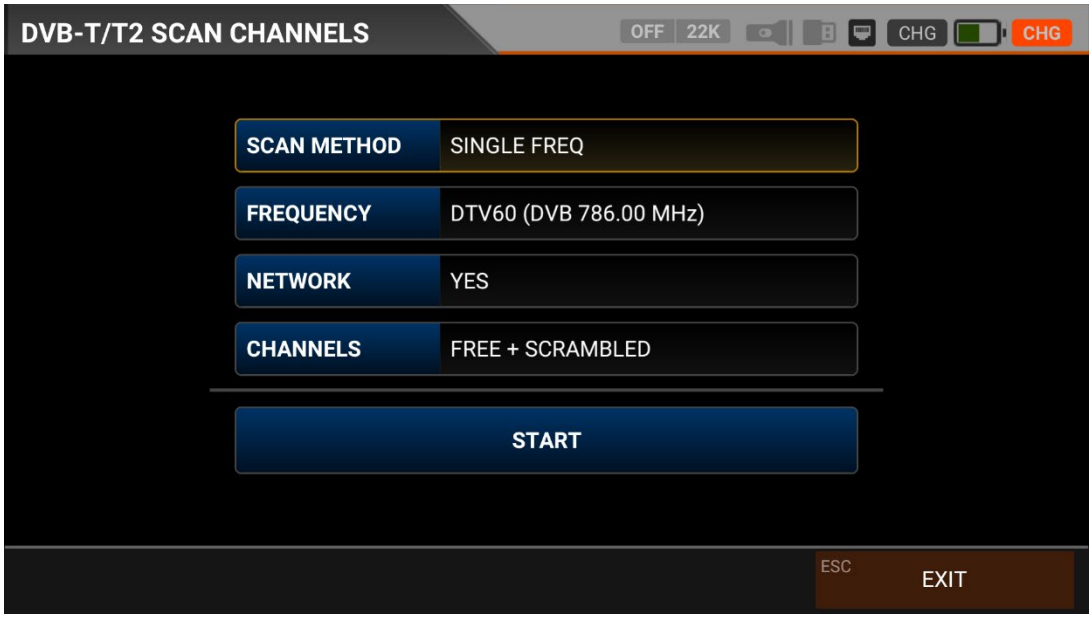


You can manually change these frequency plans on the device or via a PC program. You can access all parameters such as Frequency, BW, and TV system for each frequency.



You can assign names for your frequency plans or reset them completely.

Scan Channels: You can search for TV channels suitable for your frequency plan in the DVB-T/T2 band. You can then monitor and measure these channels.

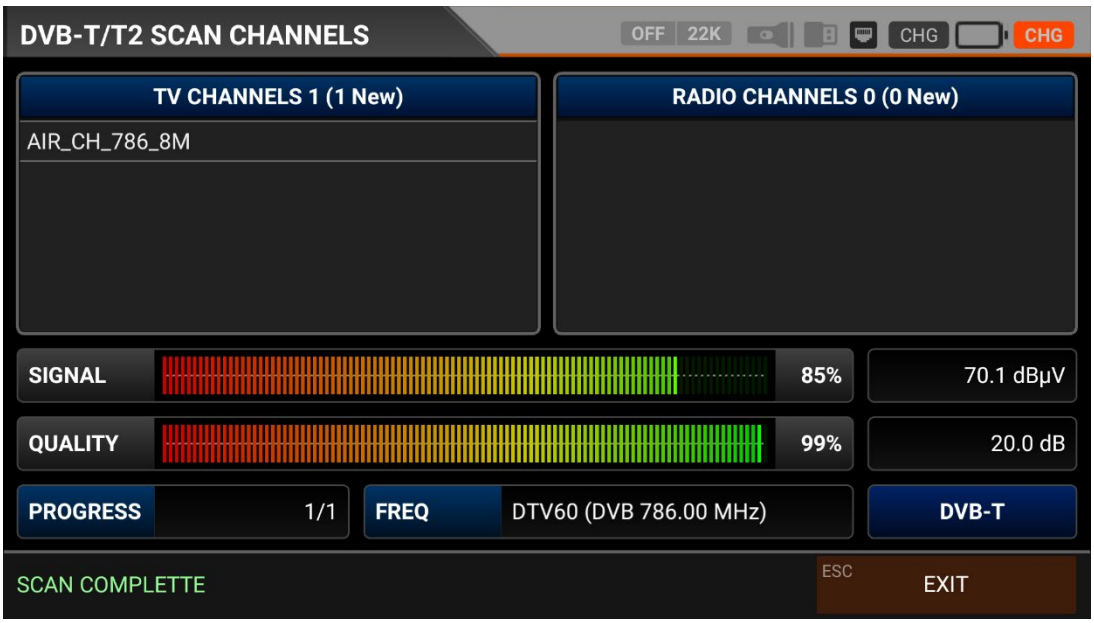


SCAN MODE: You can scan in 2 modes as SINGLE FREQUENCY / ALL PLAN.

FREQUENCY: You can select which frequency to scan when scanning Single Frequency.

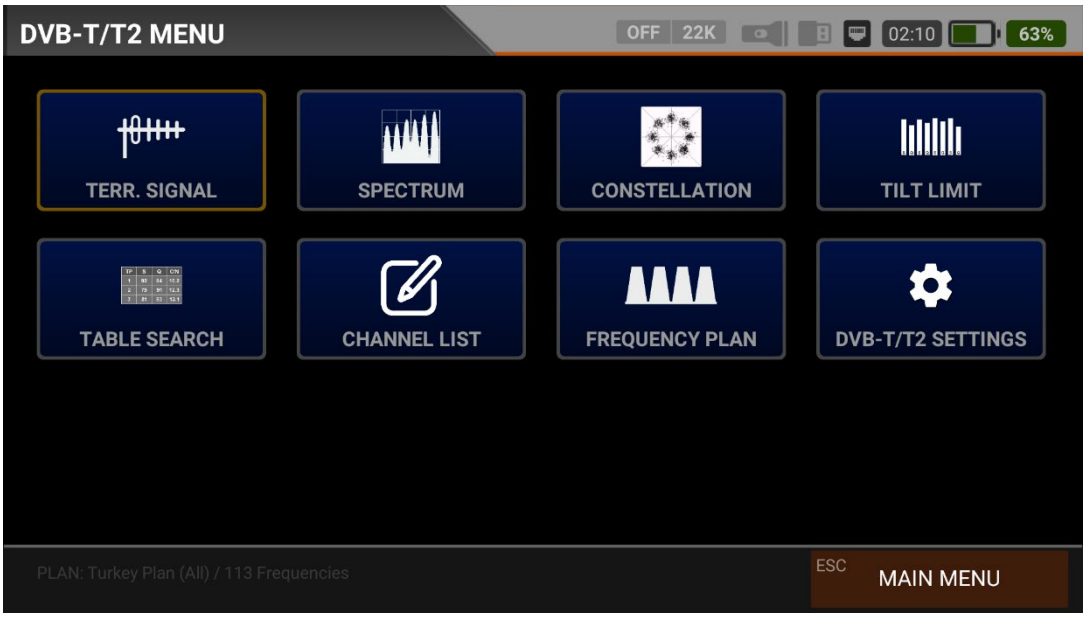
SCAN NETWORK: The NIT scan network for operators allows you to scan all frequencies.

CHANNELS: You can scan and memorize channels in 3 modes: UNENCODED / ENCRYPTED / ENCRYPTED + ENCRYPTED.



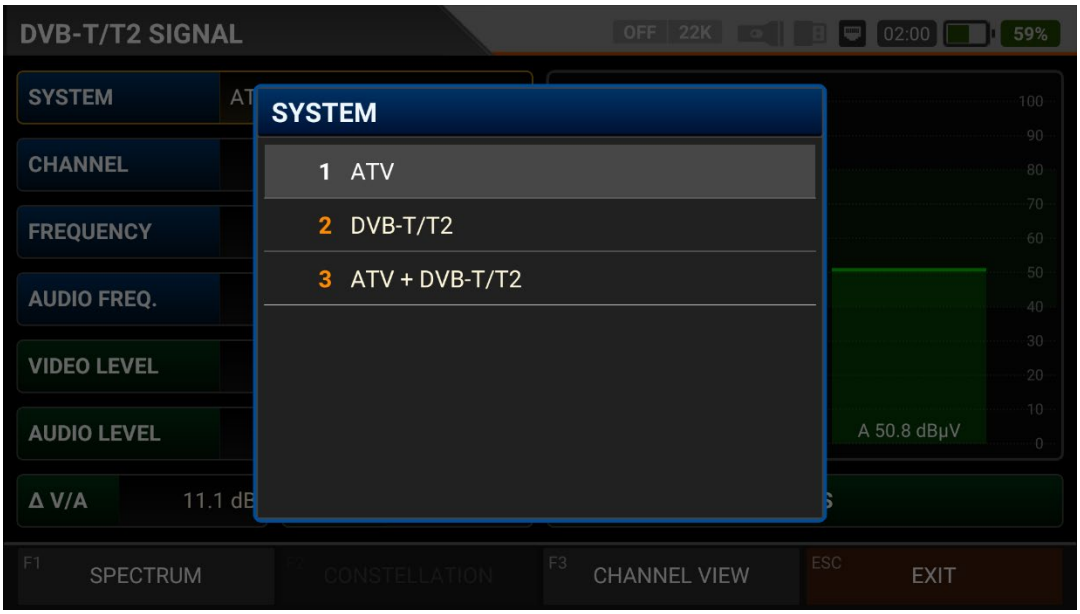
You can then start the scan channel process by touching the START box. In the scan channel screen, you can see which frequencies you scan and the signal values. It will show the newly found channels in white colour on the screen.

DVB-T/T2 SIGNAL MEASUREMENT :



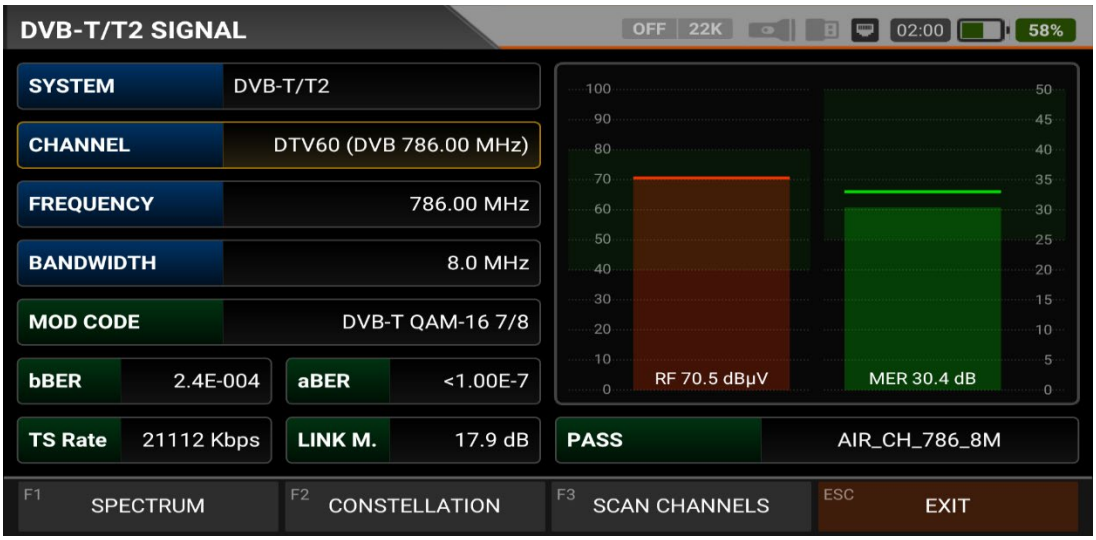
Your AS07STCA-4K is capable of measuring DVB-T/T2 analogue and digital signals. It can also show SD-HD-FHD-4K TV channels.

First, DVB-T/T2 or ATV+ DVB-T/T2 system must be selected when you enter the signal measurement menu.



SYSTEM: You can select ANALOGUE TV / DVB-T/T2 / ATV+DTV separately or ATV+DTV together in the frequency plan. This will display the frequencies of this system on the screen. It will make your installations faster.

You can select the frequency you want to tune your Digital Terrestrial antenna or check the signal levels and see the signal values on the screen. You can quickly switch to other measurement menus related to the frequency you have measured from the SPECTRUM, CONSTELLATION and CHANNEL SEARCH boxes at the bottom. Detailed information on Spectrum Analysis and Constellation properties will be given on the following pages.



CHANNEL: You can select the channel you want to measure in the frequency plan by touching the box.

FREQUENCY: You can see the frequency you measure. You can change it with the EDIT button.

BANDWIDTH: You can select 1.7/5.0/6.0/6.0/7.0/8.0Mhz for DVB-T/T2.

MOD CODE: You can see in which mode and code rate you receive the DVB-T or T2 system after the signal is locked.

bBER / aBER: BER should be at the lowest level, which indicates the number of errors before or after correction.

TS Rate: It shows the bitrate of the channel after the signal has been locked.

LINK Margin: It can be used to know when the Total power of the frequency crosses the saturation threshold. A signal needs a safety margin that exceeds the threshold for good reception; the Link margin must be greater than zero (0).

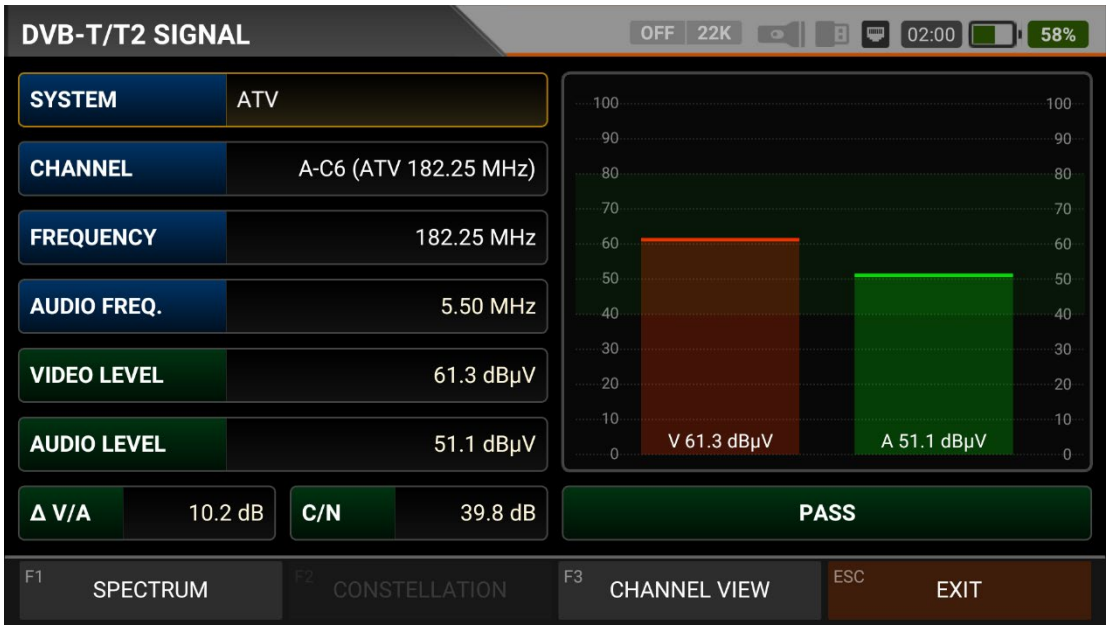
RF: You can see the RF level with the red bar.

MER: You can see the MER rate with the green coloured bar.

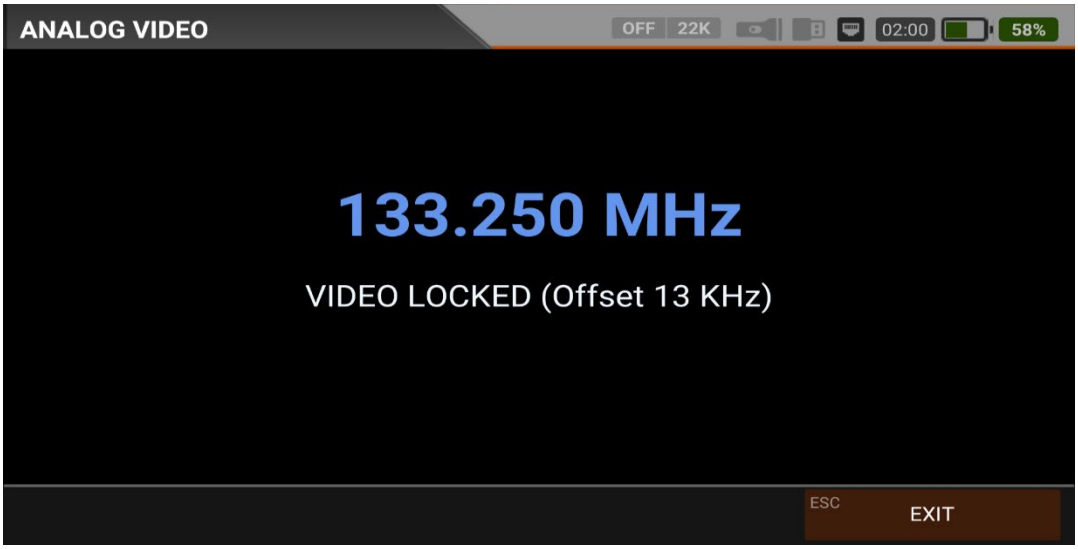
Enter the parameters of the frequency you want to measure; the coloured bold bars on the right side of the screen visually show the signal levels. Signal level values are indicated by numbers below the bars. You can see if the bars are within the Max and Min values you select from the settings menu by looking at the green area. You can also see the frequency parameters and signal values, such as MODULATION, BER, and MER, on the left side of the screen. A NOT LOCKED warning will appear in case the signal values are insufficient, and a LOCKED warning will appear in case the signal values are appropriate in the box in the lower right corner. The Channel names will appear in the LOWER LEFT bar if the signal levels are appropriate. You can see the channel names at the frequency you have measured by touching this box.

SEARCH CHANNEL and SAVE TO CHANNEL LIST: Press the "SEARCH CHANNEL " box in the lower right section on a frequency where you are sure that the signal levels are suitable. You can browse using the UNENCRYPTED, ENCRYPTED or both options on the SEARCH CHANNEL screen. The channels you have scanned are found, and then the information screen appears on the screen and the channels are saved to the list. (You can access Radio channels by pressing the TV/RADIO button.)

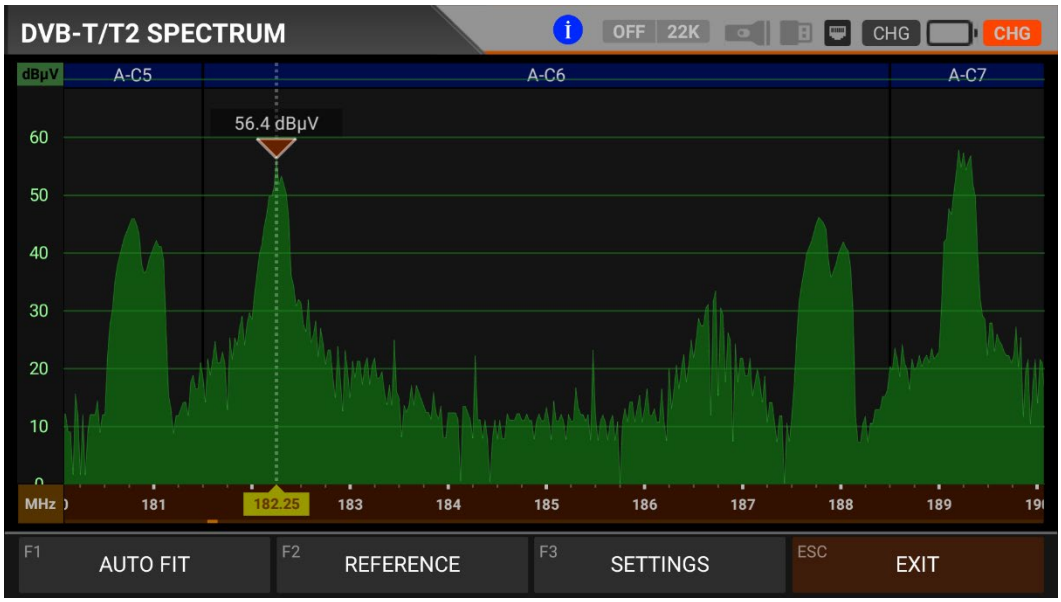
TERRESTRIAL ANALOGUE SIGNAL MEASUREMENT:



You can select the parameters of the frequency you want to measure on this screen. Then, you can see the difference between respectively the Channel Name, Video Frequency, Audio Frequency, Video Power, Audio Power, and ΔVIDEO/AUDIO in dB. You can visually speed up your measurement with signal strength bars changing according to the level in red for Video Frequency power and in green for audio frequency power on the right side of the screen. You can see if the Video Level Power bar and Audio Level Power bar are within the Max and Min values you select from the settings menu by looking at the green area. An ERROR warning will appear in case the signal values are insufficient, and a CONFIRMED sign will appear in case the signal values are appropriate in the box in the lower right corner. Note: You can quickly switch to other measurement menus related to the frequency you have measured from the SPECTRUM box at the bottom. Detailed information about Spectrum Analysis properties will be given in the following pages.



You can see the Analogue TV channels by touching the SHOW CHANNEL box at the bottom right after locking to the frequency. While watching Analogue TV channels, no menu function works; you can only exit Analogue TV with the ESC button.



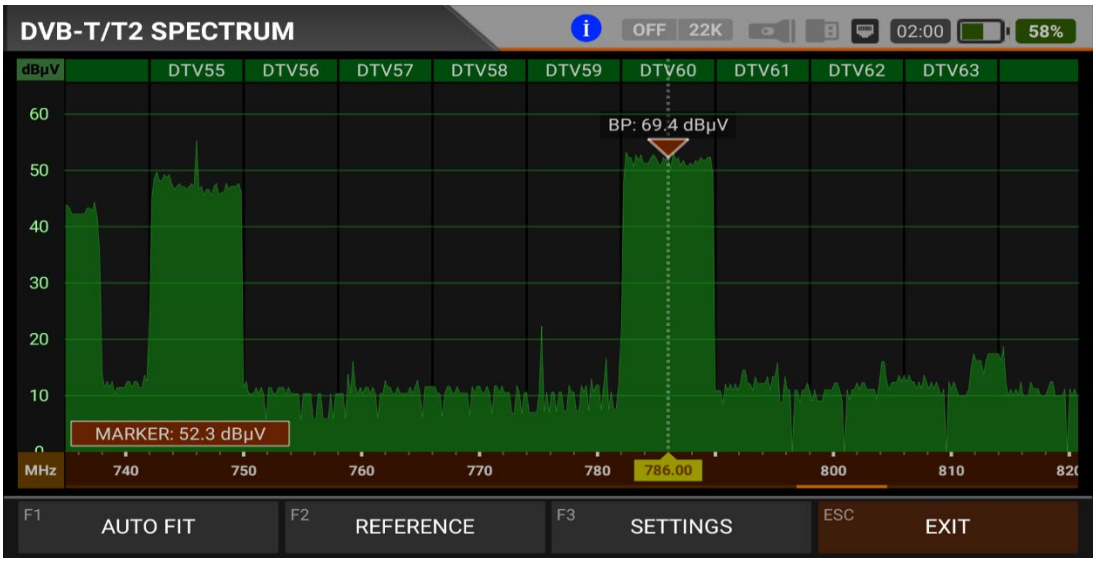
You can see the spectrum of a terrestrial analogue TV channel on the screen above. You can access the Video-Audio-Colour spectrum detail of the channel you have measured by touching the Spectrum Box on the signal measurement screen.

Table About Analogue TV Systems:

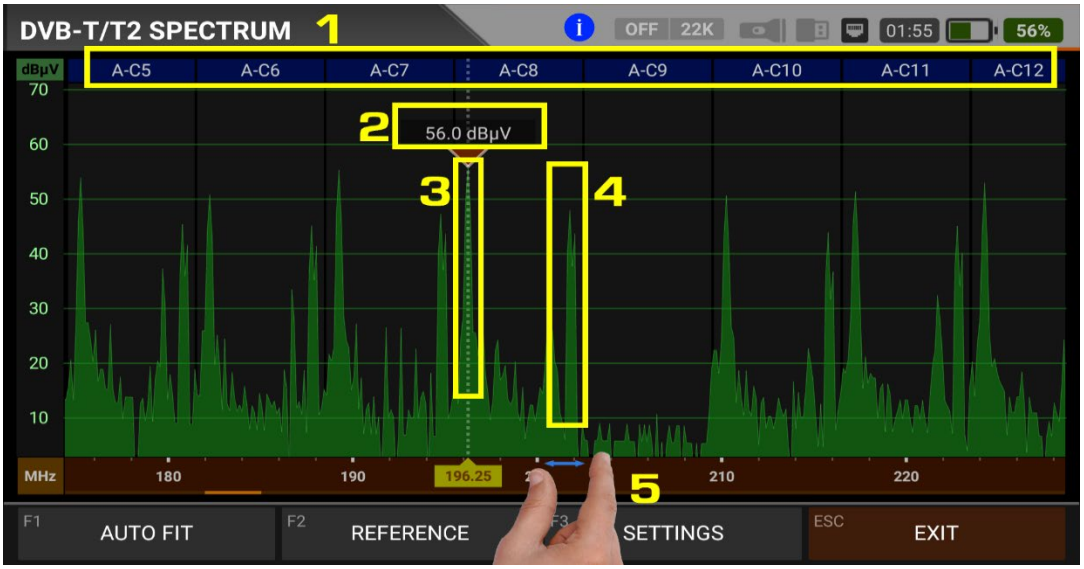
System Signal Characteristics				
	Channel Space (MHz)	**Video Mod. Type**	**Sound Mod. Type**	**Sideband Space (MHz)**
B (VHF)	7	AM	FM	0.75
D	8	AM	FM	0.75
G (UHF)	8	AM	FM	0.75
H	8	AM	FM	1.25
I	8	AM	FM	1.25
K	8	AM	FM	0.75
K1 (K')	8	AM	FM	1.25
L	8	AM	AM	1.25
M	6	AM	FM	0.75
N	6	AM	FM	0.75

Note: Blue-marked areas on the top of the spectrum screen show Analogue TV channel names and green-marked areas show DTV names.

DVB-T/T2 SPECTRUM ANALYSIS:



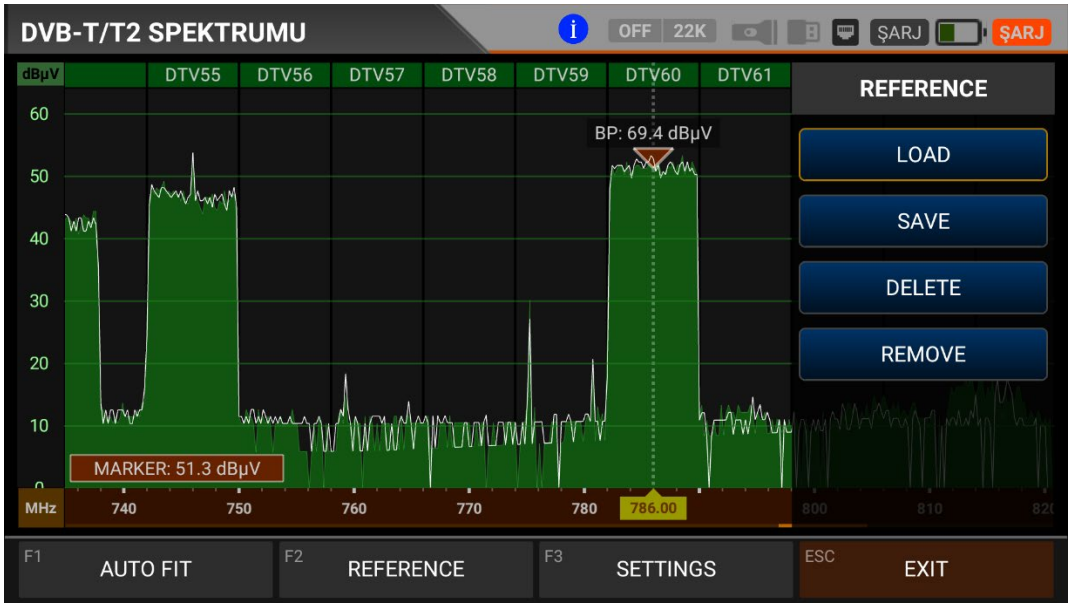
The device displays all ANALOGUE and DIGITAL carrier signals determined to be within the selected spectrum (frequency domain) when the DIGITAL SPECTRUM ANALYSIS measurement mode is switched.
You can see the names of the channels in the green boxes at the top. You can see the Band Peak Power on the marker, and you can also see the instantaneous power of the marker line on the bottom left.



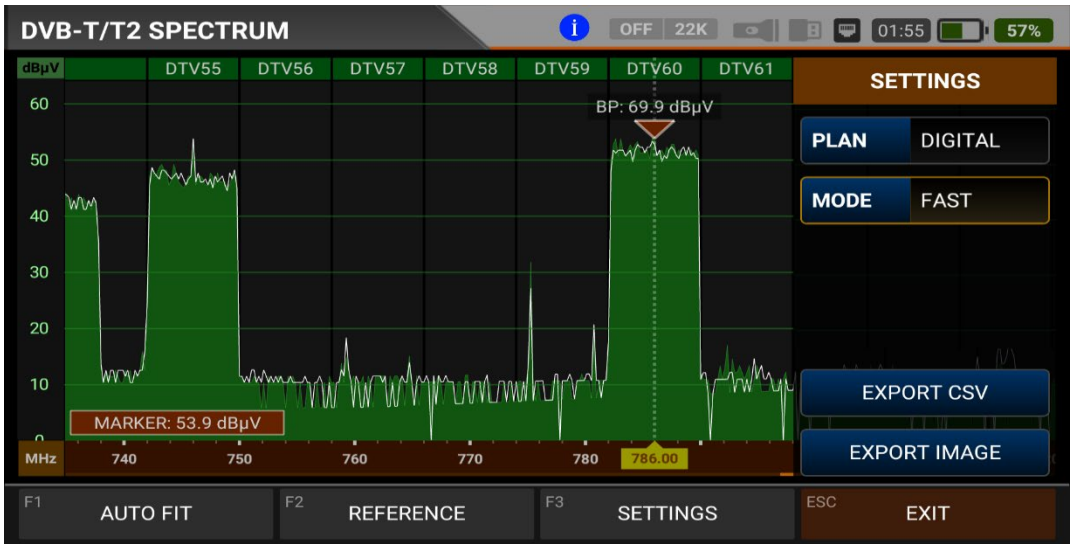
The device displays all ANALOGUE and DIGITAL carrier signals determined to be within the selected spectrum (frequency domain) when performing ANALOGUE SPECTRUM ANALYSIS measurement. You can see the following information on the screen according to the frequency plan we have previously selected.

1. Channel Names: You can see the channel names inside the blue boxes, and these boxes are the bandwidth of that channel.
2. The marker on the video carrier of the channel you want to measure shows the RF level.
3. It is the video carrier within the band.
4. It is the sound carrier in the band.
5. You can change the frequency range (span) by placing two fingers on the red field.

FIT: You can fit the Min/Max levels of the signals on the screen by touching this box so you can easily see the lowest and highest signals in the whole spectrum.



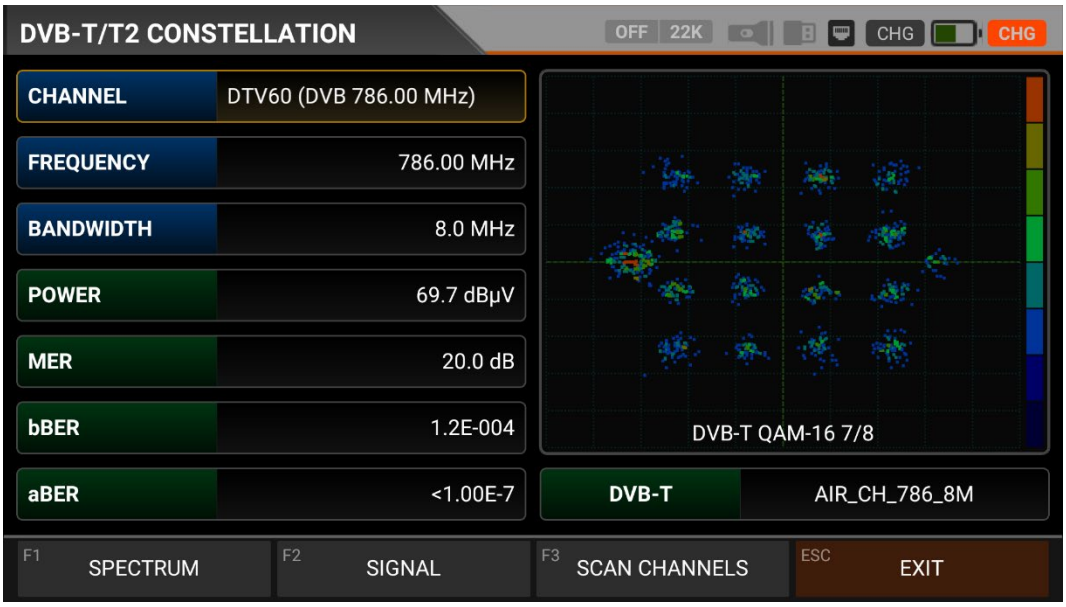
REFERENCE: You can SAVE the top points of the spectrum as a white line, and then you can RECALL them from memory and re-install them with the same settings.



SETTINGS: This menu allows you to change the Tp Frequency Plan shown with blue bars to OFF/DIGITAL/ANALOGUE/DIG+ANA. This allows you to restrict the transmitting system you want to appear on the screen. You can change the operating mode of the spectrum quickly and precisely.

You can export the spectrum display as a *.CSV file and as an IMAGE file to USB.

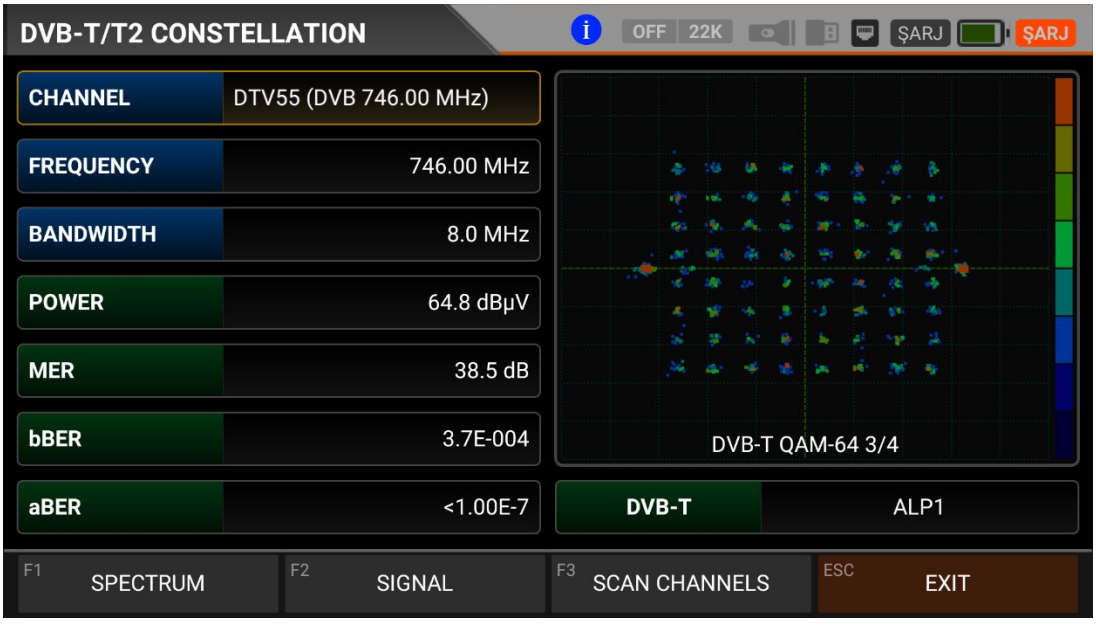
DVB-T/T2 CONSTELLATION DIAGRAM :



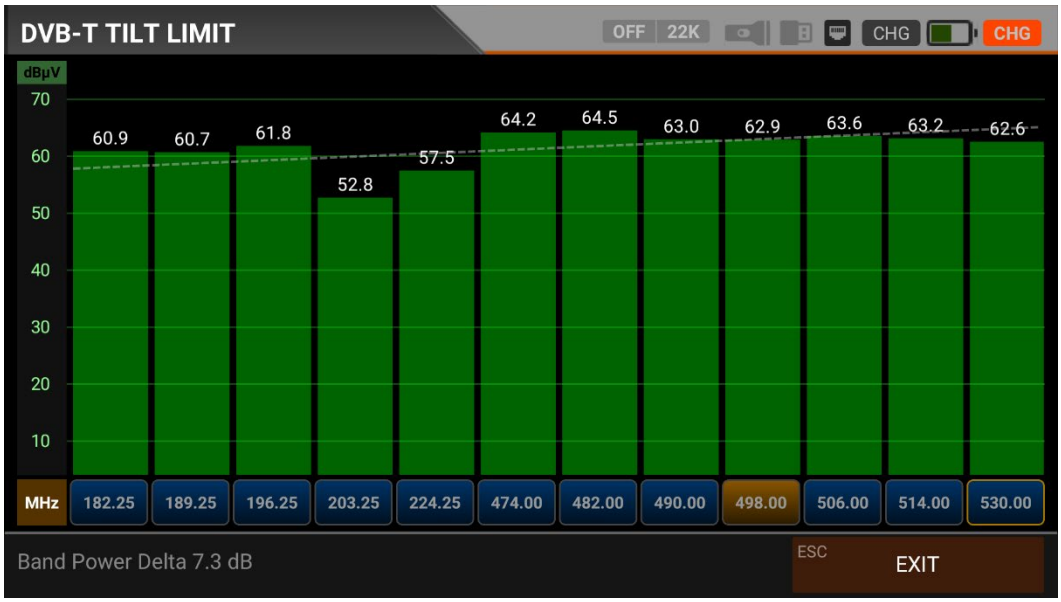
The constellation diagram shows in a graph the accuracy of the coordinates of the Digital I/Q symbols received at any given time. The colour scale, placed on the right side, provides a qualitative indication of the signal quality by grading the colours in proportion to the intensity of the dots concentrated in a particular area. The colour scale ranges from black (no symbol) to red (highest intensity).

A more extensive distribution of symbols indicates a higher noise level or worse signal quality. If there is a concentration of symbols relative to the full grid, the closer the collection of coordinate points is to each other and in a narrower area (see the advanced menu for grid types), this indicates a good signal-to-noise ratio or no problem.

These symbols are encoded with QPSK, 16-QAM or 64-QAM modulation techniques as in the pictures determined according to the modulation types. You can see both constellation and other signal parameters and make fast and reliable measurements on this screen.

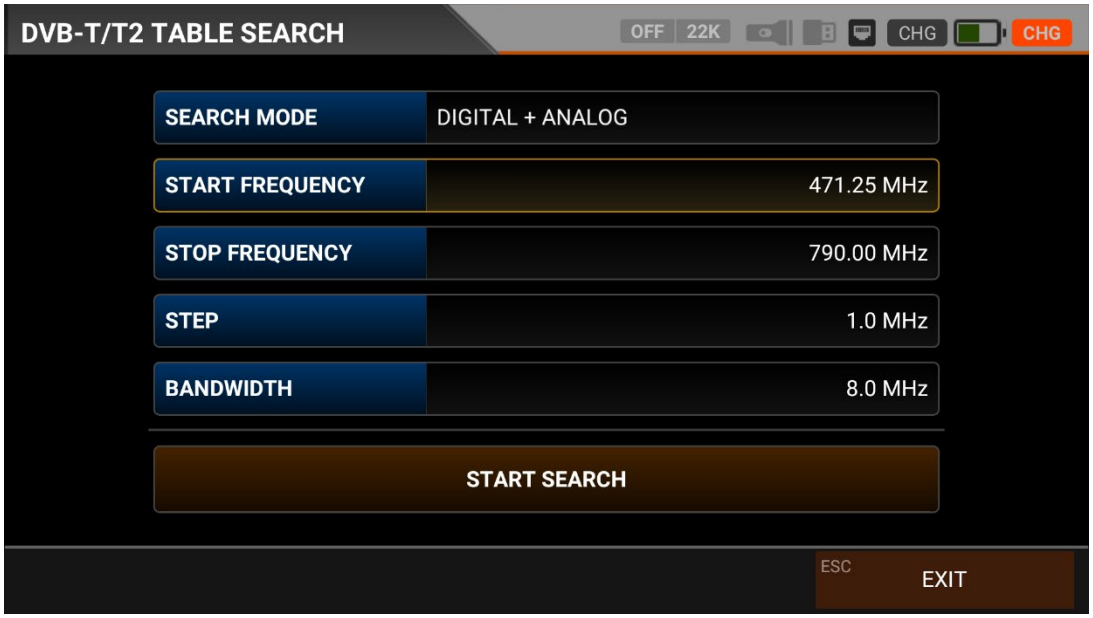


DVB-T/T2 TILT-LIMIT MEASUREMENT :

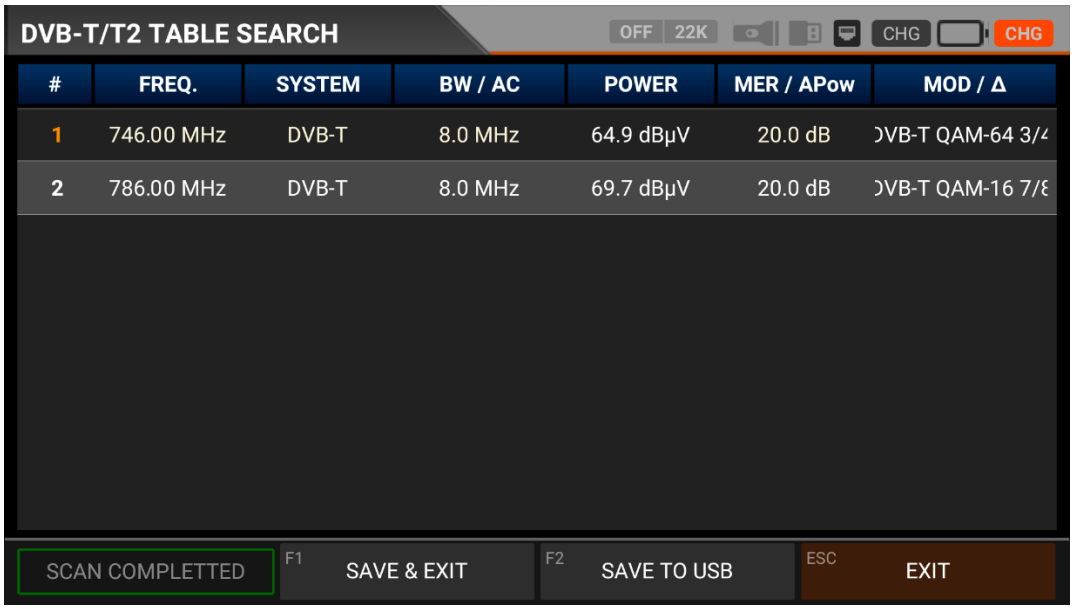


Tilt/Limit list testing is an effective solution to check the regularity of the cable system and further attenuation of the wave at high frequencies. AS07STCA can get the levels of 12 channels and easily observe the measurement result and graph. You can select the first six frequency starts of the group and the last six frequencies from the end of the group. You can then check the slope of the group and arrange the amplifiers and elements in the cable line according to this slope.

DVB-T/T2 TABLE MEASUREMENT:

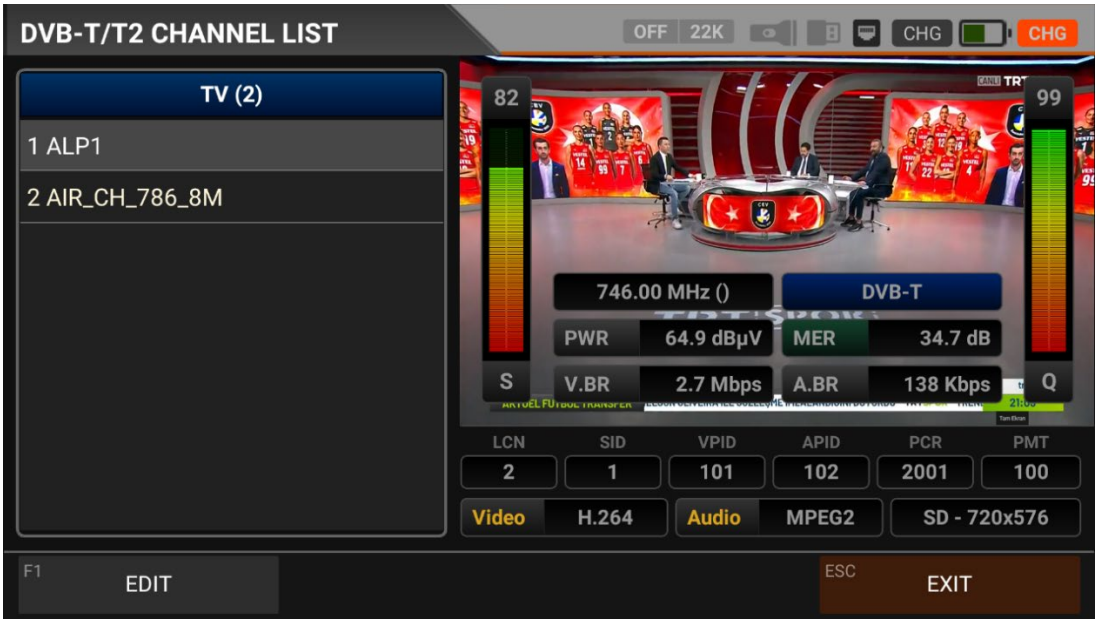


The AS07STC utilizes the channel scan function to quickly test the regularity and gain of the DVB-T/T2 system. You can select the start and end frequencies with the step range, and you can scan the signals in the whole band with one of the bandwidths 1.7-5-6-7-8mhz. You can check the signal values of all TPs using the TABLE MEASUREMENT menu when you have completed the system setup or when you go to service the subscriber. Terrestrial TV antennas may have active amplifiers; in this case, you may need to select 5V,12V, or 20V supply voltage.

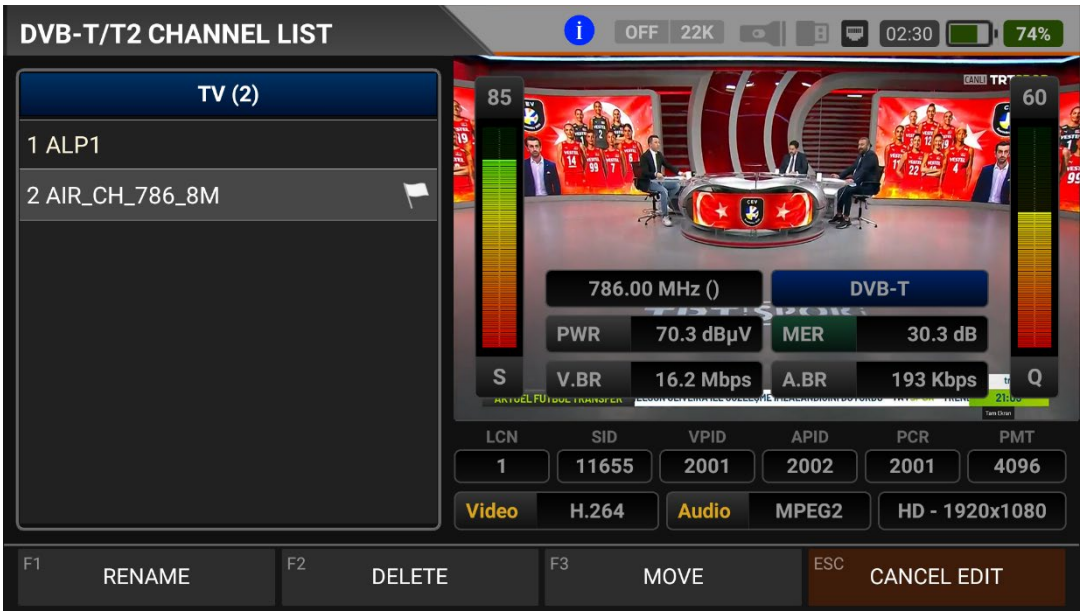


You can see which channel has a problem and compare frequencies. You will see the tables in the pictures after scanning all frequencies. You can save the entire table to USB with the "SAVE TO USB" button and save the measurement to the frequency plan used after all operations are finished.

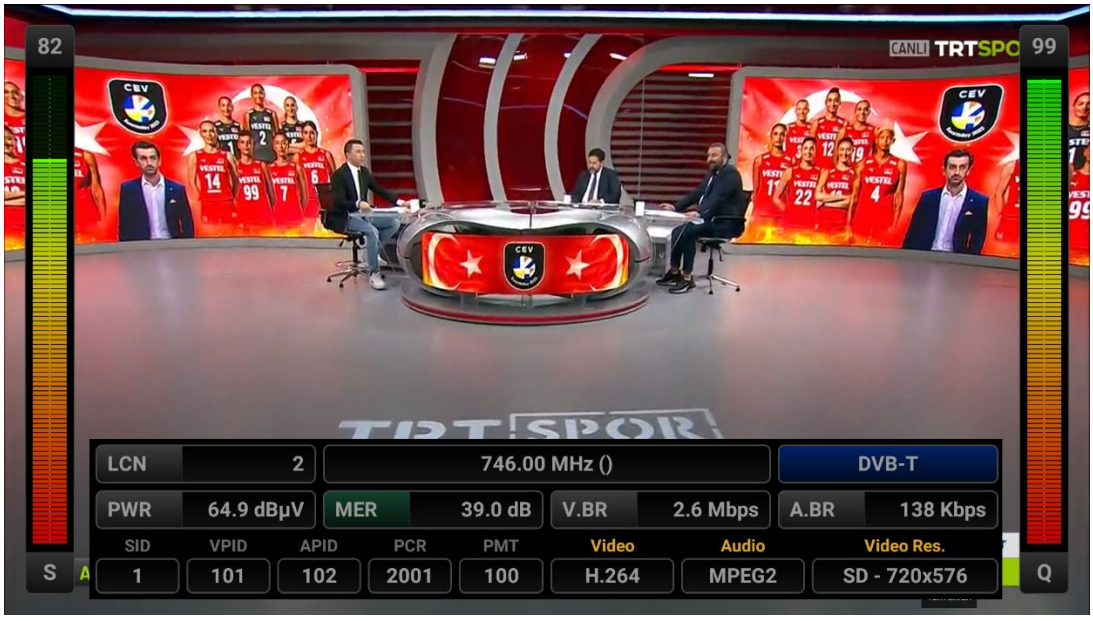
DVB-T/T2 CHANNEL LIST :



You can bring it to the screen by touching the CHANNEL LIST from the DVB-T/T2 MENU. You can select, delete, and relocate individual TV and Radio channels in the Channel List menu. You can select channels from the left side. You can see the list of radio channels on the screen with the TV / RADIO button.



You can touch on the EDIT box and then perform the CHANGE NAME / DELETE CHANNEL and MOVE CHANNEL process. You can enter the number of the new position to move the channels to when you touch on a Channel or touch all the channels you want to move in BULK and press the MOVE box. Single channel and batch channels will be transferred to the new position, respectively.

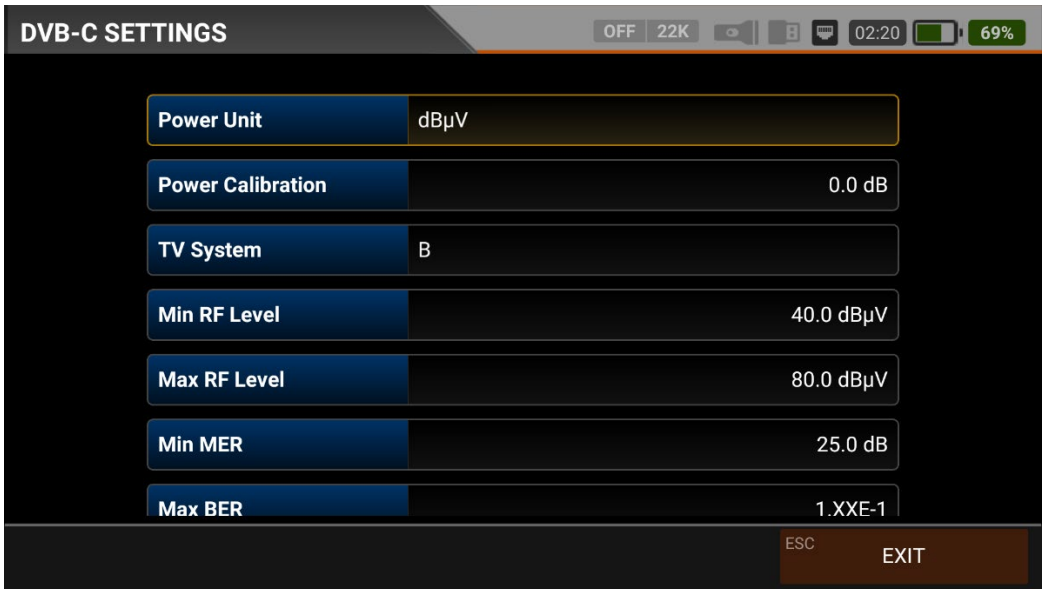


You can enlarge the image by touching it and pressing the LEVEL button to see both the image and the Signal levels, AV bitrate rates and PID values on the same screen.

INSTRUCTIONS FOR USE ON DVB-C/ANALOGUE CABLE TV MEASUREMENT:

Enter the DVB-C menu on your AS07STCA-4K using the touchscreen or the direction and OK buttons on the silicone keypad.

DVB-C SETTINGS:



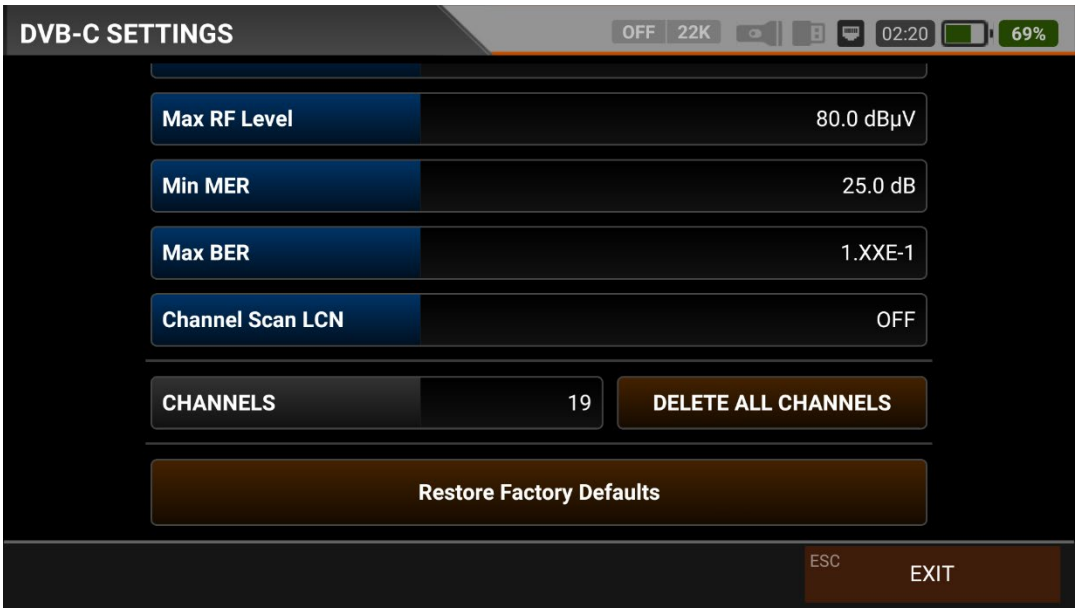
Power Unit: You can see the signal levels on the display in dBuV/dBm/dBmV units.

Power Calibration: The margin of error of the measurement levels may increase depending on ambient temperatures and time of use. You can, therefore, calibrate the levels closer to the correct level by changing this value to plus + or minus -.

Min RF Level: If this is less than the RF level value when measuring the signal, the correct installation is not confirmed.

Max RF Level: If the RF signal level you set is higher than this value, it may damage the system or prevent correct distribution.

Min MER: When the MER value drops below this level, the device will not confirm that the installation was done correctly.



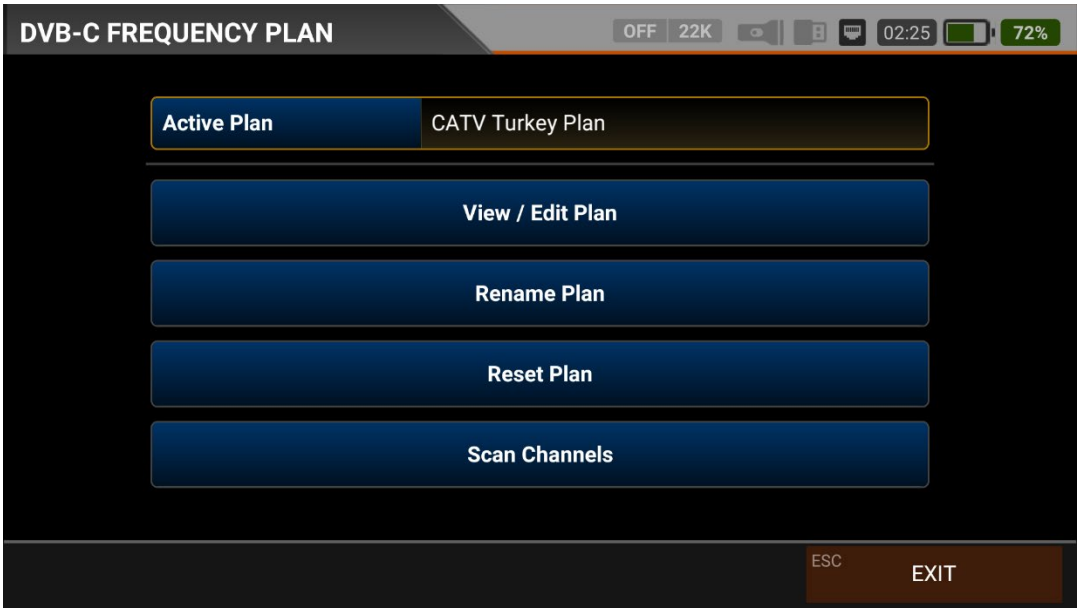
Max BER: You can choose how much the Bit Error Rate data rate can be.

LCN Scanning: The device sorts the Channel assignment on the scanned platform frequencies according to the LCN (logic channel number) value.

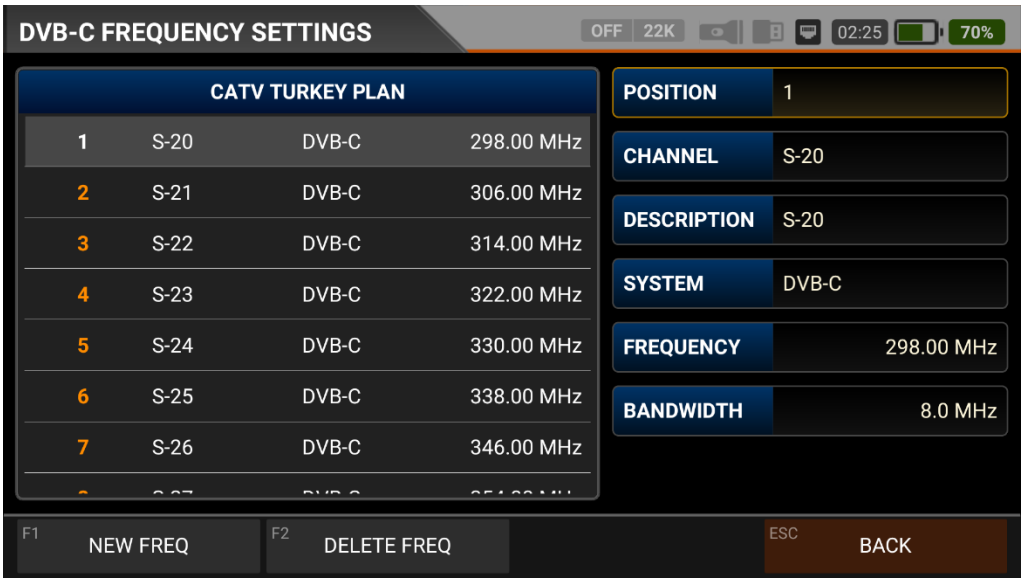
DELETE ALL CHANNELS: It deletes all channels in the DVB-C menu.

Factory Reset: It restores all database information in the DVB-C menu to factory settings.

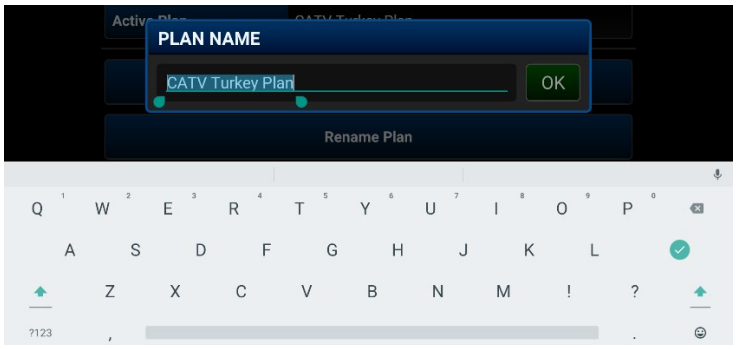
DVB-C FREQUENCY PLAN:



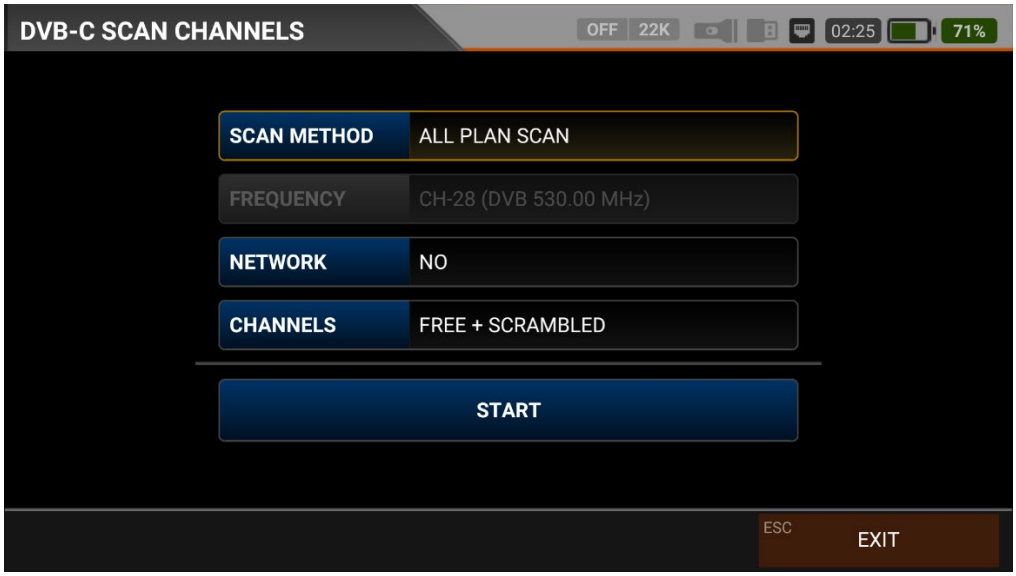
Your device can store dozens of Frequency Plans for each system in its memory to be used in your own installations or operator deployments.



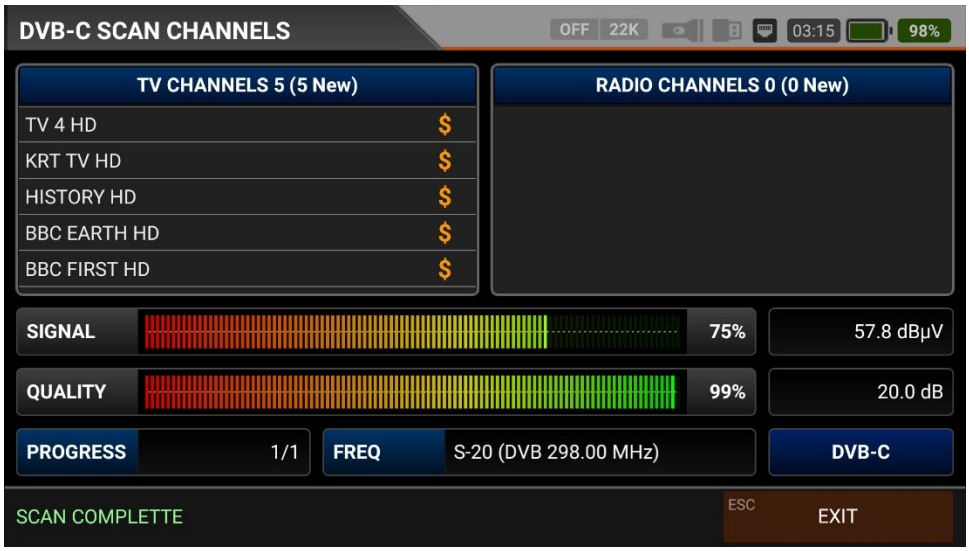
You can manually change these frequency plans on the device or via a PC program. You can access all parameters such as Frequency, BW, TV, and system for each frequency.



You can assign names and change parameters for your frequency plans. You can create your own plan.



You can then start the scan channel process by touching the START box. In the scan channel screen, you can see which frequencies you scan and the signal values. It will show the newly found channels in white colour on the screen.



Scan Channels: You can search for TV Channels suitable for your frequency plan in the DVB-C band. You can then monitor and measure these channels.

SCAN MODE: You can scan in 2 modes as SINGLE FREQUENCY / ALL PLAN.

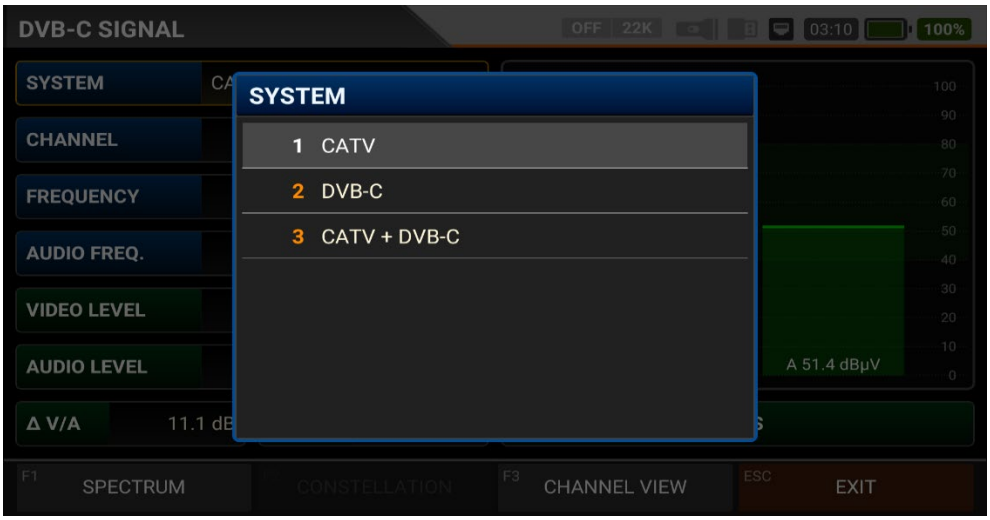
FREQUENCY: You can select which frequency to scan when scanning Single Frequency.

SCAN NETWORK: The NIT scan network for operators allows you to scan all frequencies.

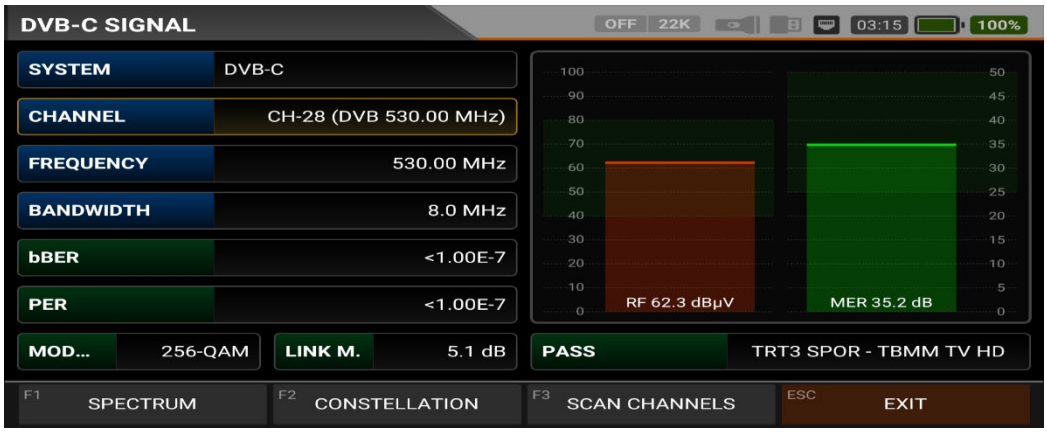
CHANNELS: You can scan and memorize channels in 3 modes: UNENCODED / ENCRYPTED / ENCRYPTED + ENCRYPTED.

DVB-C SIGNAL MEASUREMENT:

Your AS07STCA-4K is capable of measuring DVB-C analogue and digital signals. It can also show SD-HD-FHD-4K TV channels.



First, an Analogue CATV / Digital DVB-C or ATV+DVB-C system must be selected when entering the signal measurement menu. You can select the frequency you want to measure the Digital Cable TV signal or look at the signal levels and see the signal values on the screen. You can quickly switch to other measurement menus related to the frequency you have measured from the SPECTRUM, CONSTELLATION and CHANNEL SEARCH boxes at the bottom. Detailed information on Spectrum Analysis and Constellation properties will be given on the following pages.



SYSTEM: It can be selected as ANALOGUE TV / DVB-C separately or ATV+DTV together in the frequency plan. This will display the frequencies of this system on the screen. It will make your installations faster.

CHANNEL: You can select the channel you want to measure in the frequency plan by touching the box.

FREQUENCY: You can see the frequency you measure. You can change it with the EDIT button.

BANDWIDTH: You can select 6.0/7.0/8.0Mhz for DVB-C.

MODE: Once the signal is locked, you can see in which mode the DVB-C system is transmitting.

bBER / PER: BER should be at the lowest level, which indicates the number of errors before or after correction.

LINK Margin: It can be used to know when the Total power of the frequency crosses the saturation threshold. A signal needs a safety margin that exceeds the threshold for good reception; the Link margin must be greater than zero (0).

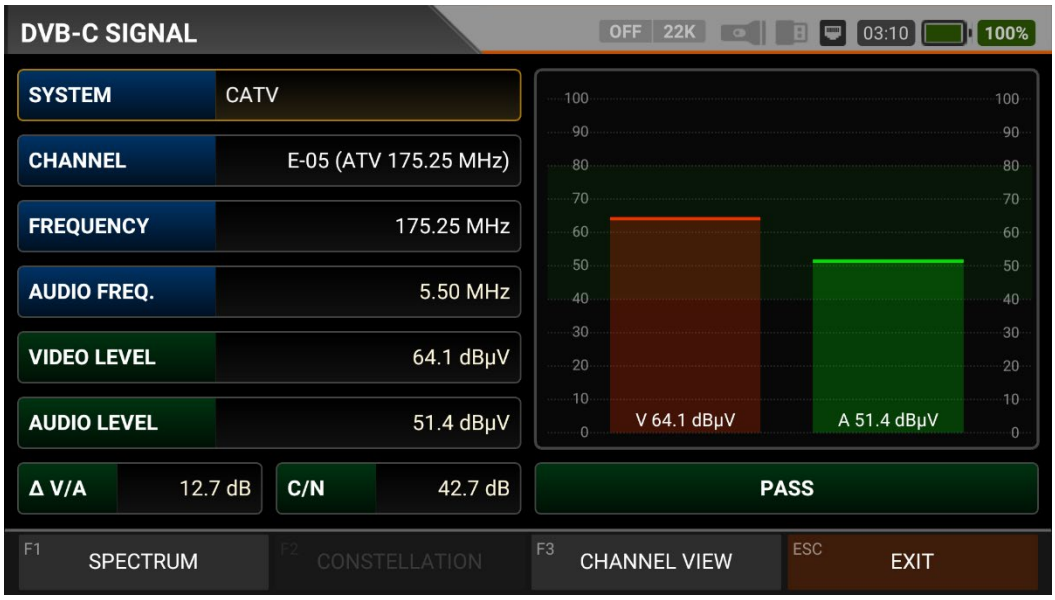
RF: You can see the RF level with the red bar.

MER: You can see the MER rate with the green coloured bar.

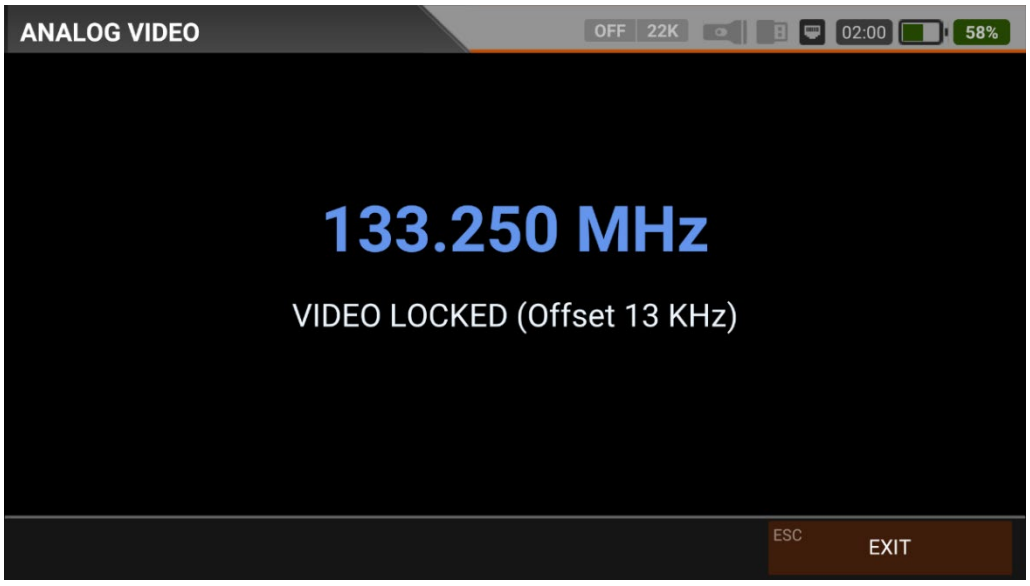
Enter the parameters of the frequency you want to measure; the coloured bold bars on the right side of the screen visually show the signal levels. Signal level values are indicated by numbers below the bars. You can see if the bars are within the Max and Min values you select from the settings menu by looking at the green area. You can also see the frequency parameters and signal values, such as MODULATION, BER, and MER, on the left side of the screen. A NOT LOCKED warning will appear in case the signal values are insufficient, and a LOCKED warning will appear in case the signal values are appropriate in the box in the lower right corner. If the signal levels are appropriate, the Channel names will appear in the LOWER LEFT bar. You can see the channel names at the frequency you have measured by touching this box.

SEARCH CHANNEL and SAVE TO CHANNEL LIST: Press the "SEARCH CHANNEL " box in the lower right section on a frequency where you are sure that the signal levels are suitable. You can browse using the UNENCRYPTED, ENCRYPTED or both options on the SEARCH CHANNEL screen. The channels you have scanned are found, and then the information screen appears on the screen, and the channels are saved to the list. (You can access Radio channels by pressing TV/RADIO button).

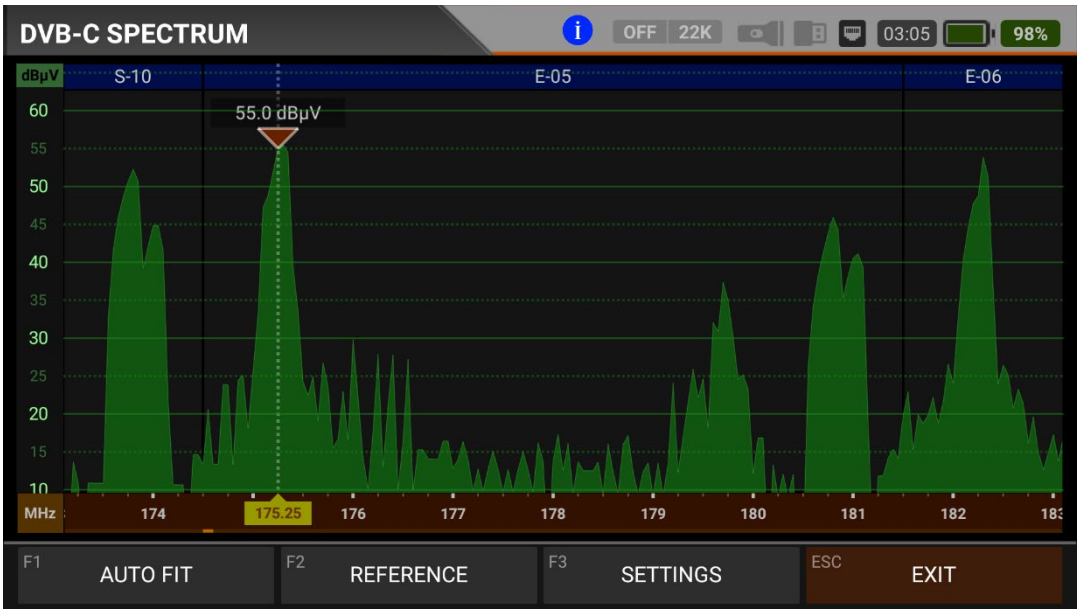
ANALOGUE CABLE TV SIGNAL MEASUREMENT:



Let's select CATV ANALOGUE from the system. You can select the parameters of the frequency you want to measure on this screen. Then, you can see the difference between respectively the Channel Name, Video Frequency, Audio Frequency, Video Power, Audio Power, and ΔVIDEO/AUDIO in dB. You can visually speed up your measurement with signal strength bars changing according to the level in red for Video Frequency power and in green for audio frequency power on the right side of the screen. You can see if the Video Level Power bar and Audio Level Power bar are within the Max and Min values you select from the settings menu by looking at the green area. An ERROR warning will appear in case the signal values are insufficient, and a CONFIRMED sign will appear in case the signal values are appropriate in the box in the lower right corner.



You can see the Analogue TV channels after locking to the frequency by touching the SHOW CHANNEL box at the bottom right. While watching Analogue TV channels, no menu function works; you can only exit Analogue TV with the ESC button.



You can see the spectrum of a VHF terrestrial analogue cable TV channel on the screen above. You can access the Video-Audio-Colour spectrum detail of the channel you have measured by touching the Spectrum Box on the signal measurement screen.

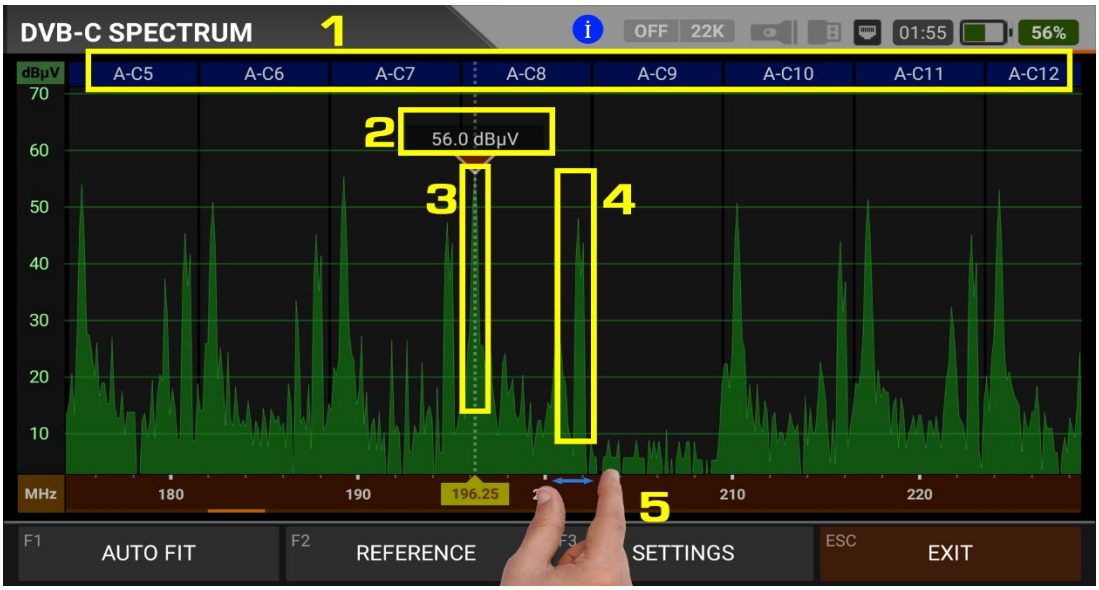
Table About Analogue TV Systems:

System Signal Characteristics				
	Channel Space (MHz)	**Video Mod. Type**	**Sound Mod. Type**	**Sideband Space (MHz)**
B (VHF)	7	AM	FM	0.75
D	8	AM	FM	0.75
G (UHF)	8	AM	FM	0.75
H	8	AM	FM	1.25
I	8	AM	FM	1.25
K	8	AM	FM	0.75
K1 (K')	8	AM	FM	1.25
L	8	AM	AM	1.25
M	6	AM	FM	0.75
N	6	AM	FM	0.75

Note: Blue-marked areas on the top of the spectrum screen show Analogue TV channel names and green-marked areas show DTV names.

CABLE TV SPECTRUM ANALYSIS:

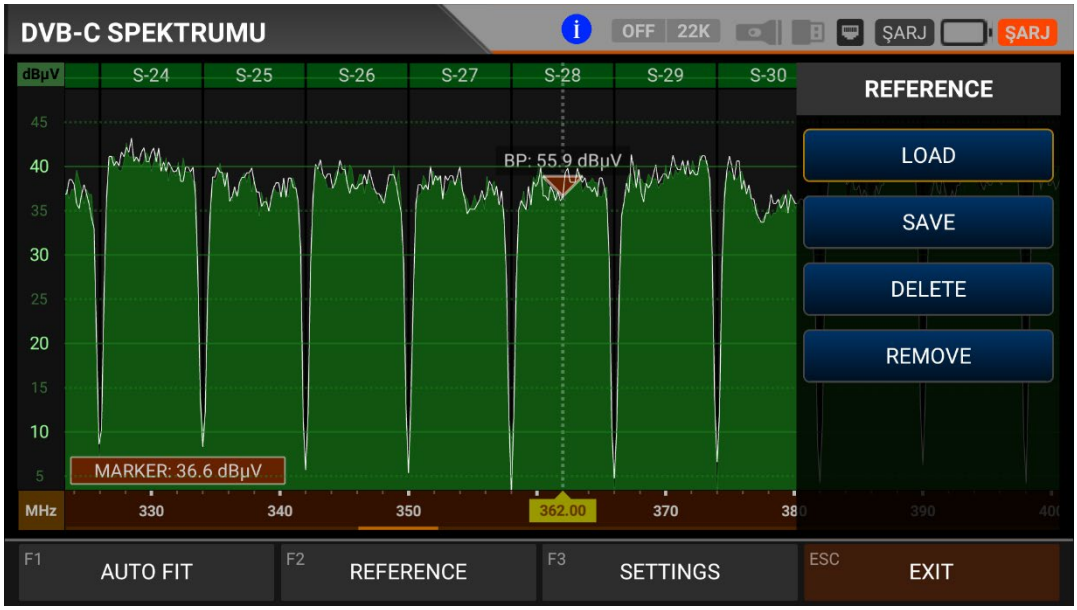
The device displays all ANALOGUE and DIGITAL carrier signals determined to be within the selected spectrum (frequency domain) when the DIGITAL SPECTRUM ANALYSIS measurement mode is switched.
You can see the names of the channels in the green boxes at the top. You can see the Band Peak Power on the marker, and you can also see the instantaneous power of the marker line on the bottom left.



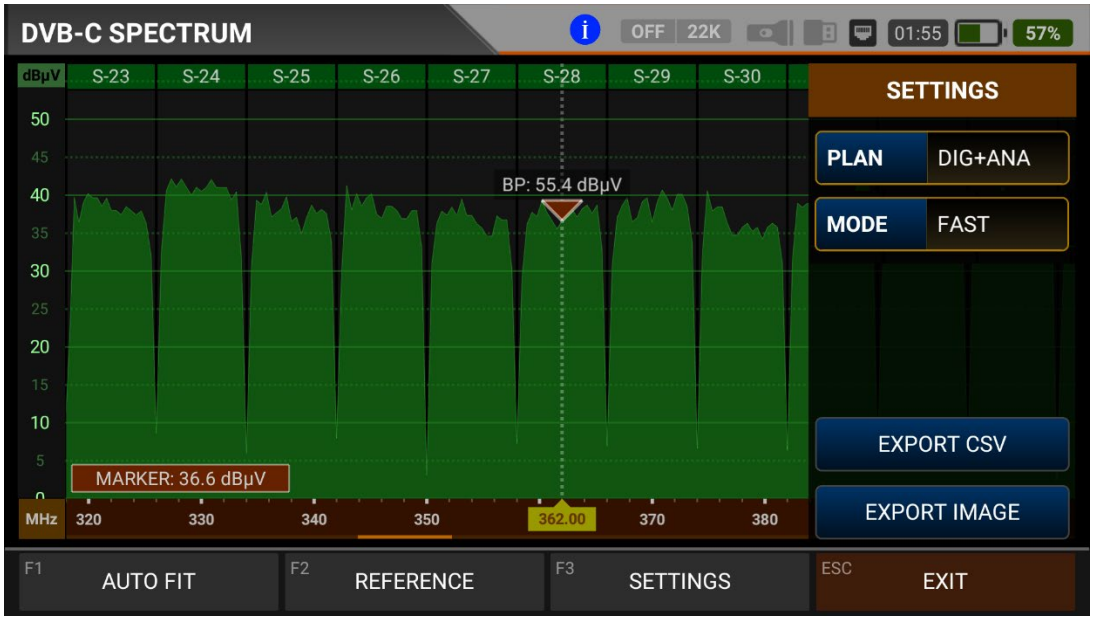
The device displays all ANALOGUE and DIGITAL carrier signals determined to be within the selected spectrum (frequency domain) when performing ANALOGUE SPECTRUM ANALYSIS measurement. You can see the following information on the screen according to the frequency plan we have previously selected.

1. Channel Names: You can see the channel names inside the blue boxes, and these boxes are the bandwidth of that channel.
2. The marker on the video carrier of the channel you want to measure shows the RF level.
3. It is the video carrier within the band.
4. It is the sound carrier in the band.
5. You can change the frequency range (span) by placing two fingers on the red field.

FIT: You can fit the Min/Max levels of the signals on the screen by touching this box so you can easily see the lowest and highest signals in the whole spectrum.



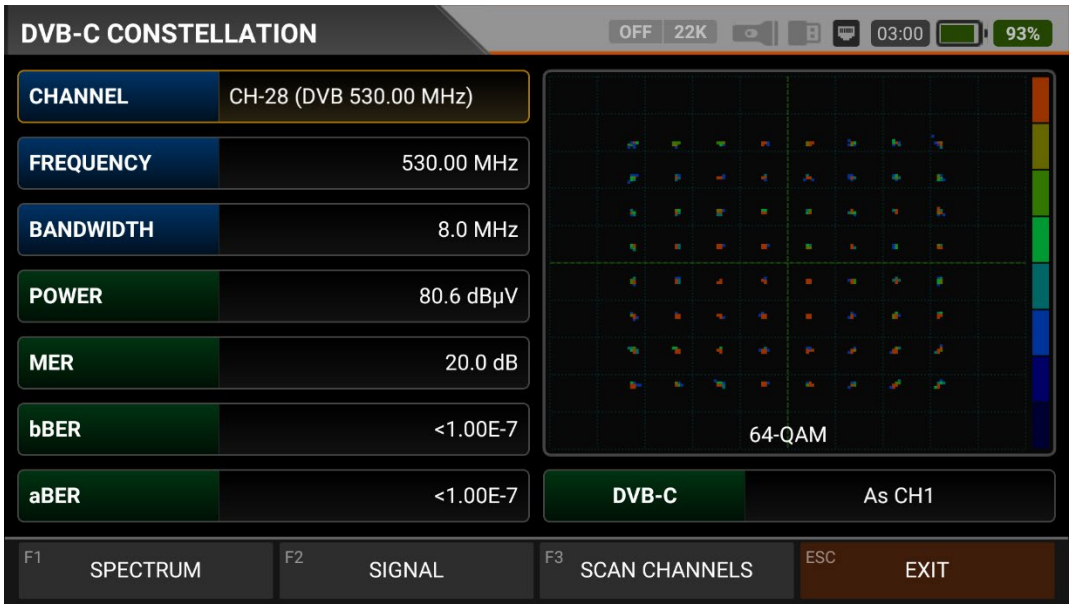
REFERENCE: You can SAVE the top points of the spectrum as a white line, and then you can RECALL them from memory and re-install them with the same settings.



SETTINGS: This menu allows you to change the Tp Frequency Plan shown with blue bars to OFF/DIGITAL/ANALOGUE/DIG+ANA. This allows you to restrict the transmitting system you want to appear on the screen. You can change the operating mode of the spectrum quickly and precisely.

You can export the spectrum display as a *.CSV file and as an IMAGE file to USB.

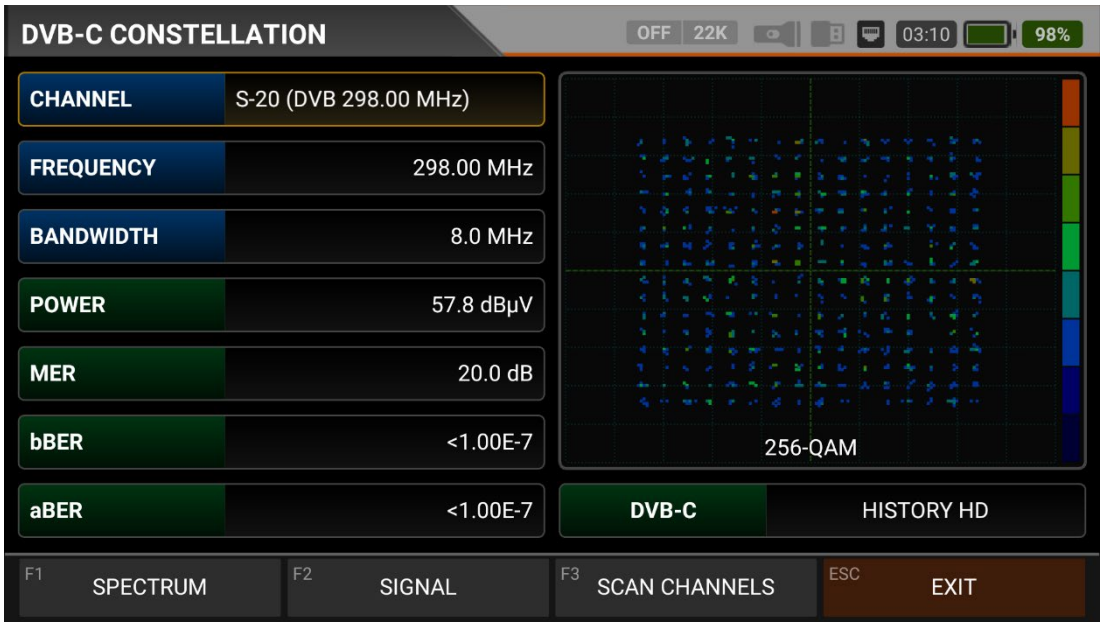
DVB-C CONSTELLATION DIAGRAM:



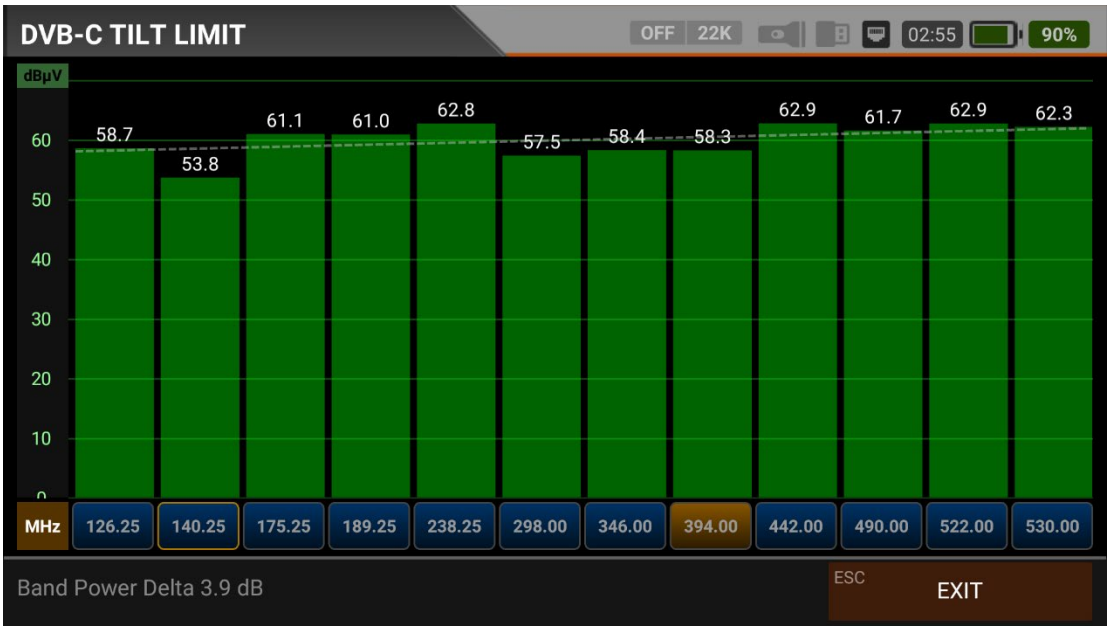
The constellation diagram shows in a graph the accuracy of the coordinates of the Digital I/Q symbols received at any given time. The colour scale, placed on the right side, provides a qualitative indication of the signal quality by grading the colours in proportion to the intensity of the dots concentrated in a particular area. The colour scale ranges from black (no symbol) to red (highest intensity).

A more extensive distribution of symbols indicates a higher noise level or worse signal quality. If there is a concentration of symbols relative to the full grid, the closer the collection of coordinate points is to each other and in a narrower area (see the advanced menu for grid types), this indicates a good signal-to-noise ratio or no problem.

These symbols are encoded with 64QAM, 128QAM and 256QAM modulation techniques as in the pictures determined according to the modulation types. You can see both constellation and other signal parameters and make fast and reliable measurements on this screen.

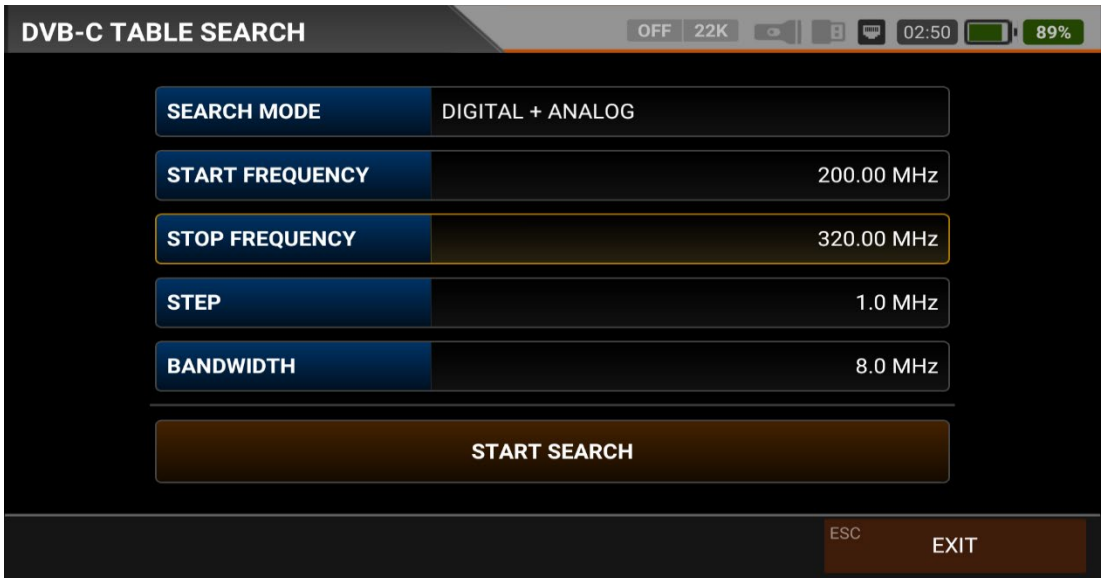


DVB-C TILT-LIMIT MEASUREMENT:

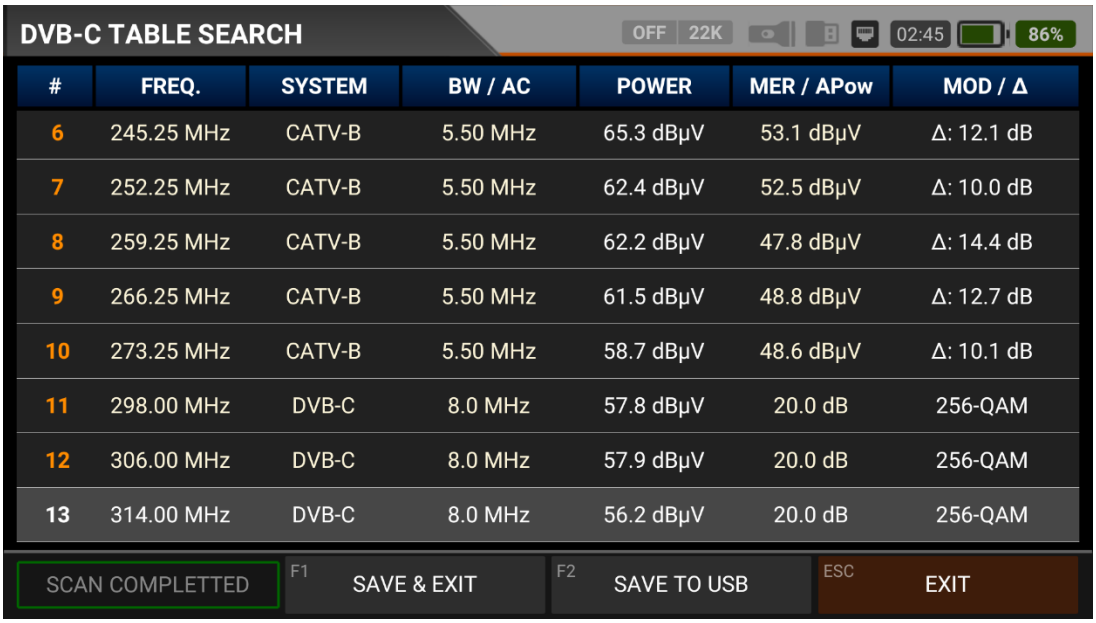


Tilt/Limit list testing is an effective solution to check the regularity of the cable system and further attenuation of the wave at high frequencies. AS07STCA can get the levels of 12 channels and easily observe the measurement result and graph. You can select the first six frequency starts of the group and the last six frequencies from the end of the group. You can then check the slope of the group and arrange the amplifiers and elements in the cable line according to this slope.

DVB-C TABLE MEASUREMENT:

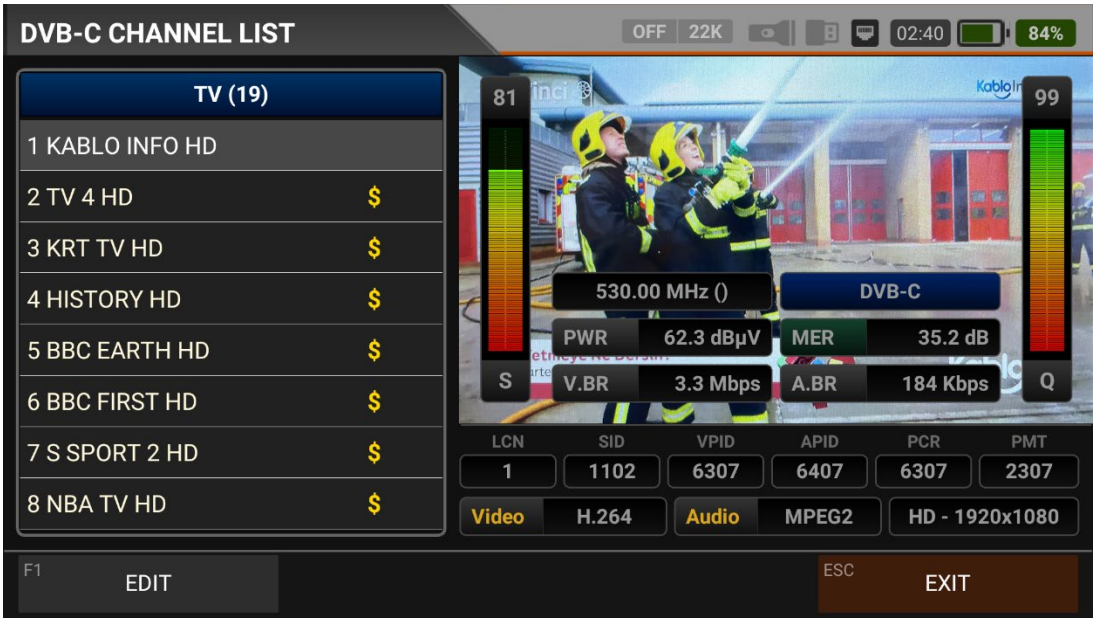


The AS07STC utilizes the channel scan function to quickly test the regularity and gain of the Cable TV system. You can select Analogue or Digital system selection, Step range and start and end frequencies, and you can scan signals in the whole band with one of the 6-7-8mhz bandwidths. You can check the signal values of all TPs using the TABLE MEASUREMENT menu when you have completed the system setup or when you go to service the subscriber.

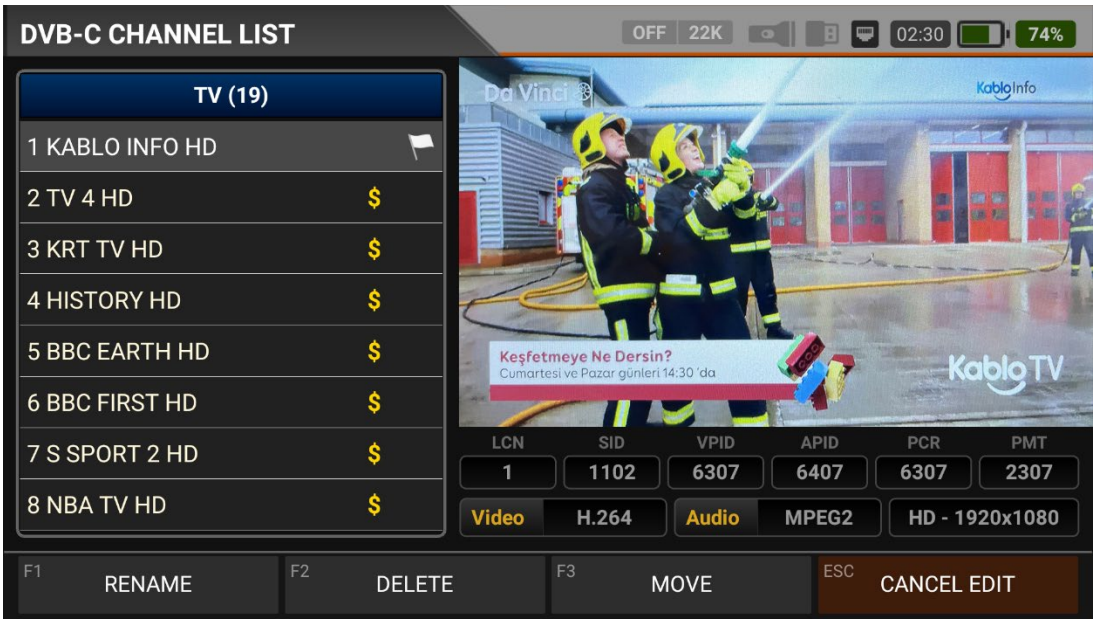


You can see which channel, analogue or digital, has the problem and compare the frequencies with each other. You will see the tables in the pictures after scanning all frequencies. You can save the entire table to USB with the "SAVE TO USB" button and save the measurement to the frequency plan used after all operations are finished.

DVB-C CHANNEL LIST:



You can bring it to the screen by touching the CHANNEL LIST from the DVB-C MENU. You can select, delete, and relocate individual TV and Radio channels in the Channel List menu. You can select channels from the left side. You can see the list of radio channels on the screen with the TV / RADIO button.



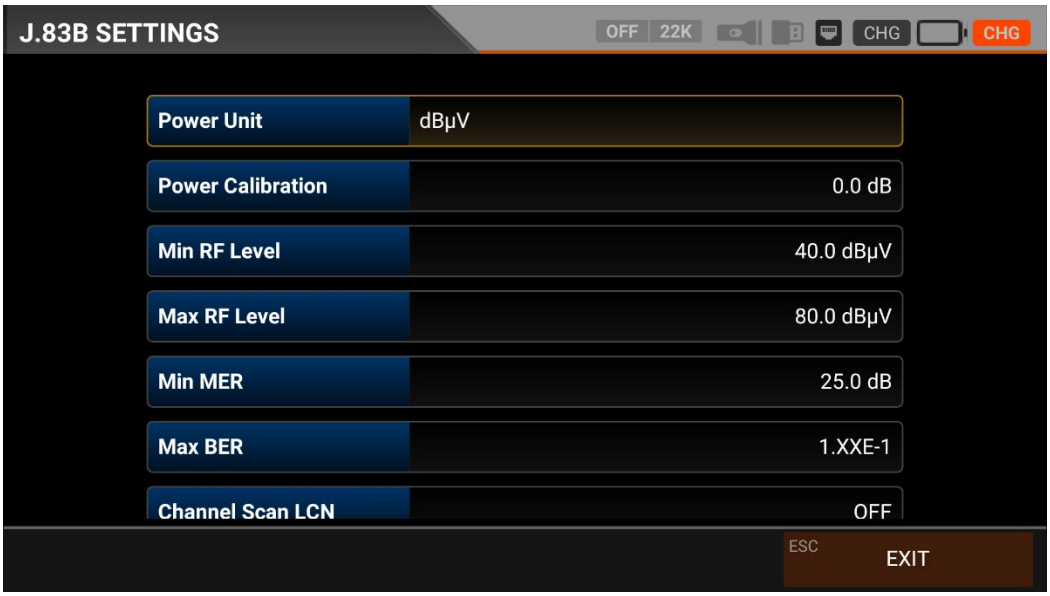
You can touch on the EDIT box and then perform the CHANGE NAME / DELETE CHANNEL and MOVE CHANNEL process. You can enter the number of the new position to move the channels to when you touch on a Channel or touch all the channels you want to move in BULK and press the MOVE box. Single channel and batch channels will be transferred to the new position, respectively.

You can enlarge the image by touching it and pressing the LEVEL button to see both image and signal levels, AV bitrate rates and PID values on the same screen.

J.83B INSTRUCTION FOR USE ON MEASUREMENT:

Enter the J.83B (ANNEX.B) menu on your AS07STCA-4K using the touchscreen or the direction and OK buttons on the silicone keypad.

J.83B (ANNEX.B) SETTINGS:



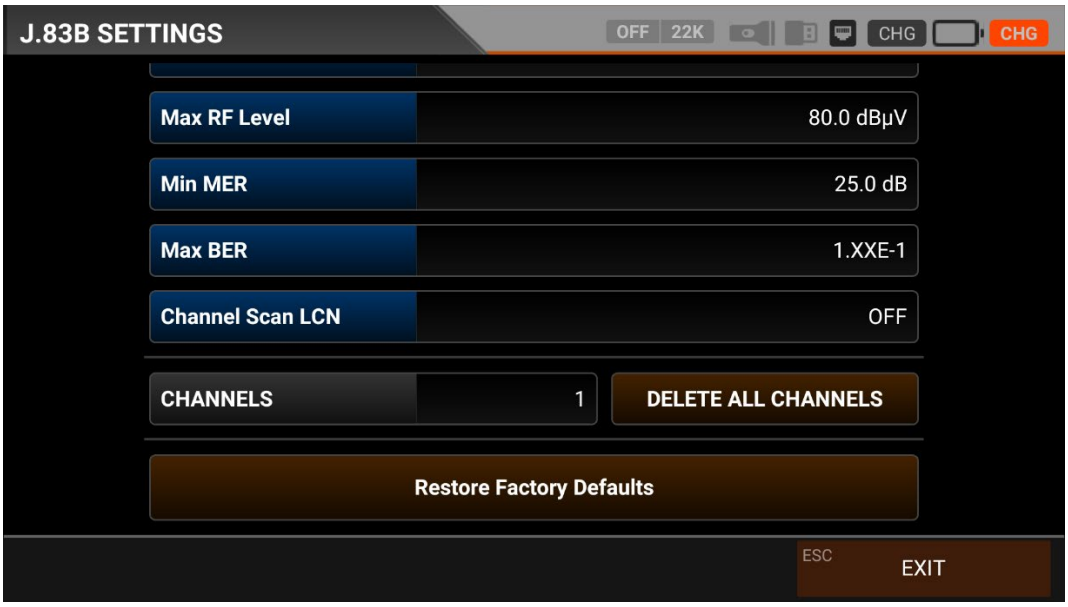
Power Unit: You can see the signal levels on the display in dBuV/dBm/dBmV units.

Power Calibration: The margin of error of the measurement levels may increase depending on ambient temperatures and time of use. You can, therefore, calibrate the levels closer to the correct level by changing this value to plus + or minus -.

Min RF Level: If this is less than the RF level value when measuring the signal, the correct installation is not confirmed.

Max RF Level: If the RF signal level you set is higher than this value, it may damage the system or prevent correct distribution.

Min MER: When the MER value drops below this level, the device will not confirm that the installation was done correctly.



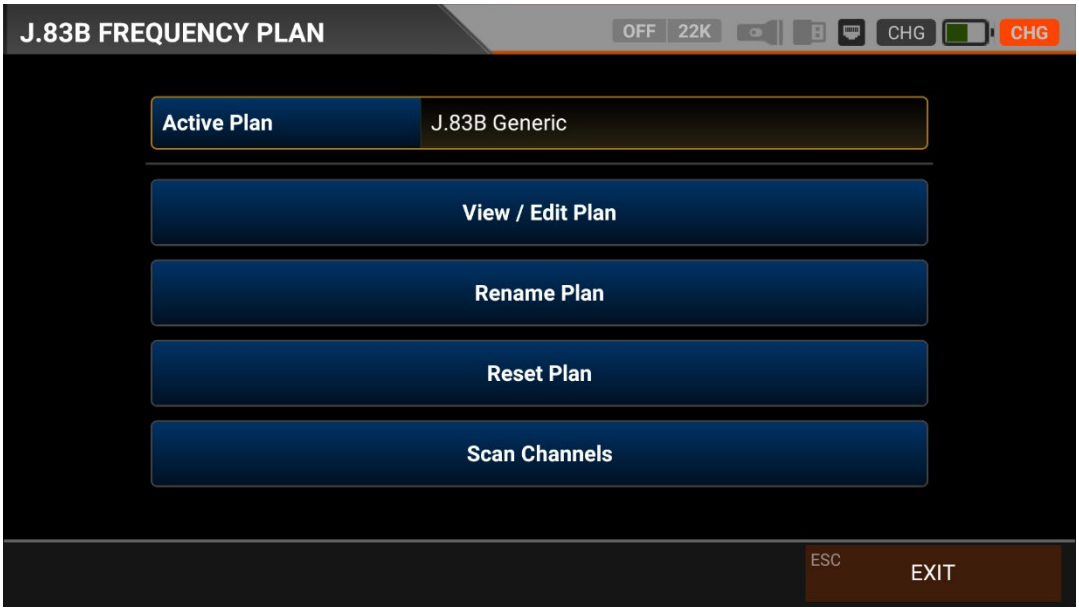
Max BER: You can choose how much the Bit Error Rate data rate can be.

LCN Scanning: The device sorts the Channel assignment on the scanned platform frequencies according to the LCN (logic channel number) value.

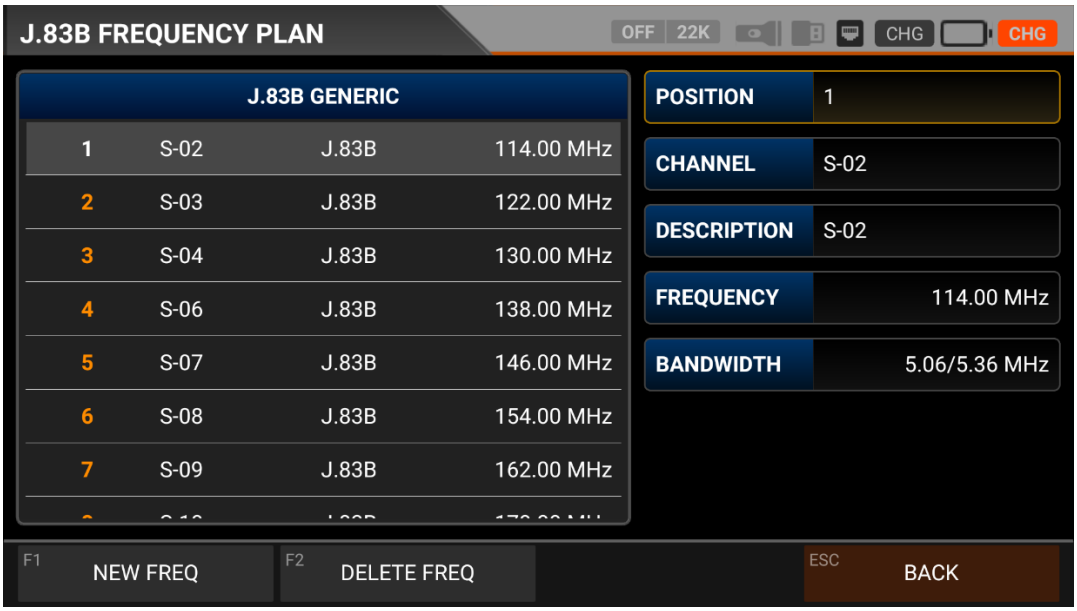
DELETE ALL CHANNELS: It deletes all channels in the J.83B menu.

Factory Reset: It restores all database information in the J.83B menu to factory settings.

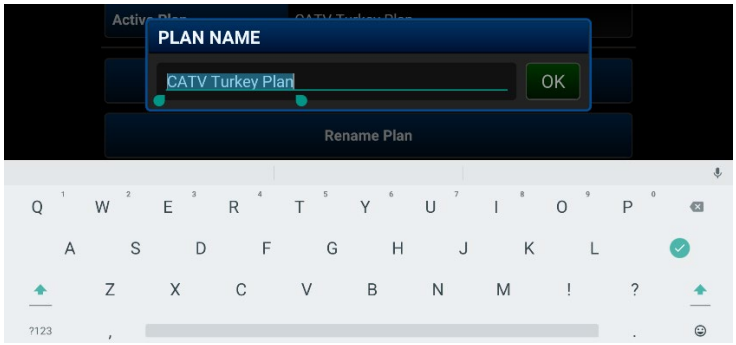
J.83B (ANNEX.B) FREQUENCY PLAN:



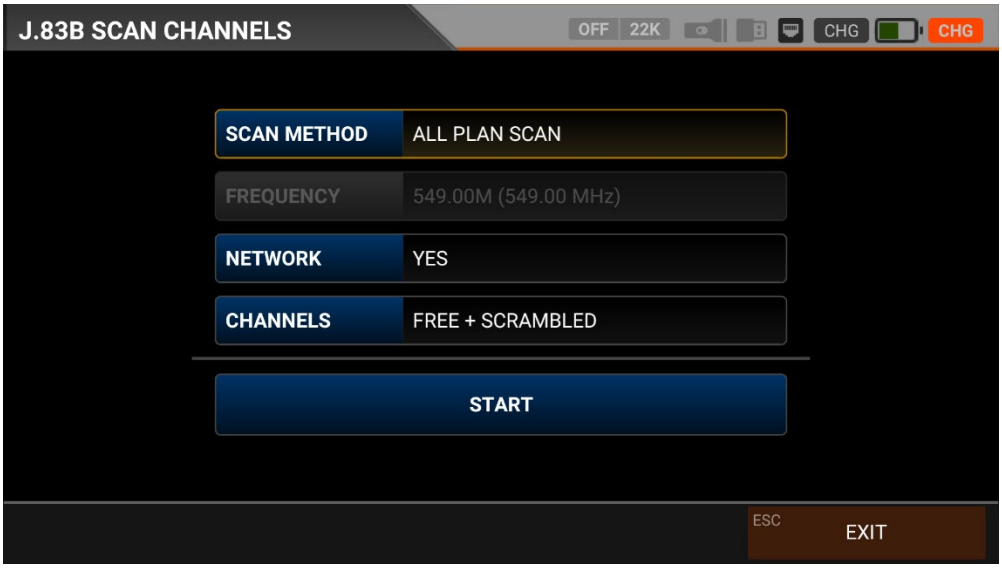
Your device can store dozens of Frequency Plans for each system in its memory to be used in your own installations or operator deployments.



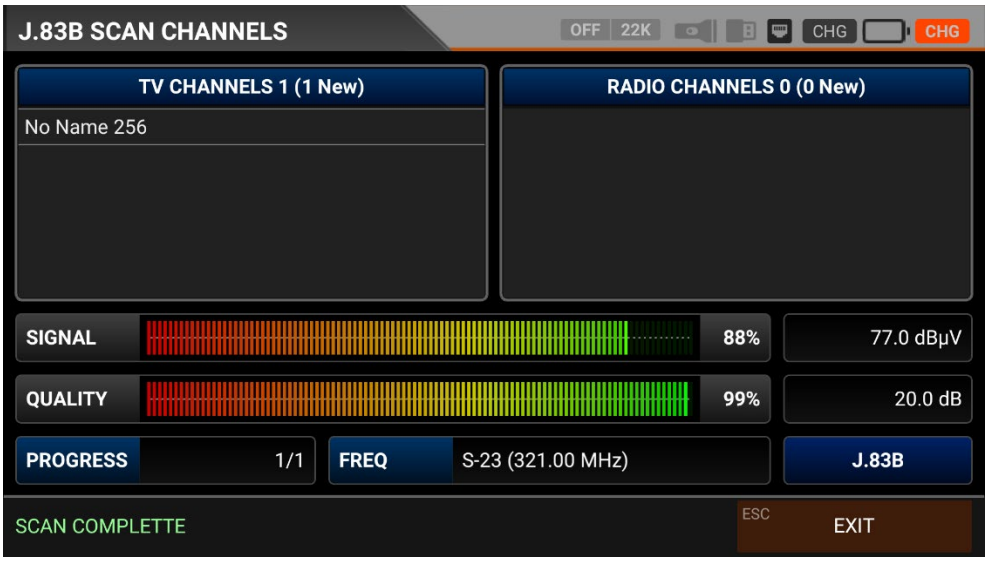
You can manually change these frequency plans on the device or via a PC program. You can access all parameters such as Frequency, BW, and TV system for each frequency.



You can assign names and change parameters for your frequency plans. You can create your own plan.



You can then start the scan channel process by touching the START box. In the scan channel screen, you can see which frequencies you scan and the signal values. It will show the newly found channels in white colour on the screen.



Scan Channels: You can search for TV Channels suitable for your frequency plan in the J.83B band. You can then monitor and measure these channels.

SCAN MODE: You can scan in 2 modes as SINGLE FREQUENCY / ALL PLAN.

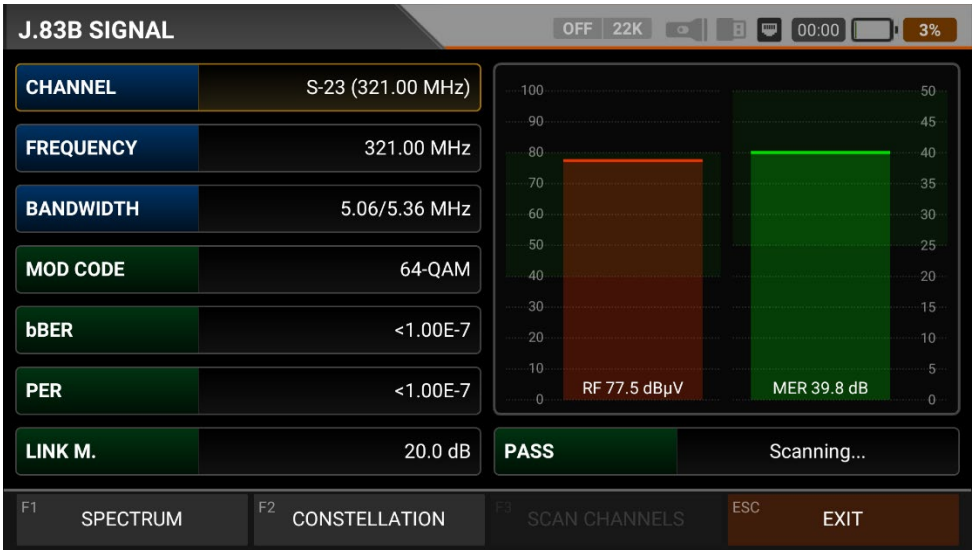
FREQUENCY: You can select which frequency to scan when scanning Single Frequency.

SCAN NETWORK: The NIT scan network for operators allows you to scan all frequencies.

CHANNELS: You can scan and memorize channels in 3 modes: UNENCODED / ENCRYPTED / ENCRYPTED + ENCRYPTED.

J.83B (ANNEX.B) SIGNAL MEASUREMENT:

Your AS07STCA-4K is capable of measuring J.83B (Annex B) signals. It can also show SD-HD-FHD-4K TV channels.



You can select the frequency at which you want to measure the J.83B (Annex B) signal or look at the signal levels and see the signal values on the screen. You can quickly switch to other measurement menus related to the frequency you have measured from the SPECTRUM, CONSTELLATION and CHANNEL SEARCH boxes at the bottom. Detailed information on Spectrum Analysis and Constellation properties will be given on the following pages.

CHANNEL: You can select the channel you want to measure in the frequency plan by touching the box.

FREQUENCY: You can see the frequency you measure. You can change it with the EDIT button.

BANDWIDTH: You can choose 5.06/5.36 or 5.60Mhz for J.83B.

MOD CODE: You can see in which mode the J.83B (Annex B) system is transmitting After the signal is locked.

bBER / PER: BER should be at the lowest level, which indicates the number of errors before or after correction.

LINK Margin: It can be used to know when the Total power of the frequency crosses the saturation threshold. A signal needs a safety margin that exceeds the threshold for good reception; the Link margin must be greater than zero (0).

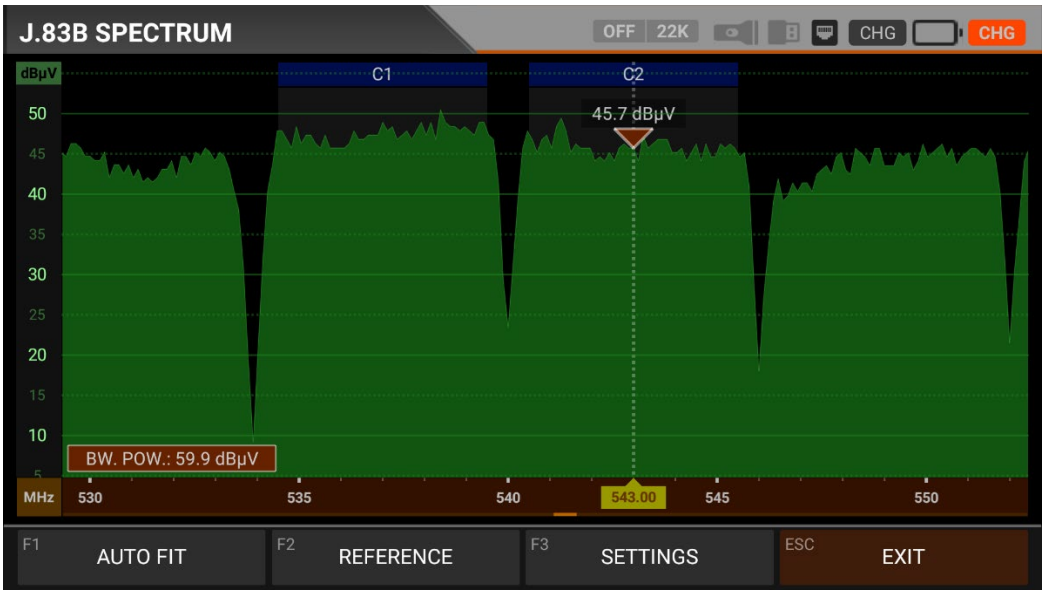
RF: You can see the RF level with the red bar.

MER: You can see the MER rate with the green-coloured bar.

Enter the parameters of the frequency you want to measure; the coloured bold bars on the right side of the screen visually show the signal levels. Signal level values are indicated by numbers below the bars. You can see if the bars are within the Max and Min values you select from the settings menu by looking at the green area. You can also see the frequency parameters and signal values, such as MODULATION, BER, and MER, on the left side of the screen. A NOT LOCKED warning will appear in case the signal values are insufficient, and a LOCKED warning will appear in case the signal values are appropriate in the box in the lower right corner. If the signal levels are appropriate, the Channel names will appear in the LOWER LEFT bar. You can see the channel names at the frequency you have measured by touching this box.

SEARCH CHANNEL and SAVE TO CHANNEL LIST: Press the "SEARCH CHANNEL " box in the lower right section on a frequency where you are sure that the signal levels are suitable. You can browse using the UNENCRYPTED, ENCRYPTED or both options on the SEARCH CHANNEL screen. The channels you have scanned are found, then the information screen appears on the screen, and the channels are saved to the list. (You can access Radio channels by pressing TV/RADIO button).

J.83B (ANNEX.B) SPECTRUM ANALYSIS:

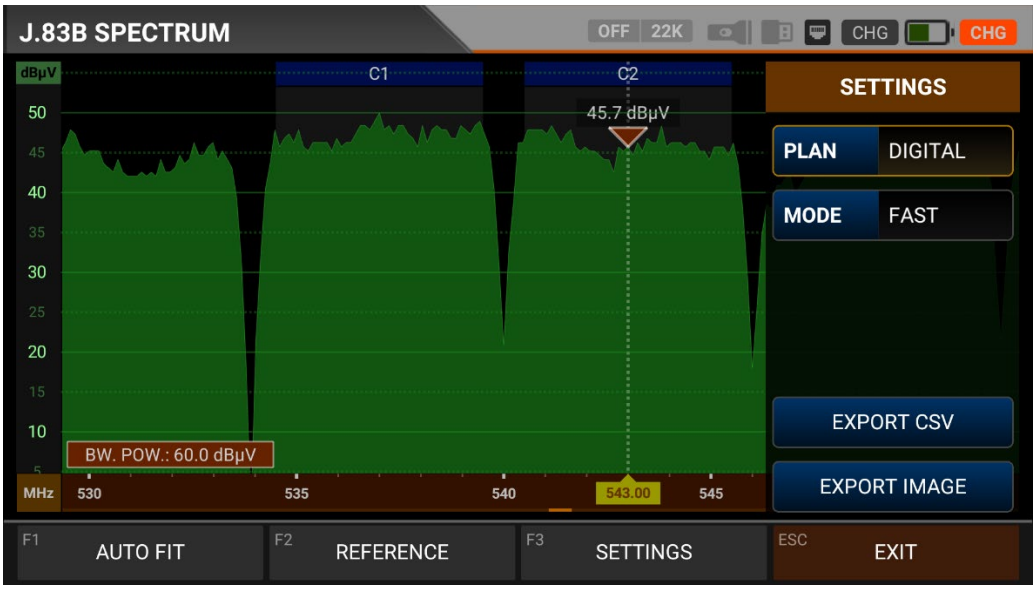


The device displays all ANALOGUE and DIGITAL carrier signals determined to be within the selected spectrum (frequency domain) when the DIGITAL SPECTRUM ANALYSIS measurement mode is switched.
You can see the names of the channels in the green boxes at the top. You can see the Band Peak Power on the marker, and you can also see the instantaneous power of the marker line on the bottom left.

Channel Names: You can see the channel names inside the blue boxes, and these boxes are the bandwidth of that channel. The marker on the video carrier of the channel you want to measure shows the RF level. You can change the frequency range (span) by placing two fingers on the red field.

FIT: You can fit the Min/Max levels of the signals on the screen by touching this box so you can easily see the lowest and highest signals in the whole spectrum.

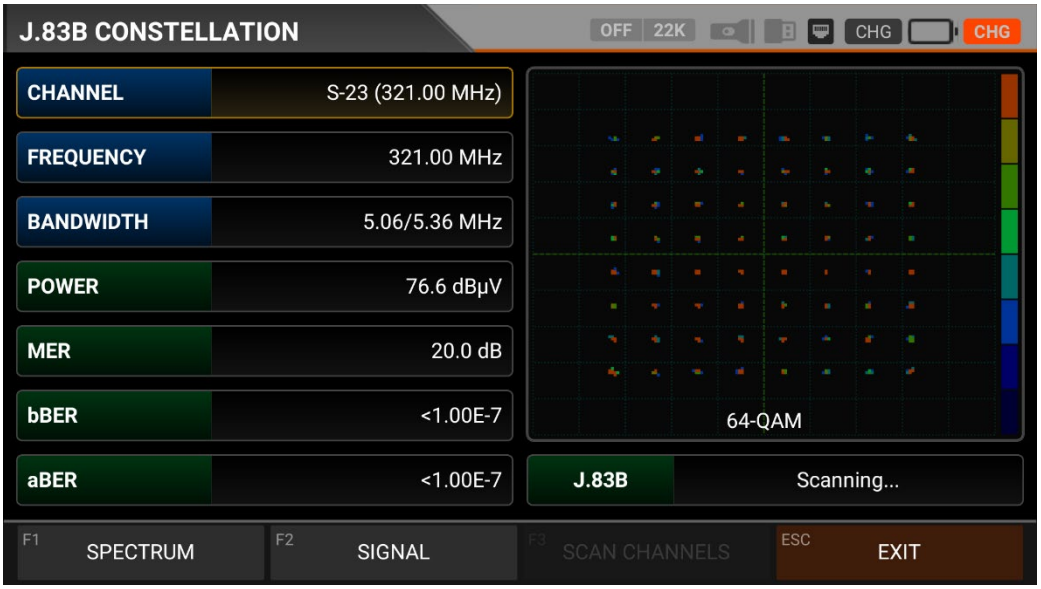
REFERENCE: You can SAVE the top points of the spectrum as a white line, and then you can RECALL them from memory and re-install them with the same settings.



SETTINGS: This menu allows you to change the Tp Frequency Plan, indicated by the blue bars, OFF/ON. This allows you to restrict the transmitting system you want to appear on the screen. You can change the operating mode of the spectrum quickly and precisely.

You can export the spectrum display as a *.CSV file and as an IMAGE file to USB.

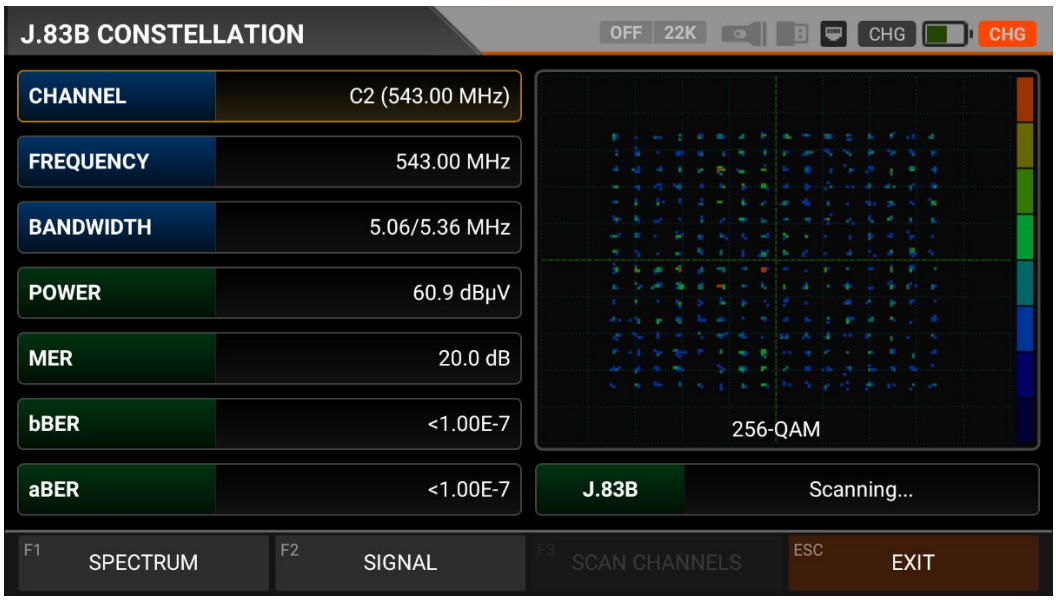
J.83B (ANNEX.B) CONSTELLATION DIAGRAM:



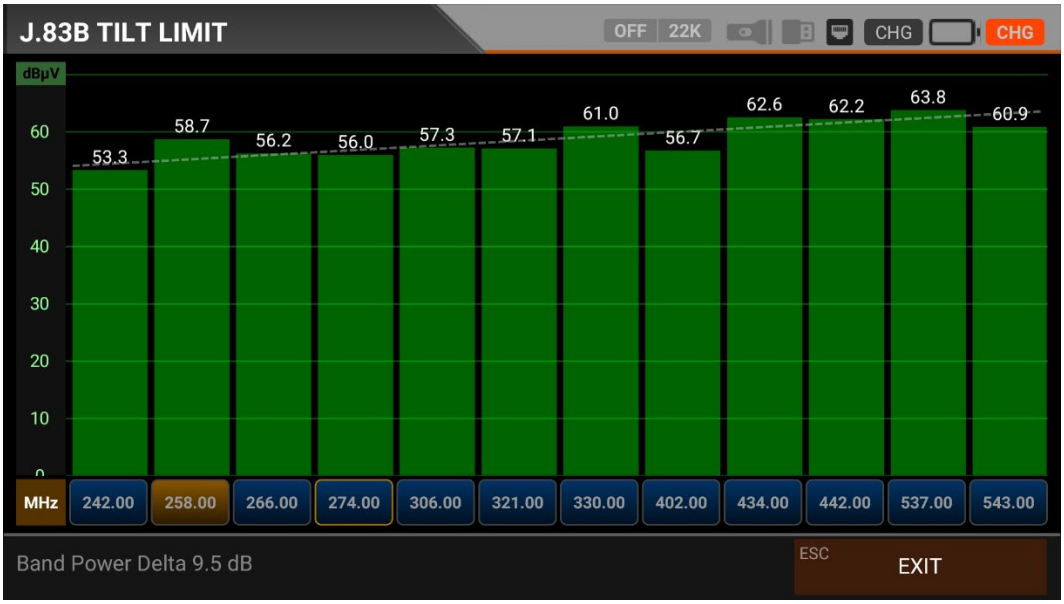
The constellation diagram shows in a graph the accuracy of the coordinates of the Digital I/Q symbols received at any given time. The colour scale, placed on the right side, provides a qualitative indication of the signal quality by grading the colours in proportion to the intensity of the dots concentrated in a particular area. The colour scale ranges from black (no symbol) to red (highest intensity).

A more extensive distribution of symbols indicates a higher noise level or worse signal quality. If there is a concentration of symbols relative to the full grid, the closer the collection of coordinate points is to each other and in a narrower area (see the advanced menu for grid types), this indicates a good signal-to-noise ratio or no problem.

These symbols are encoded with 64QAM and 256QAM modulation techniques as in the images determined according to the modulation types. You can see both constellation and other signal parameters and make fast and reliable measurements on this screen.

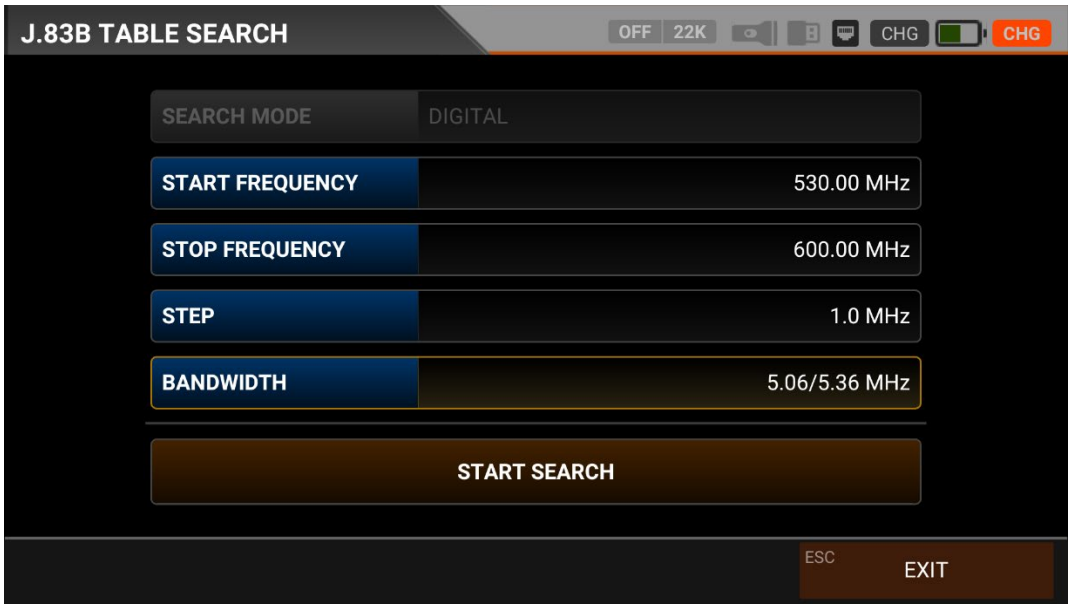


J.83B (ANNEX.B) TILT-LIMIT MEASUREMENT:

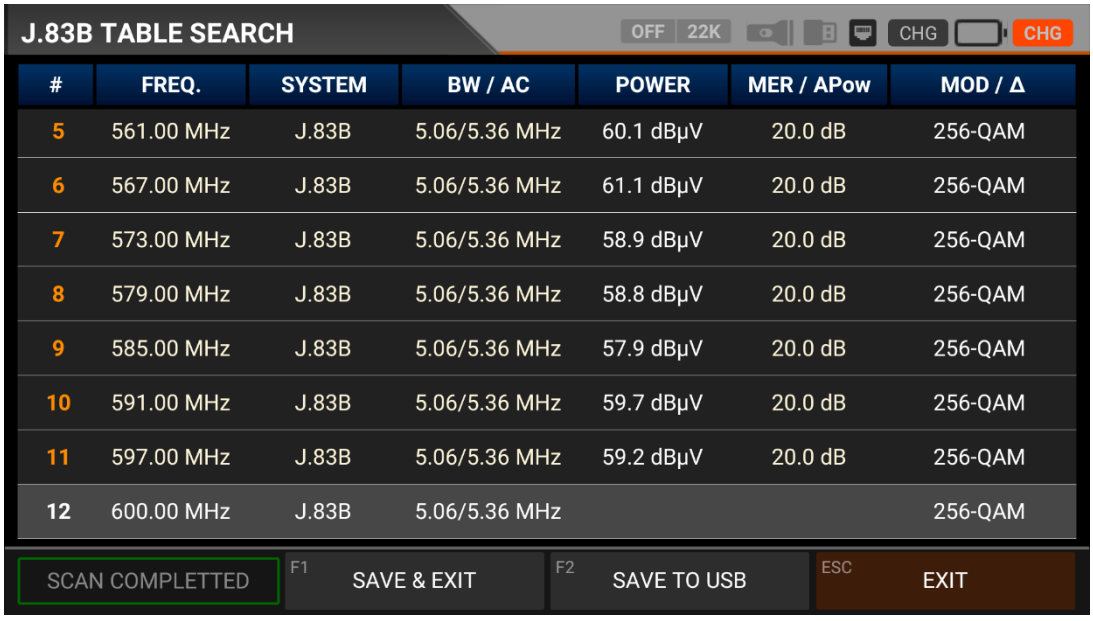


Tilt/Limit list testing is an effective solution to check the regularity of the cable system and further attenuation of the wave at high frequencies. AS07STCA can get the levels of 12 channels and easily observe the measurement result and graph. You can select the first six frequency starts of the group and the last six frequencies from the end of the group. You can then check the slope of the group and arrange the amplifiers and elements in the cable line according to this slope.

J.83B (ANNEX.B) TABLE MEASUREMENT:

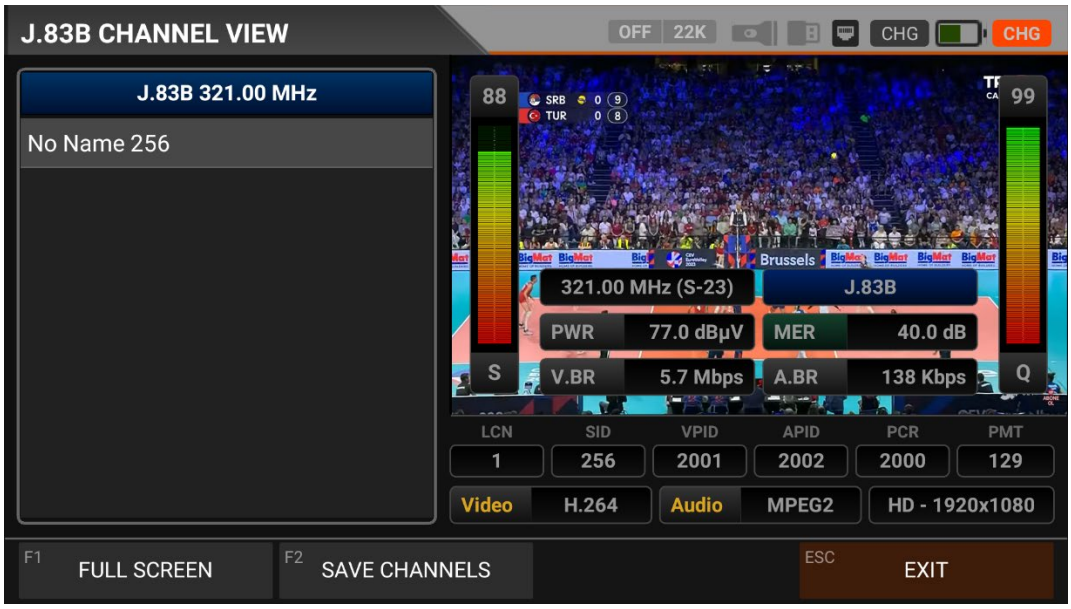


The AS07STC utilizes the channel scan function to quickly test the regularity and gain of the Cable TV system. You can select the start and end frequencies with the step range, and you can scan signals in the whole band with one of the 5.06/5.36 or 5.60Mhz bandwidths. You can check the signal values of all TPs using the TABLE MEASUREMENT menu when you have completed the system setup or when you go to service the subscriber.

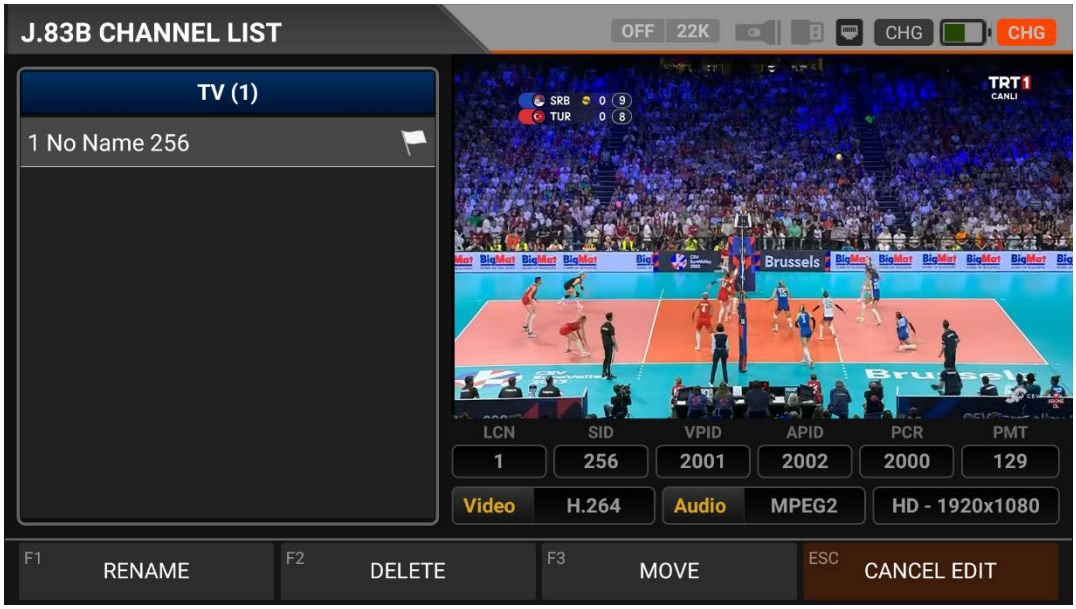


You can see which channel in the entire plan has a problem and compare frequencies. You will see the tables in the pictures after scanning all frequencies. You can save the entire table to USB with the "SAVE TO USB" button and save the measurement to the frequency plan used after all operations are finished.

J.83B (ANNEX.B) CHANNEL LIST:



You can bring it to the screen by touching the CHANNEL LIST from the J.83B MENU. You can select, delete, and relocate individual TV and Radio channels in the Channel List menu. You can select channels from the left side. You can see the list of radio channels on the screen with the TV / RADIO button.



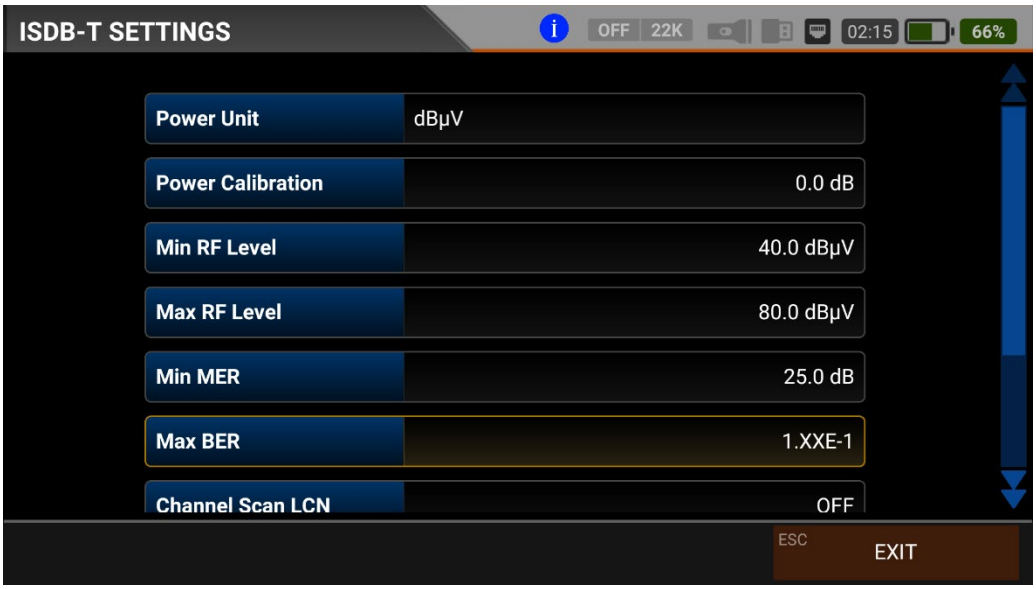
You can touch on the EDIT box and then perform the CHANGE NAME / DELETE CHANNEL and MOVE CHANNEL process. You can enter the number of the new position to move the channels to when you touch on a Channel or touch all the channels you want to move in BULK and press the MOVE box. Single channel and batch channels will be transferred to the new position, respectively.

You can enlarge the image by touching it and pressing the LEVEL button to see both the image and the Signal levels, AV bitrate rates and PID values on the same screen.

ISDB-T SIGNAL MEASUREMENT AND INSTRUCTIONS FOR USE:

Enter the ISDB-T menu on your AS07STCA-4K using the touchscreen or the direction and OK buttons on the silicone keypad.

ISDB-T SETTINGS:



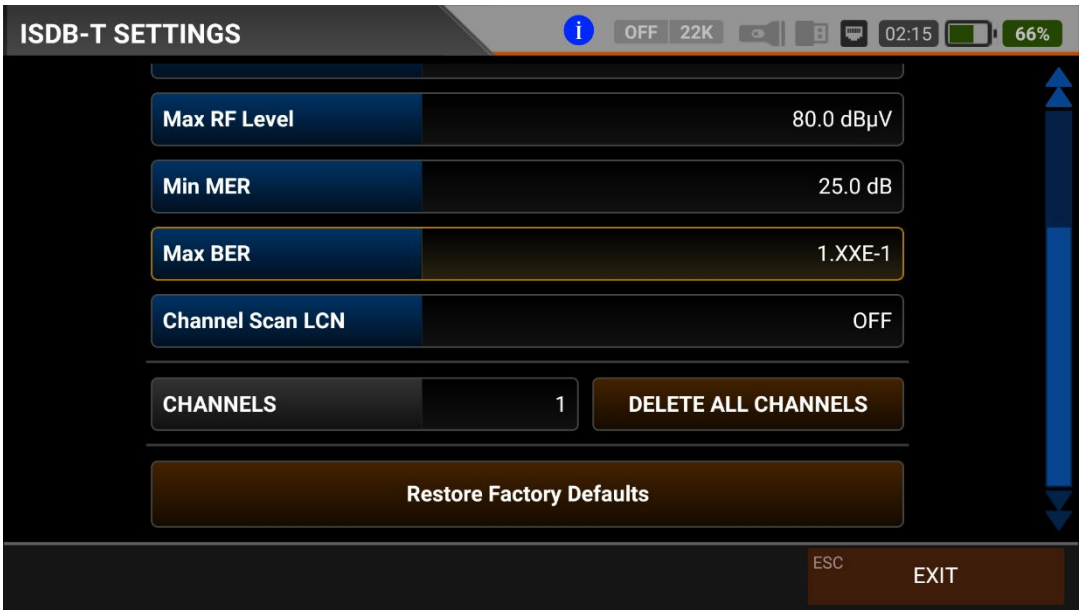
Power Unit: You can see the signal levels on the display in dBuV/dBm/dBmV units.

Power Calibration: The margin of error of the measurement levels may increase depending on ambient temperatures and time of use. You can, therefore, calibrate the levels closer to the correct level by changing this value to plus + or minus -.

Min RF Level: If this is less than the RF level value when measuring the signal, the correct installation is not confirmed.

Max RF Level: If the RF signal level you set is higher than this value, it may damage the system or prevent correct distribution.

Min MER: When the MER value drops below this level, the device will not confirm that the installation was done correctly.



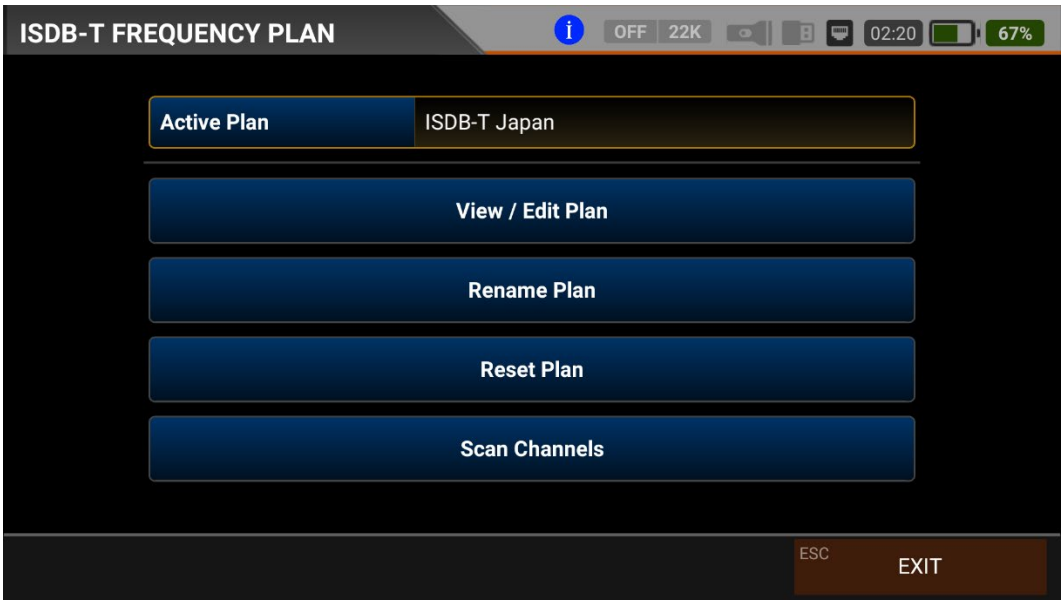
Max BER: You can choose how much the Bit Error Rate data rate can be.

LCN Scanning: The device sorts the Channel assignment on the scanned platform frequencies according to the LCN (logic channel number) value.

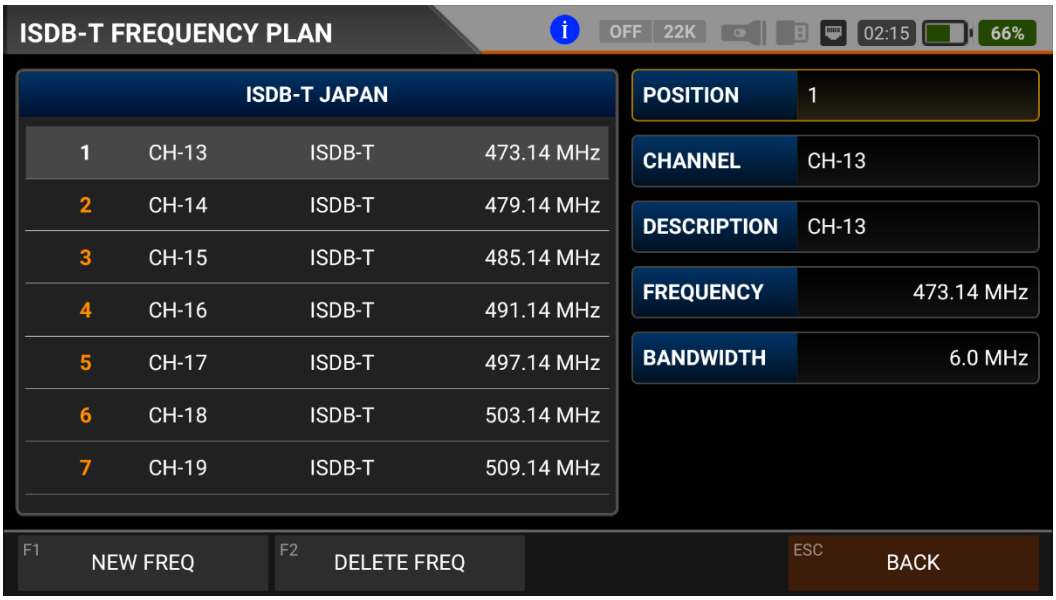
DELETE ALL CHANNELS: It deletes all channels in the ISDB-T menu.

Factory Reset: It restores all database information in the ISDB-T menu to factory settings.

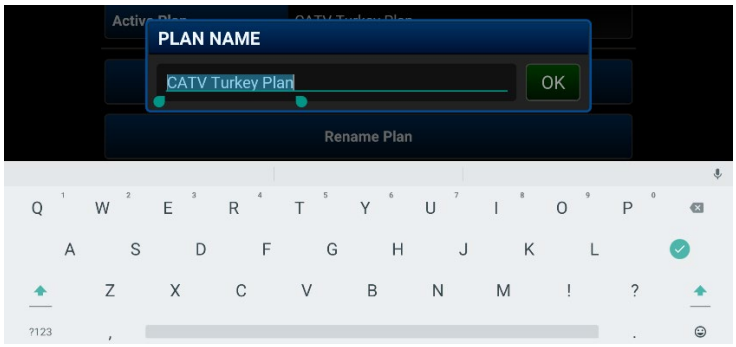
ISDB-T FREQUENCY PLAN:



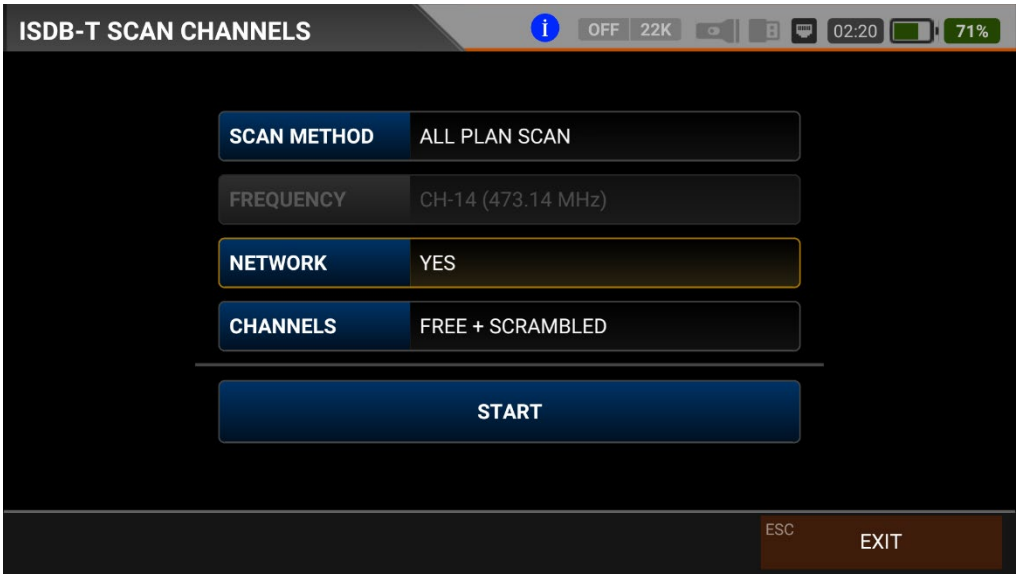
Your device can store dozens of Frequency Plans for each system in its memory to be used in your own installations or operator deployments.



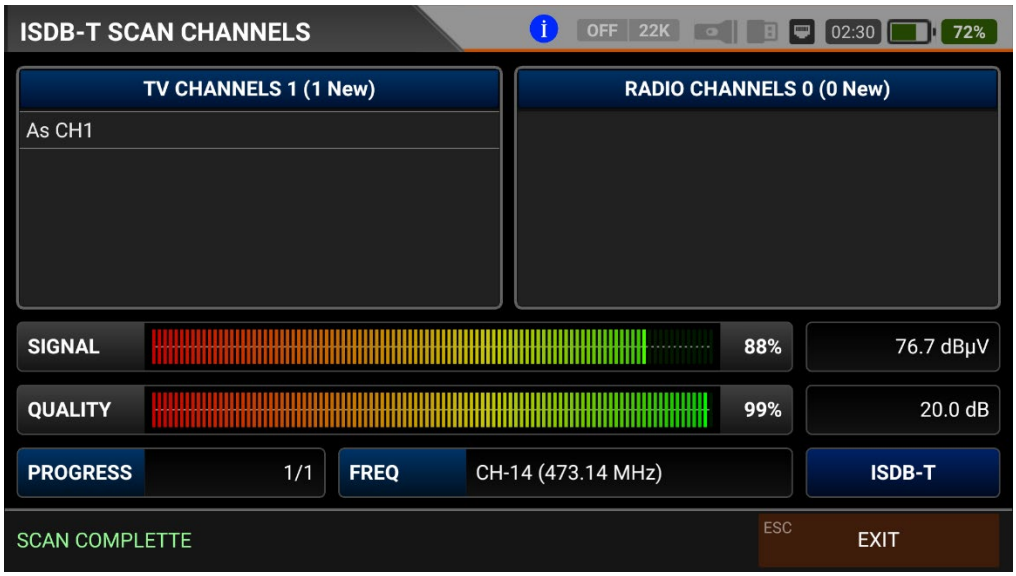
You can manually change these frequency plans on the device or via a PC program. You can access all parameters such as Frequency, BW, and TV system for each frequency.



You can assign names and change parameters for your frequency plans. You can create your own plan.



You can then start the scan channel process by touching the START box. In the scan channel screen, you can see which frequencies you scan and the signal values. It will show the newly found channels in white colour on the screen.



Scan Channels: You can search for TV channels suitable for your frequency plan in the ISDB-T band. You can then monitor and measure these channels.

SCAN MODE: You can scan in 2 modes as SINGLE FREQUENCY / ALL PLAN.

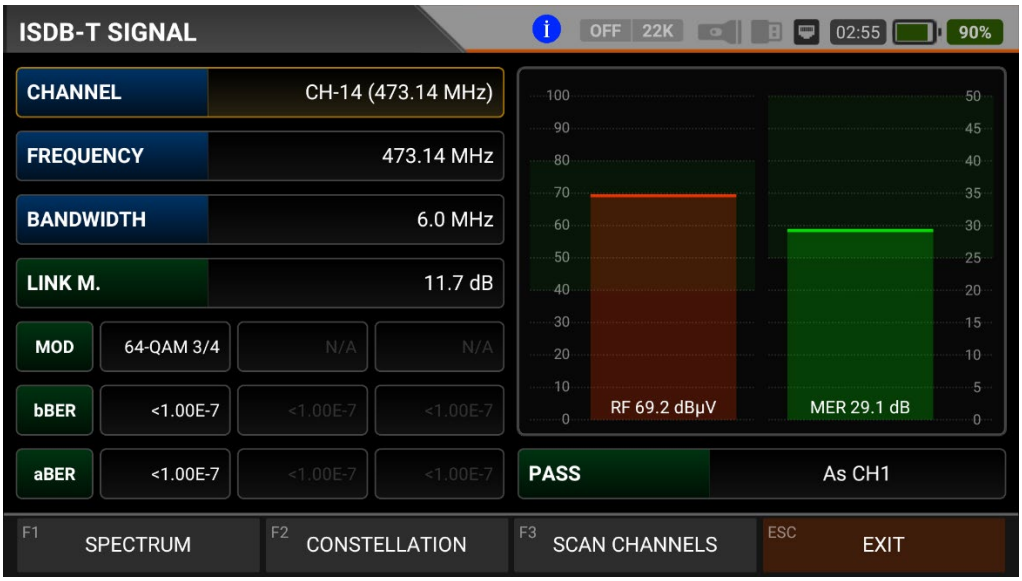
FREQUENCY: You can select which frequency to scan when scanning Single Frequency.

SCAN NETWORK: The NIT scan network for operators allows you to scan all frequencies.

CHANNELS: You can scan and memorize channels in 3 modes: UNENCODED / ENCRYPTED / ENCRYPTED + ENCRYPTED.

ISDB-T SIGNAL MEASUREMENT:

Your AS07STCA-4K is capable of measuring ISDB-T signals. It can also show SD-HD-FHD-4K TV channels.



You can select the frequency at which you want to measure the ISDB-T signal or look at the signal levels and see the signal values on the screen. You can quickly switch to other measurement menus related to the frequency you have measured (473.143MHz frequency should be entered as 473.14MHz in the device) from the SPECTRUM,

CONSTELLATION and SEARCH CHANNEL boxes at the bottom. Detailed information on Spectrum Analysis and Constellation properties will be given on the following pages.

CHANNEL: You can select the channel you want to measure in the frequency plan by touching the box.

FREQUENCY: You can see the frequency you measure. You can change it with the EDIT button.

BANDWIDTH: You can select 6/7/8 Mhz for ISDB-T.

MOD CODE: You can see in which mode the ISDB-T system transmits after the signal is locked. The ISDB-T system can transmit in 3 different modes of constellation at the same time.

bBER / aBER: BER should be at the lowest level, which indicates the number of errors before or after correction. BER values are listed on the screen for three different modes.

LINK Margin: It can be used to know when the Total power of the frequency crosses the saturation threshold. A signal needs a safety margin that exceeds the threshold for good reception; the Link margin must be greater than zero (0).

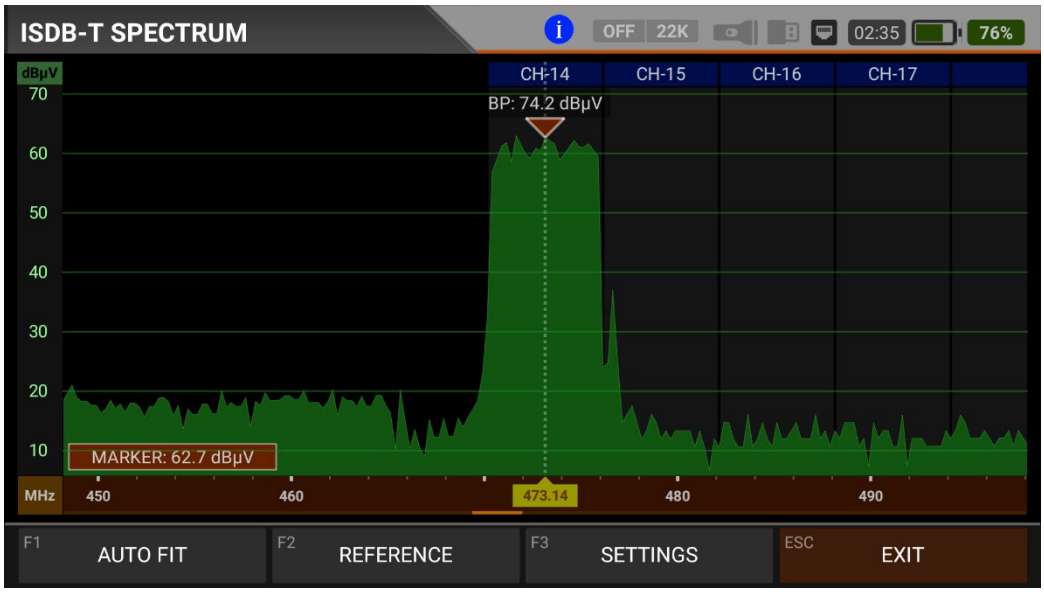
RF: You can see the RF level with the red bar.

MER: You can see the MER rate with the green coloured bar.

Enter the parameters of the frequency you want to measure; the coloured bold bars on the right side of the screen visually show the signal levels. Signal level values are indicated by numbers below the bars. You can see if the bars are within the Max and Min values you select from the settings menu by looking at the green area. You can also see the frequency parameters and signal values, such as MODULATION, BER, and MER, on the left side of the screen. A NOT LOCKED warning will appear in case the signal values are insufficient, and a LOCKED warning will appear in case the signal values are appropriate in the box in the lower right corner. If the signal levels are appropriate, the Channel names will appear in the LOWER LEFT bar. You can see the channel names at the frequency you have measured by touching this box.

SEARCH CHANNEL and SAVE TO CHANNEL LIST: Press the "SEARCH CHANNEL " box in the lower right section on a frequency where you are sure that the signal levels are suitable. You can browse using the UNENCRYPTED, ENCRYPTED or both options on the SEARCH CHANNEL screen. The channels you have scanned are found, and then the information screen appears on the screen, and the channels are saved to the list. (You can access Radio channels by pressing TV/RADIO button).

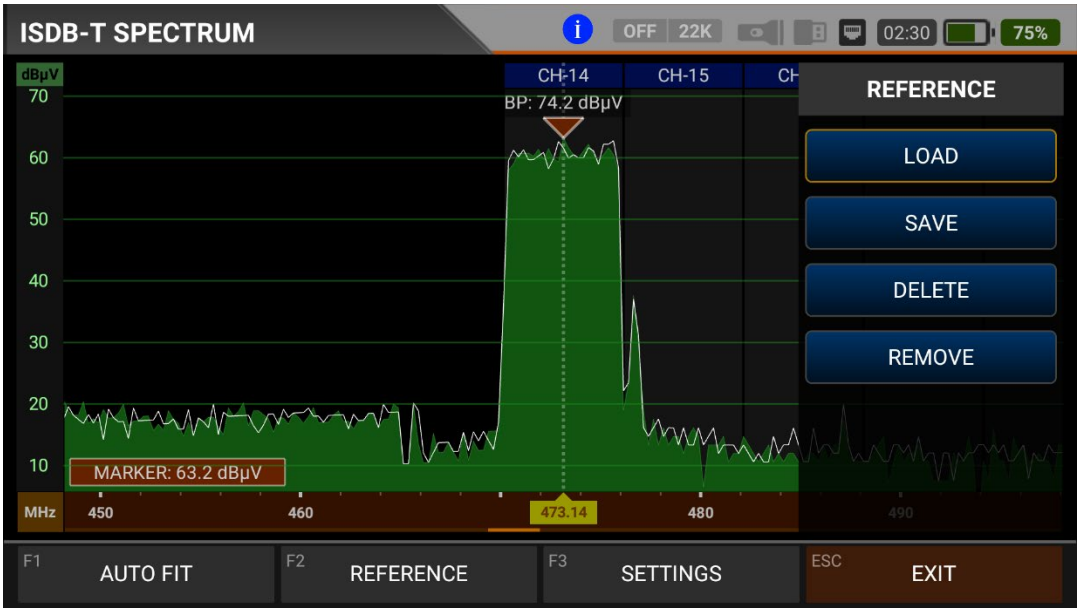
ISDB-T SPECTRUM ANALYSIS:



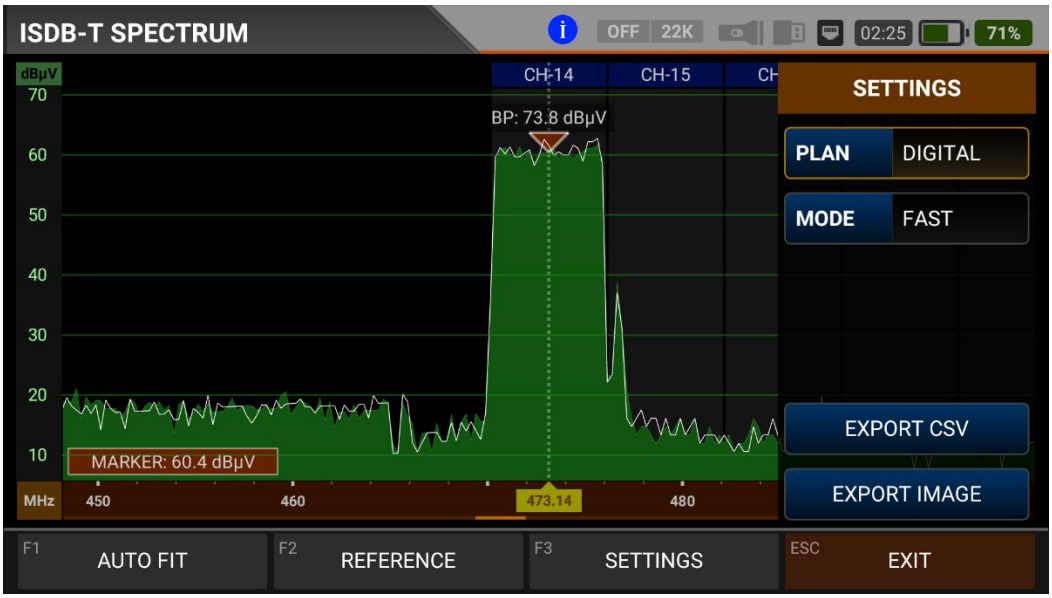
The device displays all ANALOGUE and DIGITAL carrier signals determined to be within the selected spectrum (frequency domain) when the DIGITAL SPECTRUM ANALYSIS measurement mode is switched.
You can see the names of the channels in the green boxes at the top. You can see the Band Peak Power on the marker, and you can also see the instantaneous power of the marker line on the bottom left.

Channel Names: You can see the channel names inside the blue boxes, and these boxes are the bandwidth of that channel. The marker on the video carrier of the channel you want to measure shows the RF level. You can change the frequency range (span) by placing two fingers on the red field.

FIT: You can fit the Min/Max levels of the signals on the screen by touching this box so you can easily see the lowest and highest signals in the whole spectrum.



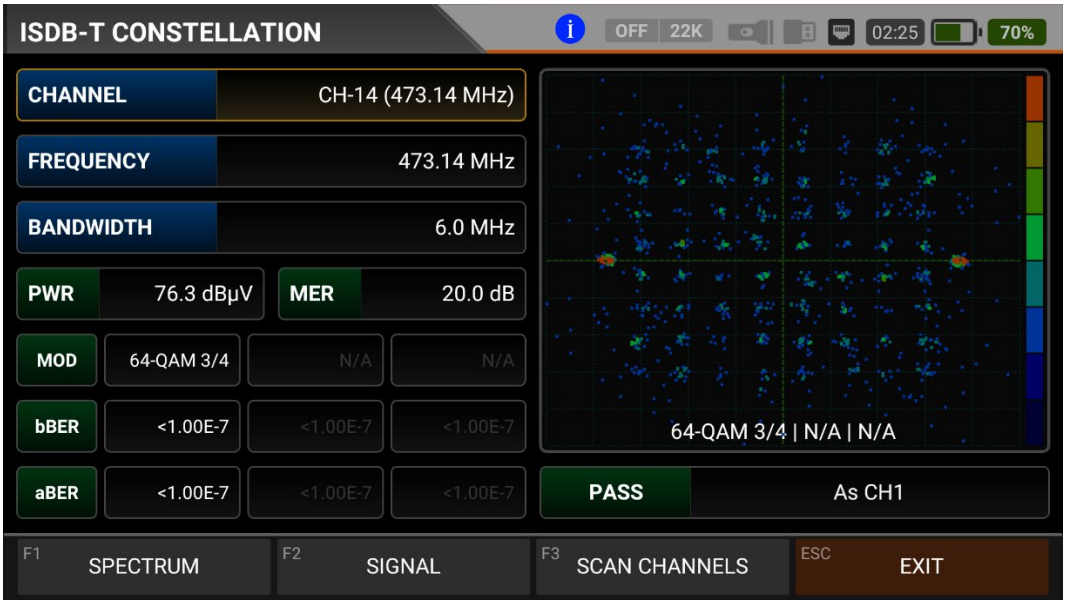
REFERENCE: You can SAVE the top points of the spectrum as a white line, and then you can RECALL them from memory and re-install them with the same settings.



SETTINGS: This menu allows you to change the Tp Frequency Plan, indicated by the blue bars, OFF/ON. This allows you to restrict the transmitting system you want to appear on the screen. You can change the operating mode of the spectrum quickly and precisely.

You can export the spectrum display as a *.CSV file and as an IMAGE file to USB.

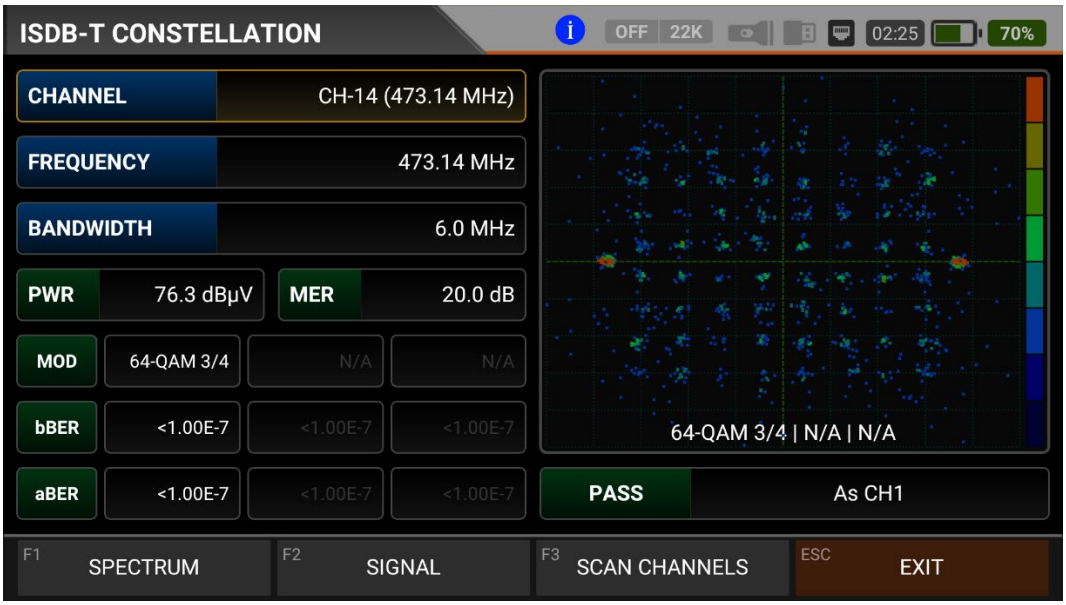
ISDB-T CONSTELLATION DIAGRAM:



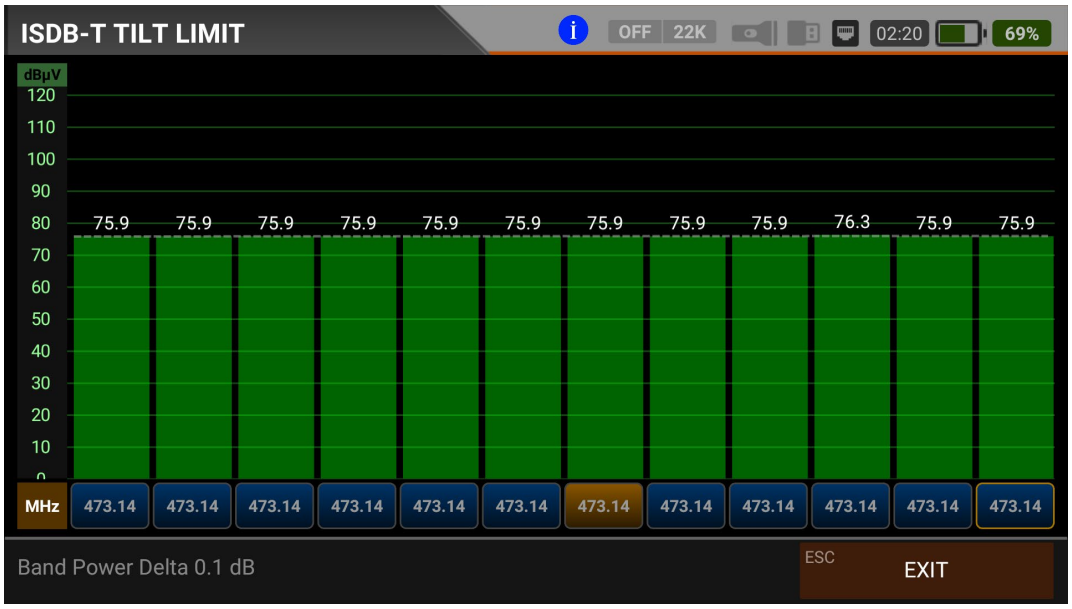
The constellation diagram shows in a graph the accuracy of the coordinates of the Digital I/Q symbols received at any given time. The colour scale, placed on the right side, provides a qualitative indication of the signal quality by grading the colours in proportion to the intensity of the dots concentrated in a particular area. The colour scale ranges from black (no symbol) to red (highest intensity). It shows three different modes at the same time.

A more extensive distribution of symbols indicates a higher noise level or worse signal quality. If there is a concentration of symbols relative to the full grid, the closer the collection of coordinate points is to each other and in a narrower area (see the advanced menu for grid types), this indicates a good signal-to-noise ratio or no problem.

These symbols are encoded with 64QAM-OFDM, 16QAM-OFDM, QPSK-OFDM, and DQPSK-OFDM modulation techniques, as shown in the pictures determined according to modulation types. You can see both constellation and other signal parameters and make fast and reliable measurements on this screen.

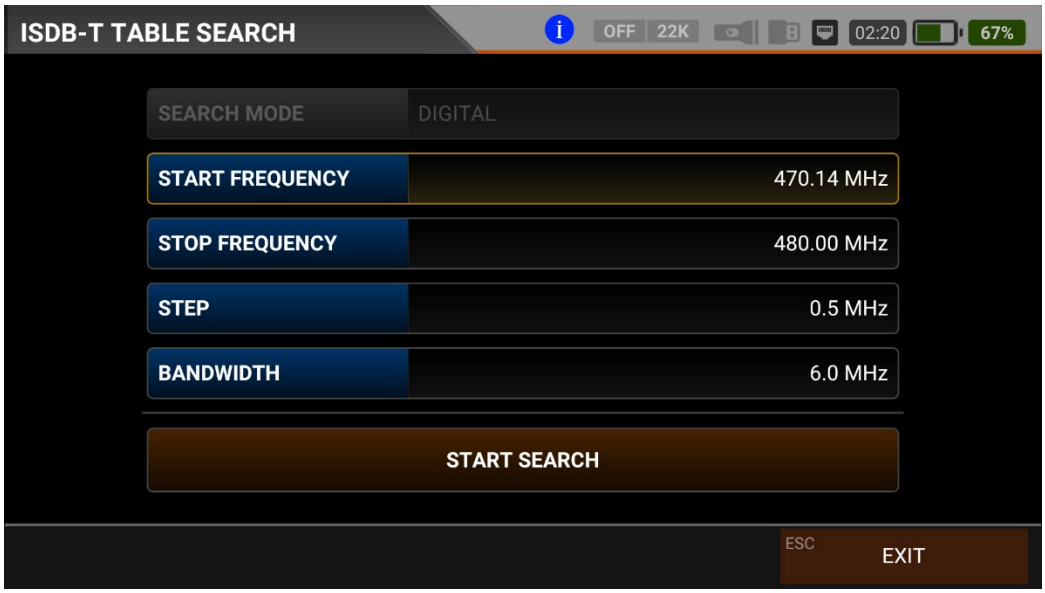


ISDB-T TILT-LIMIT MEASUREMENT:

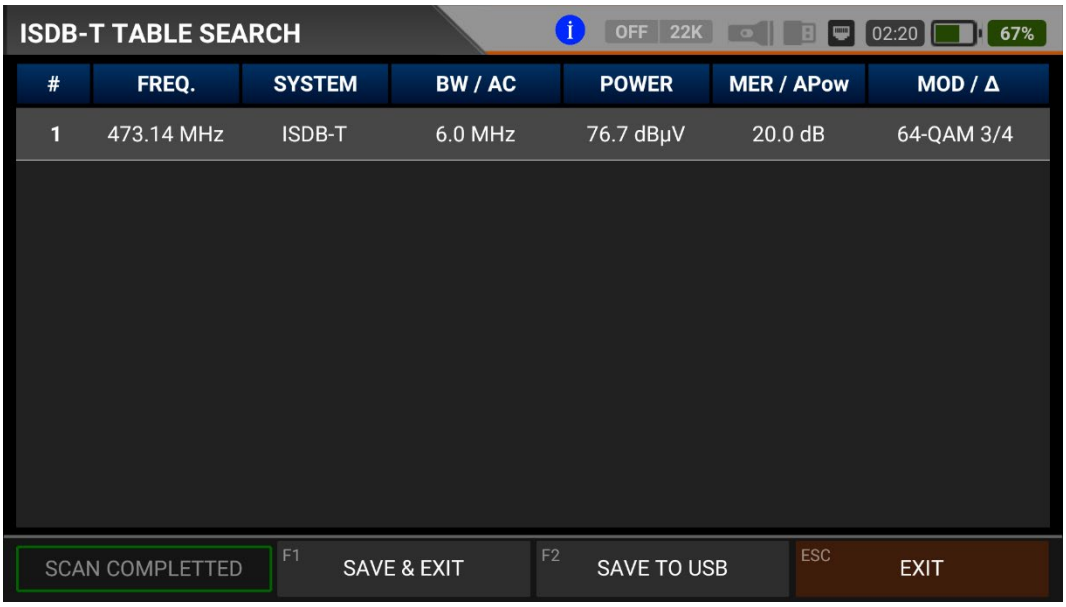


Tilt/Limit list testing is an effective solution to check the regularity of the cable system and further attenuation of the wave at high frequencies. AS07STCA can get the levels of 12 channels and easily observe the measurement result and graph. You can select the first six frequency starts of the group and the last six frequencies from the end of the group. You can then check the slope of the group and arrange the amplifiers and elements in the cable line according to this slope.

ISDB-T TABLE MEASUREMENT:

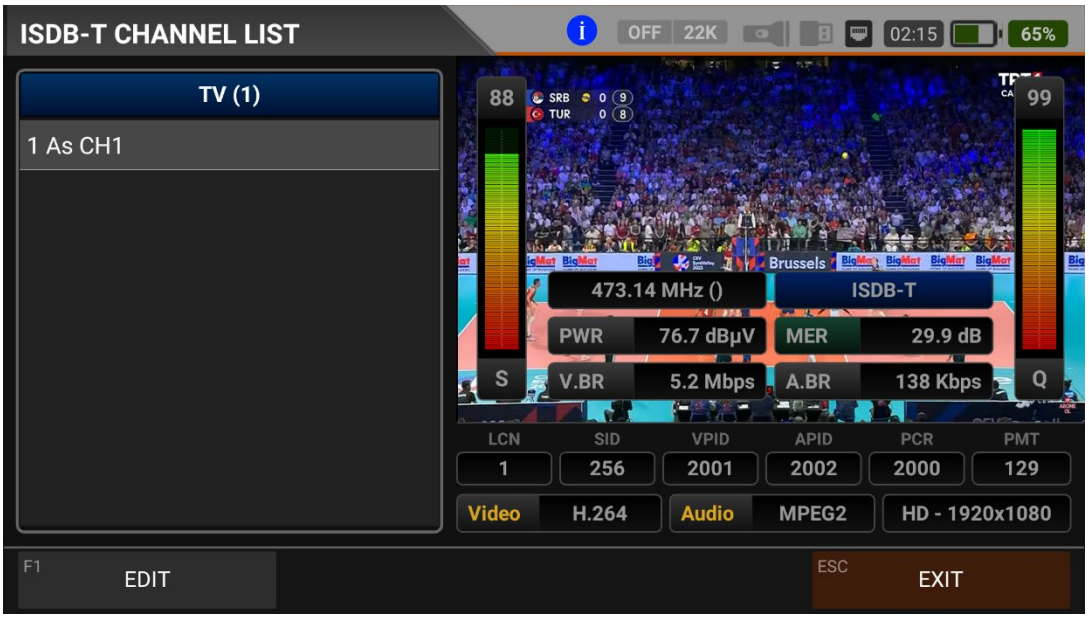


The AS07STC utilizes the channel scan function to quickly test the regularity and gain of the Cable TV system. You can select the start and end frequencies with the step range, and you can scan signals in the whole band with one of the 6/7/8Mhz bandwidths. You can check the signal values of all TPs using the TABLE MEASUREMENT menu when you have completed the system setup or when you go to service the subscriber.

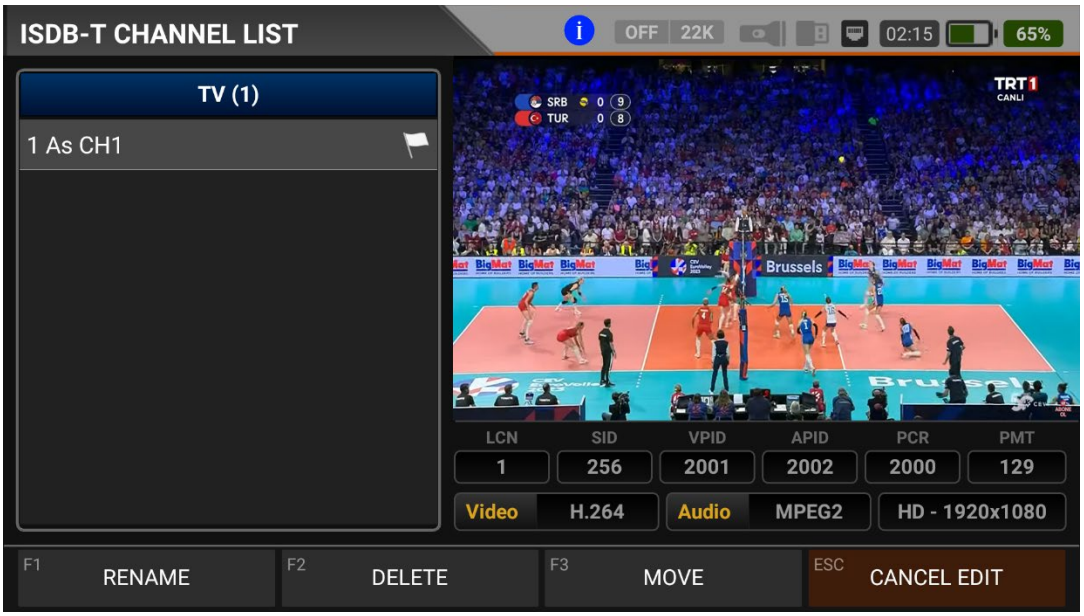


You can see which channel in the entire plan has a problem and compare frequencies. You will see the tables in the pictures after scanning all frequencies. You can save the entire table to USB with the "SAVE TO USB" button and save the measurement to the frequency plan used after all operations are finished.

ISDB-T CHANNEL LIST:

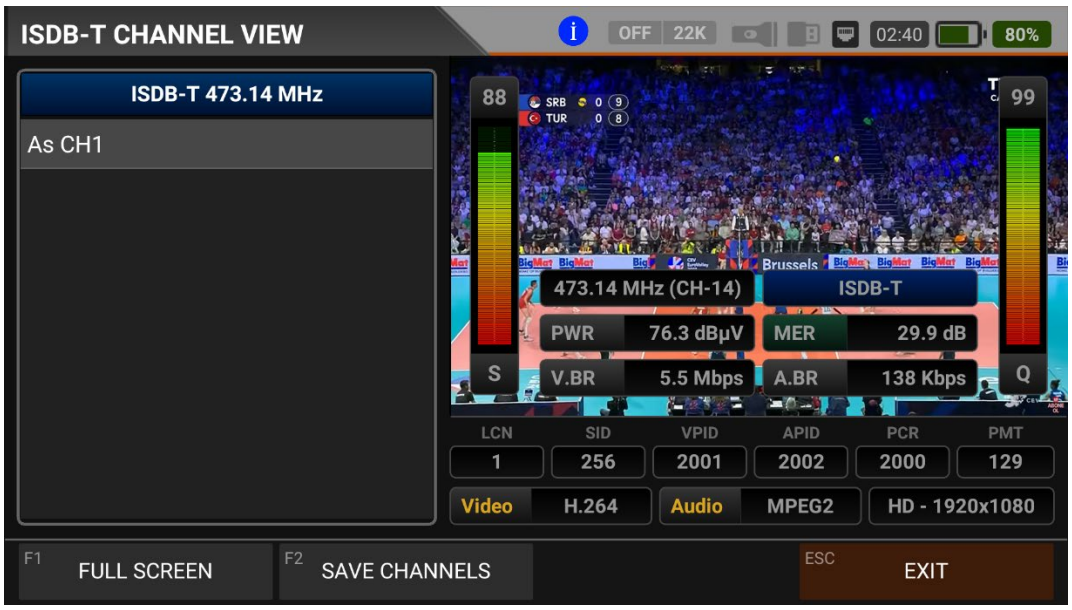


You can bring it to the screen by touching the CHANNEL LIST from the ISDB-T MENU. You can select, delete, and relocate individual TV and Radio channels in the Channel List menu. You can select channels from the left side. You can see the list of radio channels on the screen with the TV / RADIO button.



You can touch on the EDIT box and then perform the CHANGE NAME / DELETE CHANNEL and MOVE CHANNEL process. You can enter the number of the new position to move the channels to when you touch on a Channel or touch all the channels you want to move in BULK and press the MOVE box. Single channel and batch channels will be transferred to the new position, respectively.

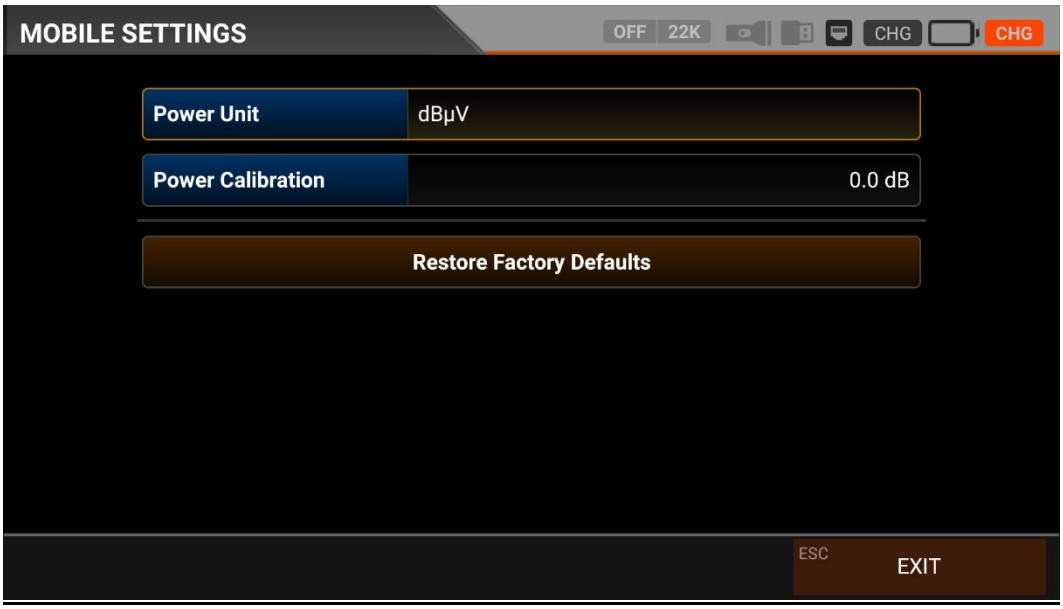
You can enlarge the image by touching it and pressing the LEVEL button to see both the image and the Signal levels, AV bitrate rates and PID values on the same screen.



INSTRUCTIONS FOR USE ON MOBILE GSM SIGNAL MEASUREMENT:

Enter the MOBILE (GSM) ANALYZER menu on your AS07STCA-4K using the touchscreen or the direction and OK buttons on the silicone keypad. You can see the power and spectrum of the uplink frequencies of Gas Stations from the Mobile GSM Analyzer menu.

MOBILE GSM SETTINGS:



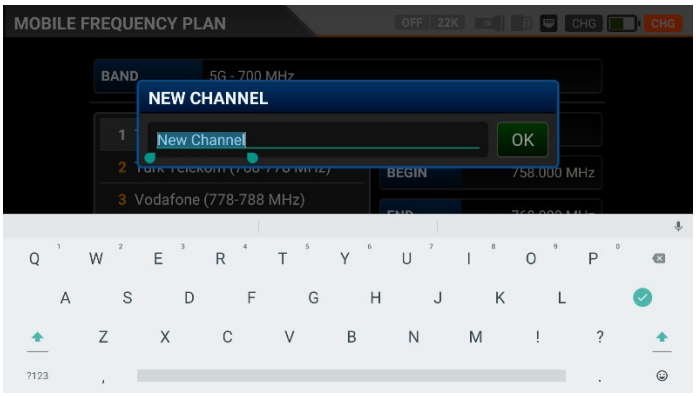
Power Unit: You can see the signal levels on the display in dBuV/dBm/dBmV units.

Power Calibration: The margin of error of the measurement levels may increase depending on ambient temperatures and time of use. You can, therefore, calibrate the levels closer to the correct level by changing this value to plus + or minus -.

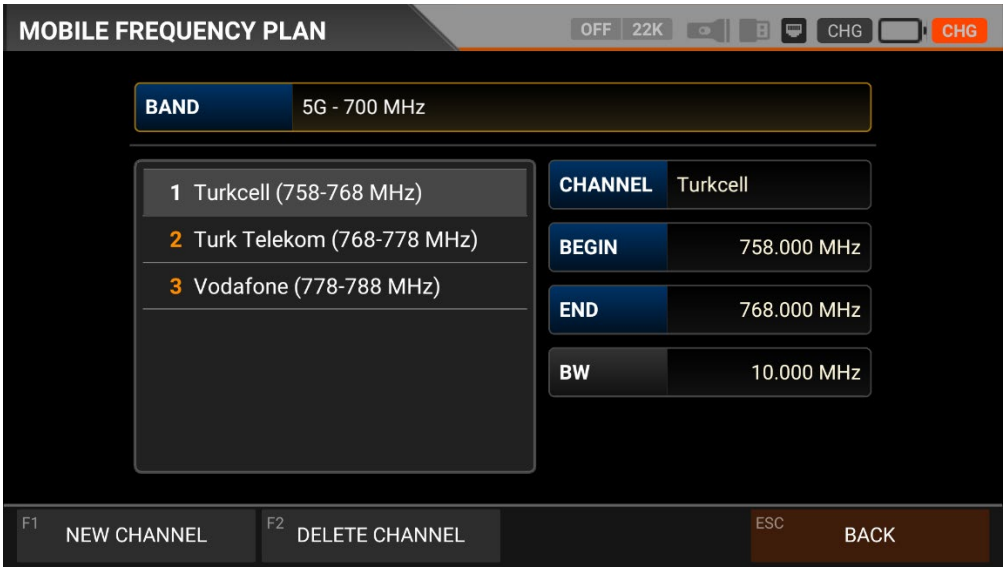
Factory Reset: It restores all database information in the Mobile GSM Analyzer menu to factory settings.

MOBILE (GSM) FREQUENCY PLAN:

Your device keeps a Frequency Plan for each GSM system in its memory to be used in repeater installations. You can assign Names for your frequency plans.

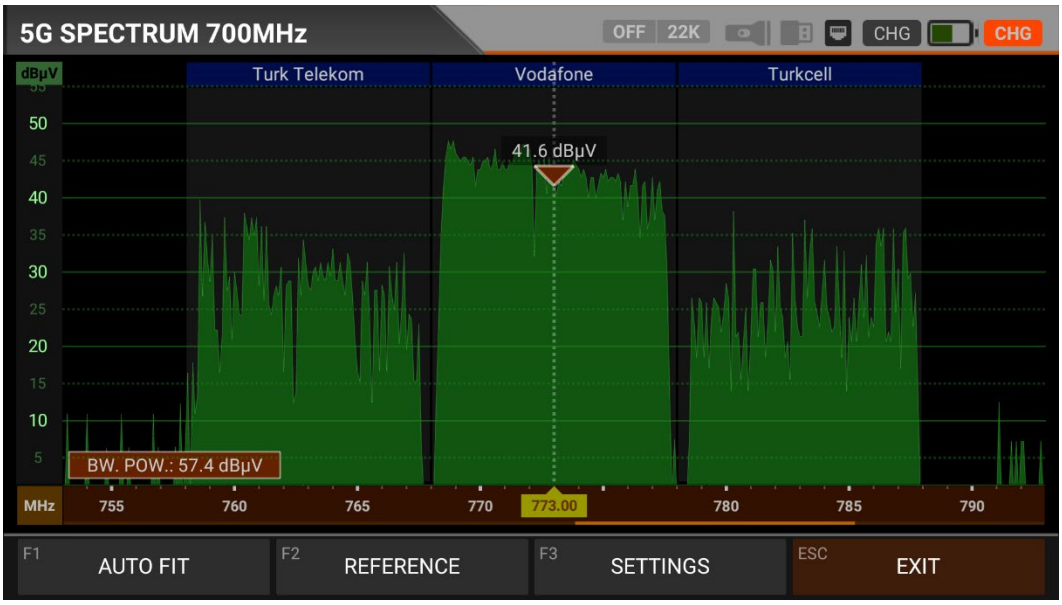


You can manually change the 5G-4G-3G-GSM1800-GSM900 frequency plans on the device or via a PC program. Frequency range and bandwidth must be entered for each operator band.

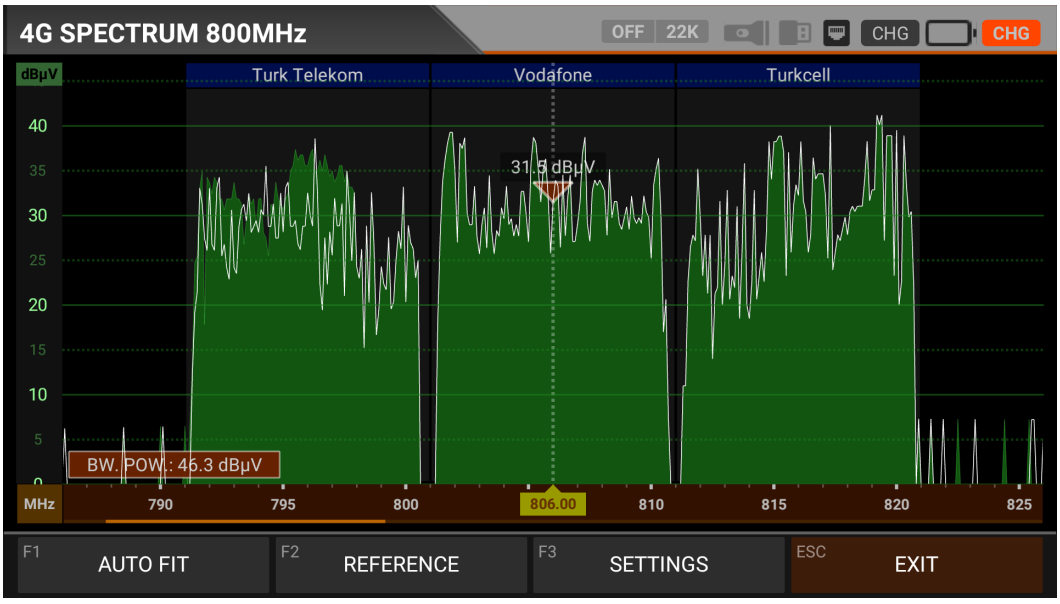


MOBILE GSM MEASUREMENT SCREENS:

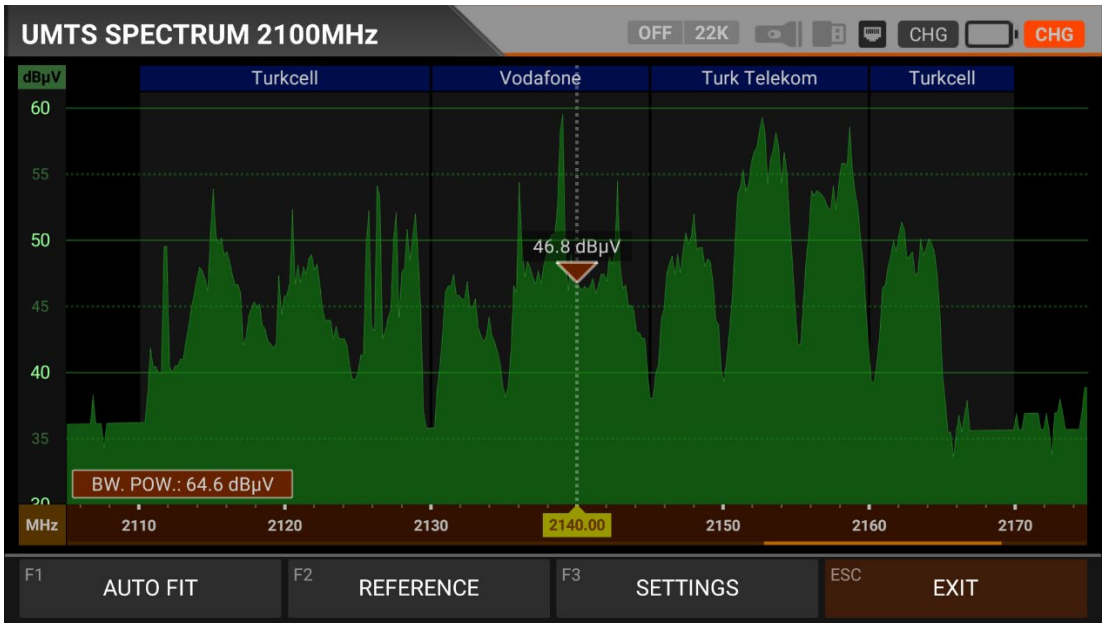
You can see the spectrum measurements of GSM operators in the 5G 700MHz band.



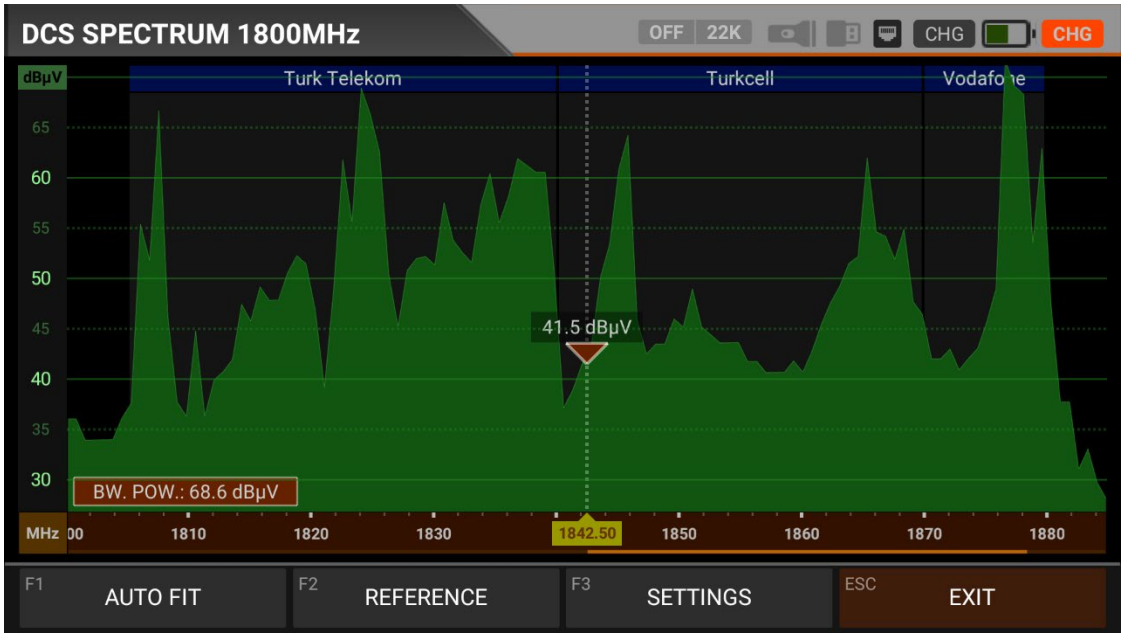
You can see the spectrum measurements of GSM operators in the 4G 800MHz band.



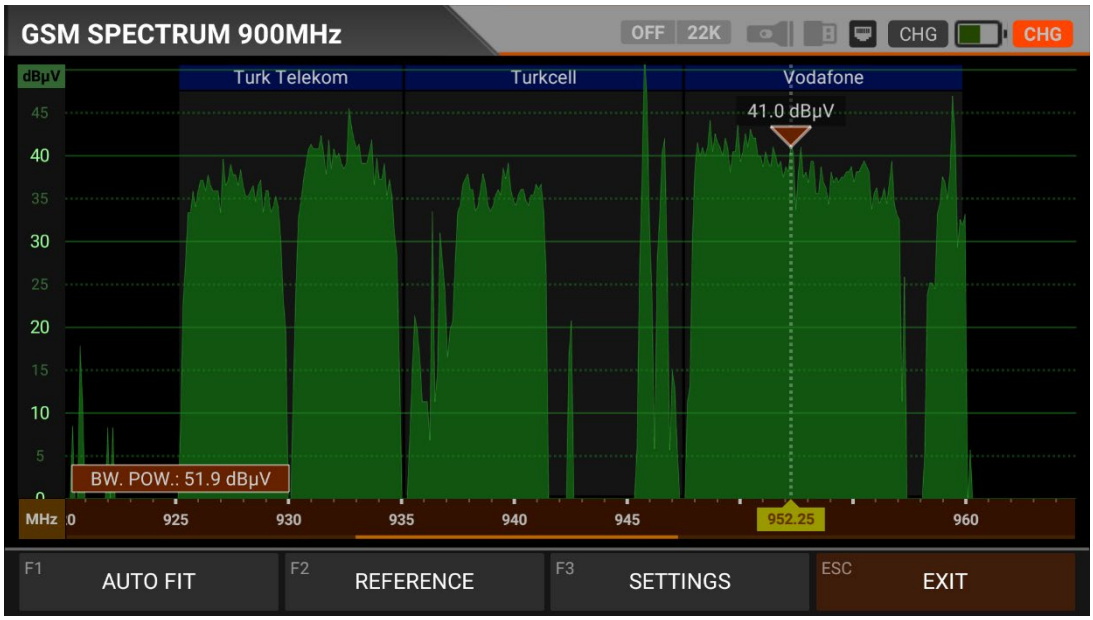
You can see the spectrum measurements of GSM operators in the 3G UMTS 2100MHz band.



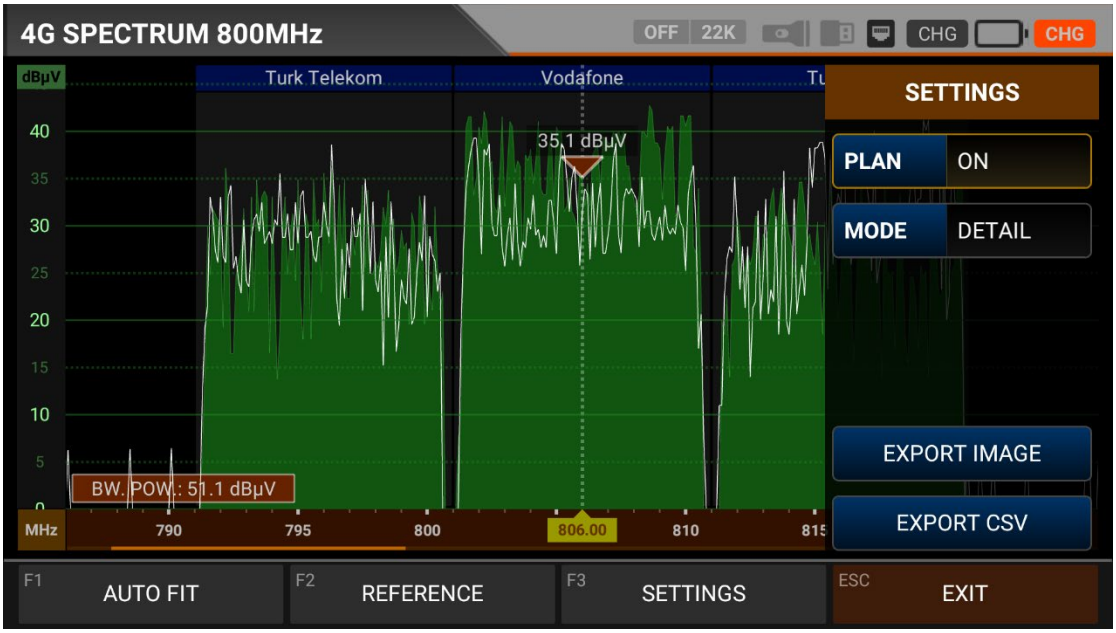
You can see spectrum measurements of GSM operators in the GSM 1800MHz band.



You can see spectrum measurements of GSM operators in the GSM 900MHz band.



REFERENCE and SETTINGS:



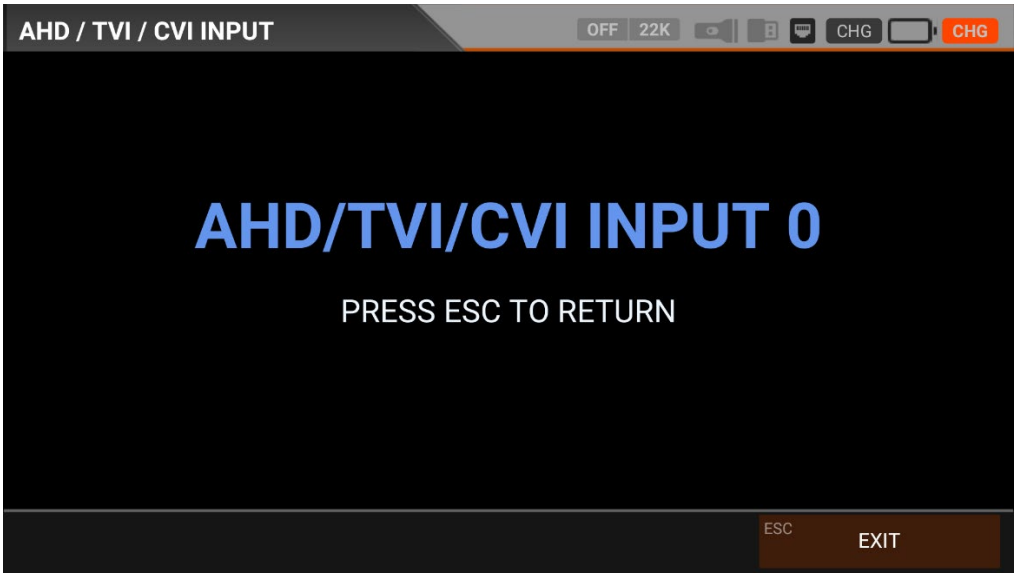
REFERENCE: You can SAVE the top points of the spectrum as a white line, and then you can RECALL them from memory in your subsequent measurements and re-install them with the same settings.

SETTINGS: This menu allows you to change the Operator names shown with blue bars to OFF/OFF. This way, you can restrict the system you want to appear on the screen. You can change the operating mode of the spectrum quickly and precisely.

You can export the spectrum display as a *.CSV file and as an IMAGE file to USB.

CCTV - A/V - HDMI INPUT TEST AND INSTRUCTIONS FOR USE:

Enter the MOBILE (GSM) ANALYZER menu on your AS07STCA-4K using the touchscreen or the direction and OK buttons on the silicone keypad. You can set the focus and direction installation of AHD / TVI / CVI / PAL cameras, perform cable and TV tests with HDMI OUT, test any HDMI source up to 1080p with HDMI INPUT, and perform output pal through AV output from the CCTV - A/V - HDMI IN / OUT menus.

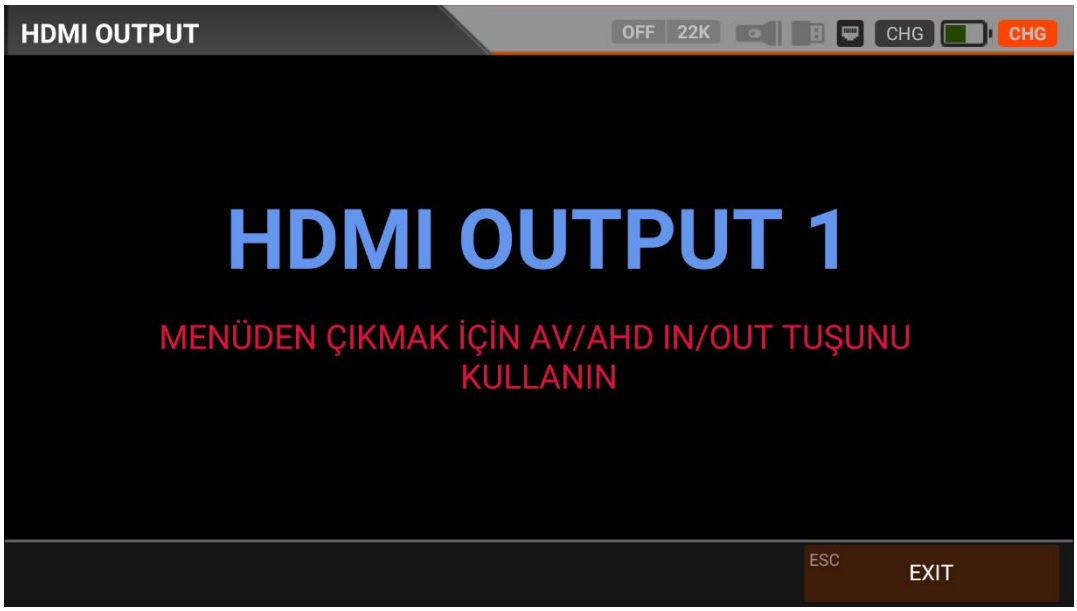


The device will count for 3 seconds and switch to CCTV mode when you select AHD/TVI/CVI. You can see the supported resolutions below.

ANALOGUE	: PAL - NTSC AV Input
AHD	: 1MP, 2MP, 3MP, 4MP, 5MP, 8MP
TVI	: 1MP, 2MP, 3MP, 4MP, 5MP, 8MP
CVI	: 1MP, 2MP, 4MP, 8MP

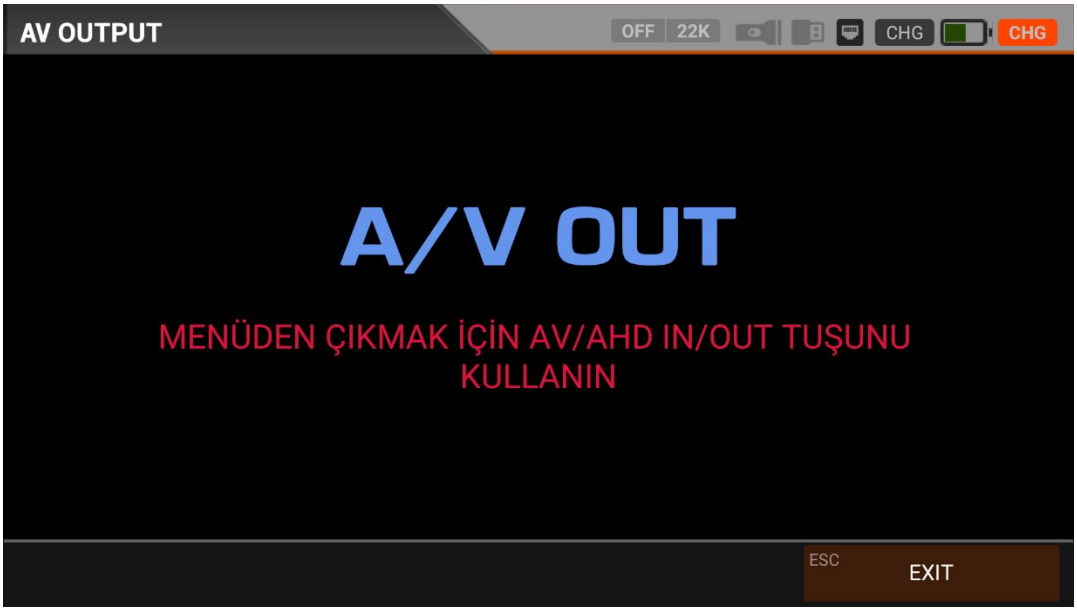
You can test any HDMI source up to 1080p when you select HDMI IN.

HDMI IN	: SD - HD - FHD



The device will count for 3 seconds, and you can test cables and TVs up to 4K resolution when you select HDMI OUT. Press AV/AHD/IN/OUT to exit from this mode to the MAIN MENU.

HDMI OUT : SD - HD - FHD - 4K



The device will count for 3 seconds, and you can perform output pal and tests when you select AV IN / OUT. Press AV/AHD/IN/OUT to exit from this mode to the MAIN MENU.

AV Input : PAL - NTSC AV Input