

Initial Step

Before reading the QAM quick start guide, please refer to the DTS 330 quick start guide that came with your test instrument.

Preparing the QAM Analyzer For Use

To prepare the QAM analyzer for use

- 1 Connect your **QAM source** to the **QAM interface card**.

NOTE

Please refer to the DTS-330 quick start card on how and where to connect your source. The QAM card is labeled RF IN.

- 2 Now open your **QAM analyzer** as described in the DTS quick start guide.
- 3 To view the QAM user interface, select the **QAM icon** in the left pane of the Transport Stream Analyzer window.

The QAM user interface is the icon displayed below Summary, in the left pane. This will bring you to the channel plan set up area. You must input the channel plan information that is unique to your system and press the apply key before the QAM analyzer will work.

Setting-Up QAM Area Parameters

The screenshot shows a 'Set-Up' dialog box with the following parameters:

- Channel Plan: Manual
- Channel: (empty)
- Frequency(MHz): 561
- Modulation: QAM-256
- Symbol Rate(MS/s): 5.360537
- User Input (MS/s): 1
- FEC ANNEX: B
- Interleaver Depth: Auto
- Spectral Inversion: Normal

An 'Apply' button is located at the bottom right of the dialog.

Figure 1 Set-Up Area

Channel Plan

From the drop down box, select your **Channel Plan** type, STD, IRC, or HRC or, Manual.

Channel

If you selected plan type, **STD, IRC or HRC**, use the **Channel** drop down arrow to select the desired channel.

Frequency

If you selected **Manual**, input the desired frequency in this box.

Modulation

From the drop down box, select your **Modulation** type (QAM-64 or QAM-256).

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Symbol Rate (MS/s)

Use the drop down box to input the correct **Symbol Rate** for the channel you have selected. You can get this rate from your administrators.

User Input (MS/s)

If User Input is selected in the Symbol Rate (MS/s) box then the User Input (MS/s) text box allows you to type a Symbol Rate from 1.000000 MS/s to 7.000000 MS/s. If the Symbol Rate of 5.056941 MS/s, 5.360537 MS/s, or 6.952 MS/s is selected the User Input (MS/s) text box is shaded and is unavailable for typing a symbol.

FEC ANNEX:

From the drop down box, select the desired **Forward Error Correction Standard**.

Interleaver Depth

- 1 From the drop down box, select the desired **Interleaver Depth**.

All listed interleaver depths; including Auto can be selected when FEC Annex B is selected. All listed interleaver depths, except Auto can be selected when Annex A_DVB, Annex A_DAVIC and Annex C is selected. Refer to the QAM manual for more info on Interleaver depth.

- 2 Press the **Apply** Key.

Look at the data indicator light in the bottom right of the status bar. It should shortly turn green. That means that your analyzer is receiving data.

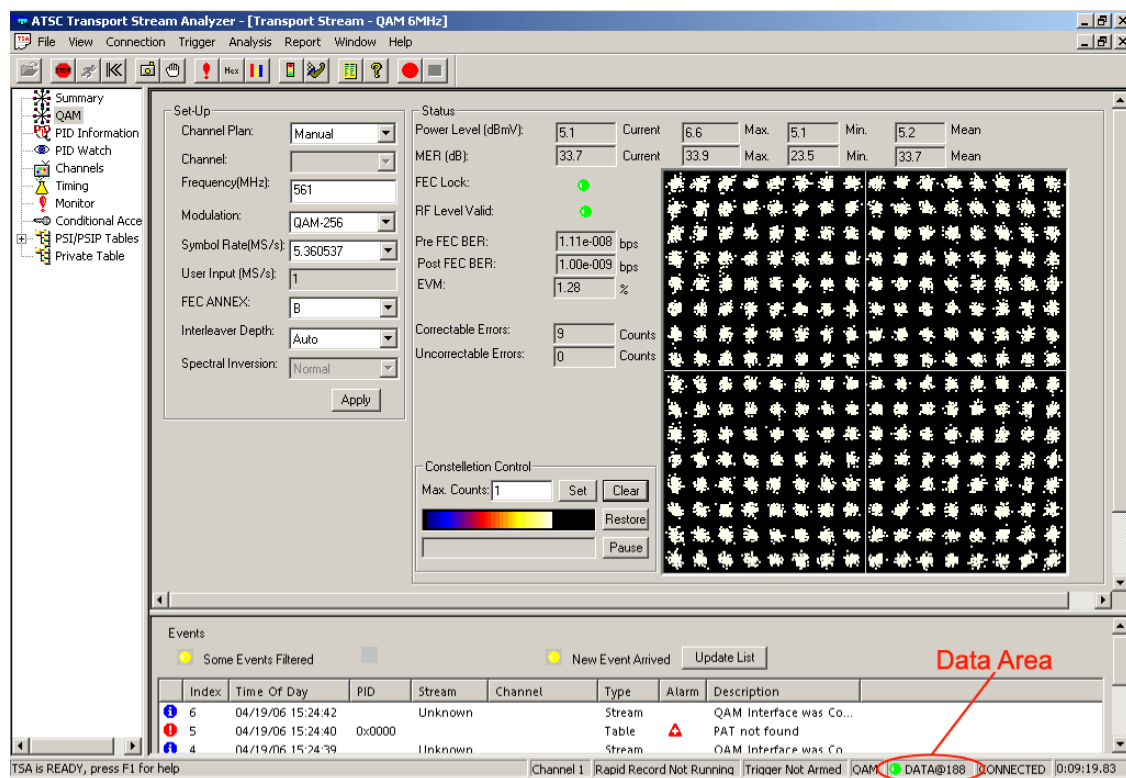


Figure 2 QAM Graphical User Interface

The green indicator in the Data Area (Figure 2) of the status bar displays that your analyzer is receiving data.

To view more information, click items (Summary, QAM, PID Information, PID Watch, Channels, Timing, etc.) in the left pane.

For more information on how to use your DTS analyzer, use help, in the menu bar.

QAM Analyzer Features

Once the QAM Analyzer is setup for use there are numerous available features. The QAM RF analysis provides support for 64 and 256 QAM modulation schemes. It also provides a Constellation diagram with quadrant and point zoom features and allows RF Layer measurements for correlaton of MPEG and RF issues.

Status Area

The Status Area (Figure 3) of the QAM interface display provides various RF, modulation and data status for the QAM signal being received. These include Power Level, MER, FEC Lock indicator, RF Level valid indicator, Pre-FEC BER, Post FEC BER, Correctable Errors, Uncorrectable Errors and Constellation diagram.

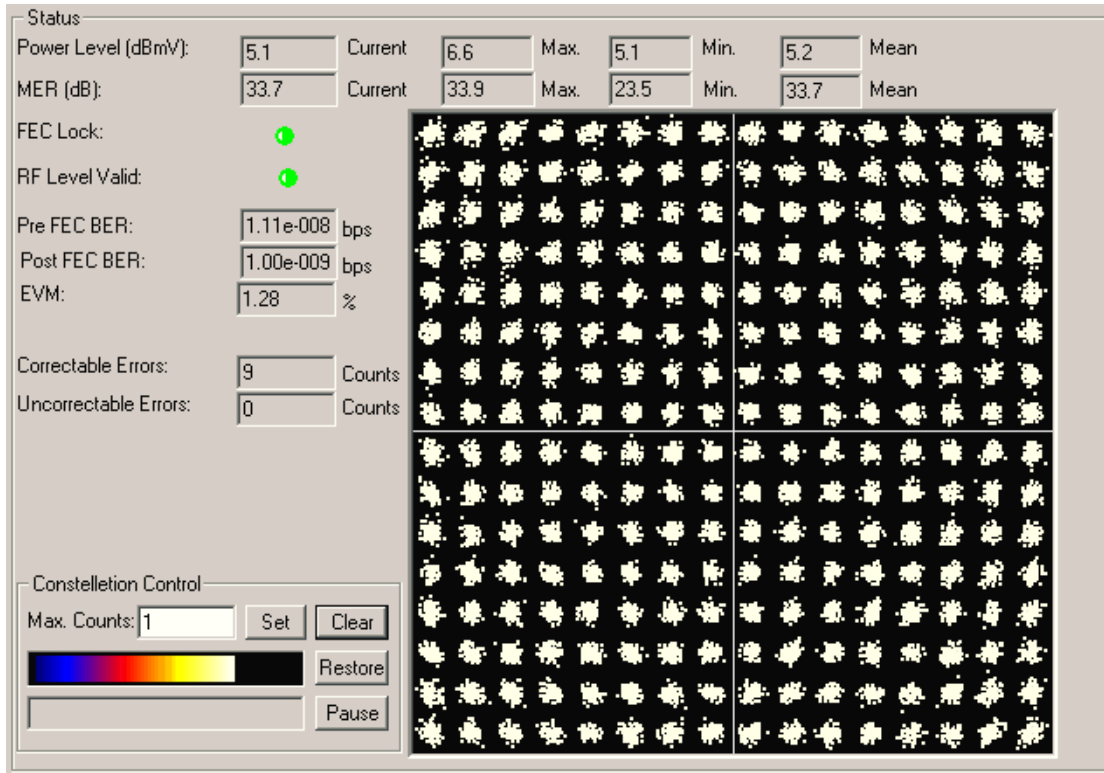


Figure 3 QAM Status Area

Power Level (dBmV)

The Power Level (Current, Maximum, Minimum, Mean) are updated approximately once per second. The operational receive power level range is +15 to -15 dBmV and the optimum input power level is 0 dBmV. The estimated power level reading has an accuracy of +/- 3dB.

MER (dB)

The Modulation Error Ratio (Current, Maximum, Minimum, Mean) are updated approximately once per second. The MER is displayed over a range of 21 dB to a maximum of 38 dB.

FEC Lock

The FEC Lock (lock/unlock) indicator indicates the correct modulation, FEC and interleave depth has been selected and that there is sufficient SNR for the FEC to be effective.

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RF Level Valid

The RF Level Valid (in range/out of range) indicator indicates the received Power Level is between +15 and -15 dBmV.

EVM %

The EVM percentage (Error Vector Magnitude) is the difference between the magnitude component of input signal and the internally generated ideal reference.

Pre and Post FEC BER

The Pre FEC BER and Post FEC Bit Error Rate display a range from 1.00e-003 bps to 1.00e-009 bps.

NOTE

This requires excellent signal reception and an MER over 35dB for 256-QAM. Occasionally an excellent signal will indicate less than 1.00e-009 but over a few seconds time this reading should correct to 1.00e-009.

Correctable and Uncorrectable Errors

The Correctable Error count and Uncorrectable Error count can provide a running count from 0 to 999999999.

NOTE

This requires excellent signal reception and an MER over 35dB for QAM-256. Occasionally an excellent signal will indicate a few correctable and uncorrectable errors in the first second of lock - after this neither count will increment unless some signal problem is encountered.

Constellation Control

The QAM Constellation diagram controls allow the user to set various display option of the constellation diagram.

Troubleshooting

If your red indicator light did not turn green in the status bar and you are experiencing problems, check the following items:

- Make sure your connection type is hardware. You will find this on the menu bar under connection
- Select analysis on the menu bar and then press start. If start is grayed out, that means that the analyzer is already running.
- Select file on the menu bar and make sure that the **profile set type** is the same as your connection type.
- If the indicator light is green but, the stream is not changing, go to view on the menu bar and make sure freeze is **not checked**.
- If you changed channels or if you input the different stream, select analysis on the menu bar and then Reset All. This will clear out any old data from the previous channels or streams.
- For more detail information, use help on the menu bar.
- The DTS 330 is also typically shipped with a manuals short cut on the desk top. These manuals will give you more details about the operation of the DTS and its interface cards.
- If you need Tech Support dial 800-428-4424, extension 8350 for assistance.

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