VDES 1000 Feature Set
and how to enable Optional Features

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1 Introduction

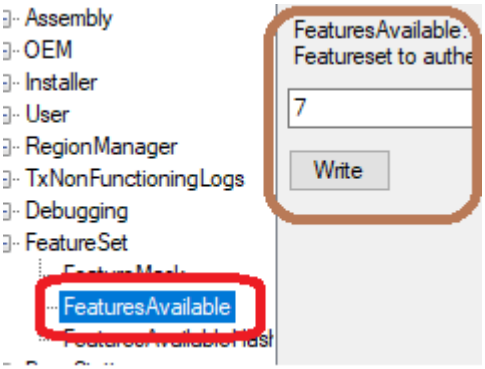
The VDES1000 provides an extensive set of additional features to both demonstrate its capabilities and to assist evaluation. The standard features are to meet the requirement of AIS2.0, these being VDE, ASM and Class A AIS, and are shipped enabled by default on standard VDES1000 units.

The features that are available are given by the value of the **FeaturesAvailable** key.
The features that are currently enabled is given by the **FeatureMask** key.

2 How to check which features are currently available on a VDES1000 Unit

Click on the **Configuration** tab in the **VDES Engineering Control Application** (the GUI).

1. Click **FeaturesAvailable** indicated by the red box in the following image.

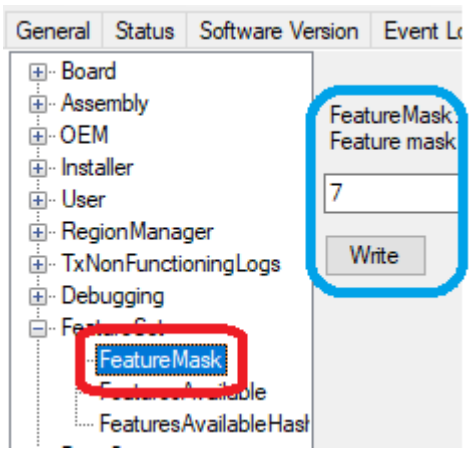


The value of the **FeaturesAvailable** key is given in the edit box, indicated by the brown box in the image. The value in binary corresponds to the same features as described above. In this example the default features of VDE, ASM and AIS are available. To enable additional features requires an Authorisation Code from CML.

3 How to check which features are currently enabled on a VDES1000 unit

Click on the **Configuration** tab in the **VDES Engineering Control Application** (the GUI).

1. Expand the **FeatureSet** menu by clicking the + symbol.
2. Click on **FeatureMask** highlighted by the red box in the following image.



The value of the **FeatureMask** key is displayed in the edit box (highlighted in the blue box) and determines what Features are currently enabled. The text description above the edit box identifies which bit is associated with each feature. The example value of 7, equal to binary 111, where b2 = VDE, b1 = ASM and b0 = AIS. Therefore, in this example, VDE, ASM and AIS features are enabled. This is the default for VDES1000 units.

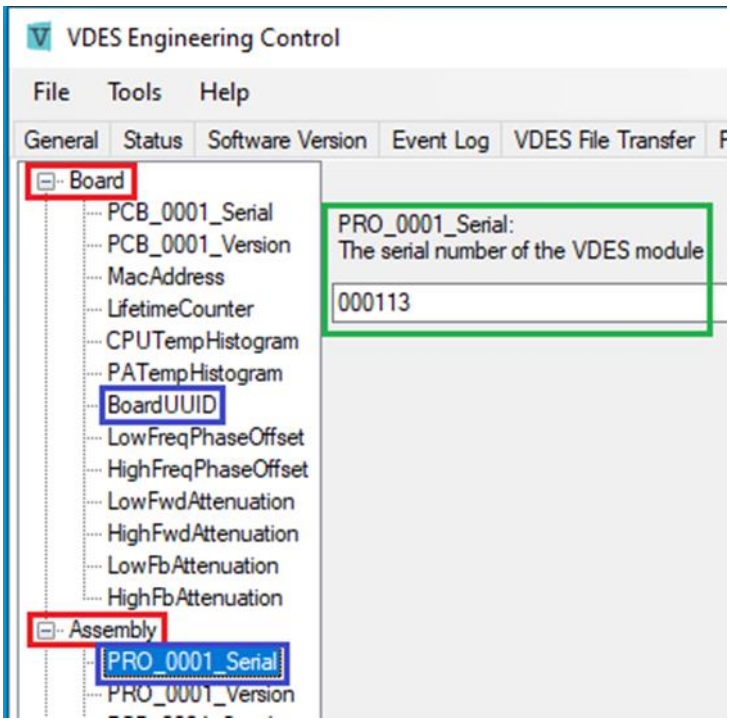
These are the features supported by the VDES1000 (Firmware version 5.17):
LSB0 = AIS, LSB1 = VDE, LSB2 = ASM, LSB3 = Exact ASM Heartbeat, LSB4 = Exact ASM Periodic Client Specified Payload, LSB5 = Test Platform, LSB6 = Base Station, LSB7 = TSA-VDM RATDMA

Where a bit setting =0 means disabled =1 means enabled.

4 VDES100 Features Authorisation

To enable additional features, you will need to obtain relevant Authorisation Codes for your VDES1000 units. CML Technical Support require two keys from the configuration tables of each VDES1000 unit to provide the Authorisation Codes. Please follow these instructions to obtain the required keys:

1. Expand the **Board** and **Assembly** menus by clicking the + symbol as shown in the red boxes in the following image.



2. Click on **PRO_0001_Serial,** highlighted blue in a blue box. The assigned key is displayed in an edit box, highlighted in green. Note its value, 000113 in this example.
3. Click on **BoardUUID,** indicated by the other blue box. The assigned key will be displayed in the edit box. Note its value.
4. Repeat the process for all the VDES1000 units that need authenticating.

These are the features supported by the VDES1000 (Firmware version 5.17):
LSB0 = AIS, LSB1 = VDE, LSB2 = ASM, LSB3 = Exact ASM Heartbeat, LSB4 = Exact ASM Periodic Client Specified Payload, LSB5 = Test Platform, LSB6 = Base Station, LSB7 = TSA-VDM RATDMA
Where a bit setting =0 means disabled, =1 means enabled.

Send a request to techsupport@cmlmicro.com noting that you require Authorisation Codes for the following features on these VDES1000 units. The required features can be in text format or in decimal format.

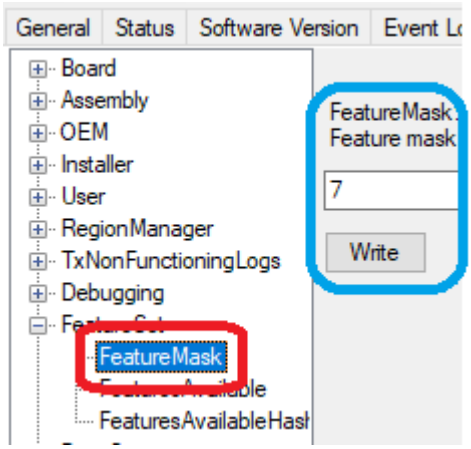
PCB_0001_Serial	BoardUUID	Features or Feature Mask

Authorisation Codes may be returned from CML in CSV format where the following order is applied:
PCB_0001_Serial, BoardUUID, FeatureMask, Authorisation Code

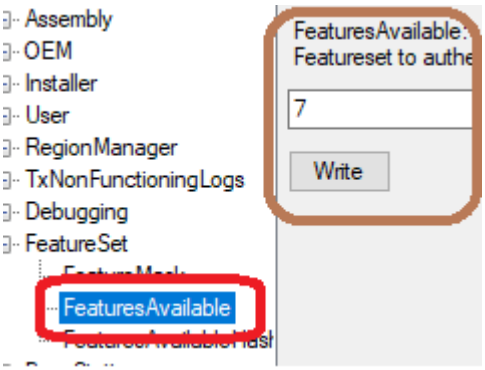
4.1 To Program the Authorisation Codes

Click on the Configuration tab in the VDES Engineering Control Application:

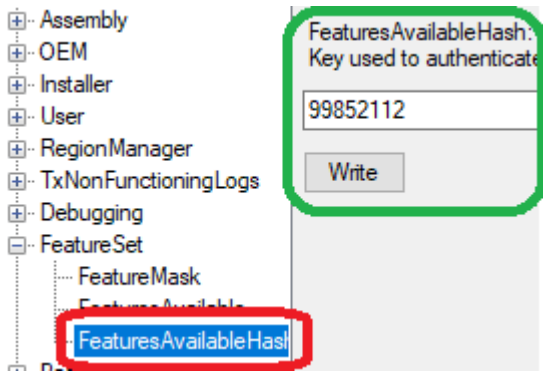
1. Expand the **FeatureSet** menu by clicking the + symbol.
2. Click on **FeatureMask.** You will see the following:



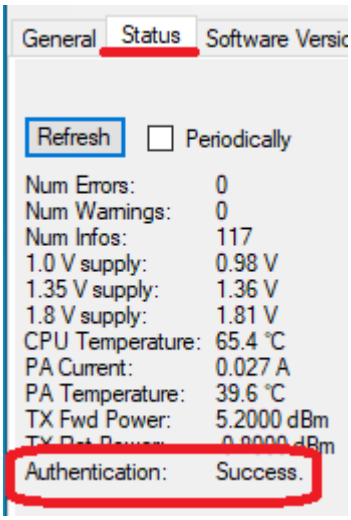
3. In the **FeatureMask** edit box (see blue box), enter the corresponding value from the table. The value can be entered in hex or decimal format. Decimal is the default and if entered in hex, the value should be prefixed with the 0x format specifier.
4. Click **Write.**
5. Do not Reset the unit.
6. Click **FeaturesAvailable**. You will see the following:



7. In the **FeaturesAvailable** edit box (see brown box), enter the corresponding value from the table.
8. Click **Write.**
9. Do not reset the unit.
10. Click **FeaturesAvailableHash.** You will see the following:



11. In the **FeaturesAvailableHash** edit box (see green box), enter the corresponding Authorisation Code provided by CML. This value must be exactly the same as the one provided to CML when requesting the Authorisation Code or the Authentication will not be successful.
12. Click **Reset** (Do not power cycle the unit or the settings will be discarded).
13. Wait for the VDES unit to restart fully.
14. Click on the Status tab. This should show **Authentication: Success** as shown below.



4.2 If The Authentication Fails

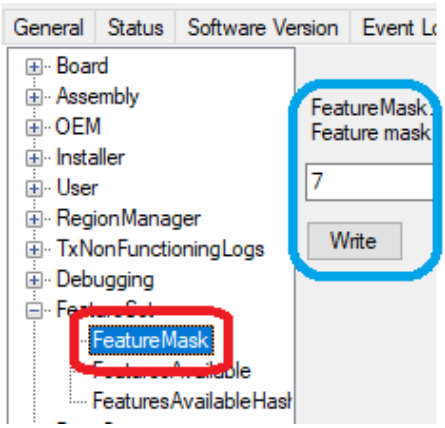
The VDES unit will no longer be fully functional.
Ensure that the Authorisation Code that was programmed corresponds with the UUID provided to CML. If it has been programmed correctly, please contact CML support and provide the following information:

- A configuration dump from he unit
- The steps you followed and the results from each stage

5 Enabling and Disabling Features

To use the Features you will need to enable them. This repeats one of the previous steps but must be done or the previous feature settings will persist.

1. Click on **FeatureMask.** You will see the following:



2. In the **FeatureMask** edit box (see blue box), enter the value to enable the required features. See the text above the Edit box that gives the bit settings for each feature. The value can be entered in decimal or hex. Decimal is the default and if entered in hex, the value should be prefixed with the 0x format specifier.
3. Click **Write**
4. Click **Reset**
5. Wait for the unit to fully reset and your VDES unit is ready to use.

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