

How to Add Captions/Text to AVDS

Background

Captions/text can be added to AVDS in every operating mode. These captions can be used for such purposes as adding titles to a video and identifying entities in the scene. Captions can be attached to entities in 3D space or fixed relative to the 2D widow. Font type, size, and color as well as fade-in and fade-out are all configurable.

There are three methods to add text, one for all modes except *observer*, one for *playback* modes, and one for *observer* mode. The first method is implemented through a *UserText* User Code Block (UCB) and positions captions relative to the 2D widow, see Fig. Cap-1. The *UserText* UCB make it possible to add title and captions to AVDS during *Simulation*, *Model*, *Sim/Play*, and *Playback* modes. The second and third methods are built in to AVDS and attach the text to entities in the scene, see Fig. Cap-2

The following sections explain how to add text to AVDS using the three methods discussed above.

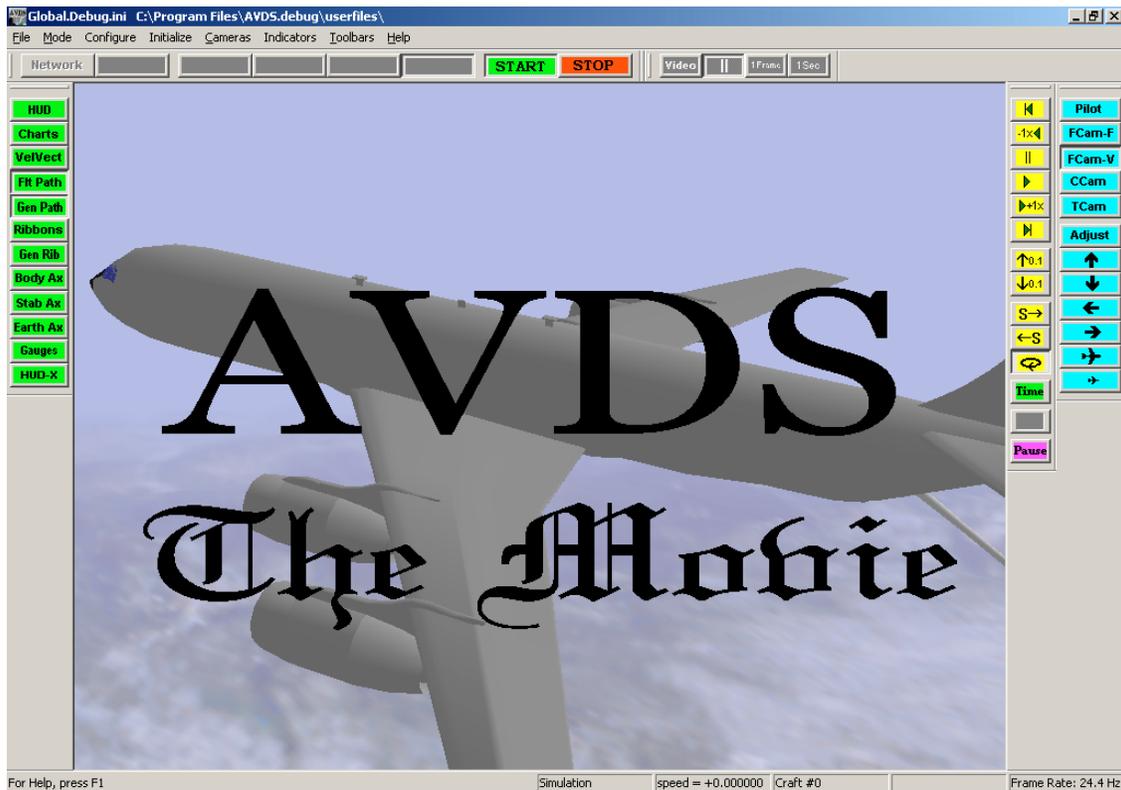


Figure Cap-1 Caption displayed using the *UserText* UCB

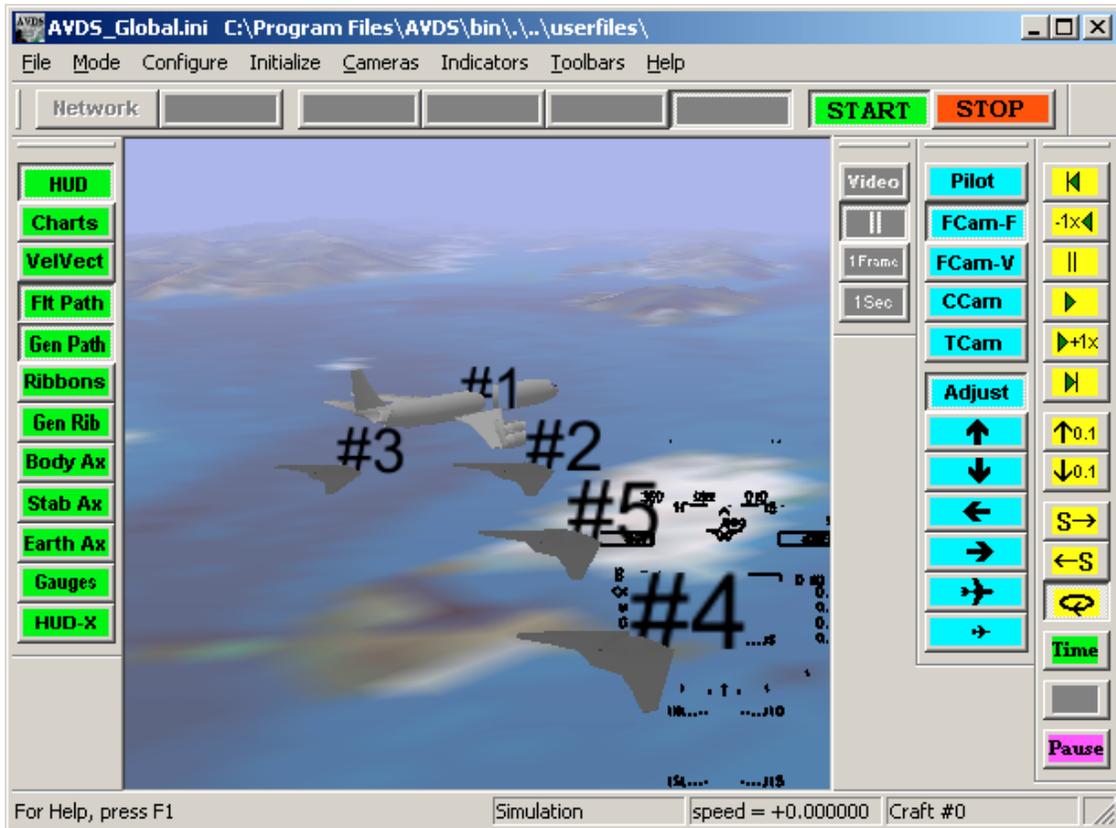


Figure Cap-2 Entity text as displayed during *Play*, *Sim/Play*, and *Observer* modes.

Adding Captions/Text Using the UserText UCB

The UserText UCB make it possible to add title and captions to AVDS during *Simulation, Model, Sim/Play, and Playback* modes. UserText makes provisions for adding multiple captions. The settings for each of the captions are independent of the other, i.e. one can set caption text, position, size, fade in/out for each caption. Note: the *UserText UCB* source code is provided with AVDS making these function user configurable. For more information on the *UserText UCB*, see the appendix of the AVDS User's Manual.

To add a caption using the *UserText UCB*:

1. Select the *UserText UCB*, see (Fig. **Cap-3**):
 - (Open the *Simulation* or *Playback Block* configuration window) From the AVDS menus select **Configure->Simulation** or **Configure->Playback Blocks** (which one depends on the mode selected)
 - From the list labeled **UserCodeBlocks** select (left-click) on the *UCB* labeled **UserText**
 - Drag a **Time** entry from the **Outputs** and drop it on the **Inputs** entry labeled **User Text**. Note: this is the time that is used by the *User Text UCB* to implement fading in/out of captions.
2. Open the *UserText* configuration dialog window, see (Figs. **Cap-3 and Cap-4**):
 - (In the *Simulation* or *Playback Block* configuration window) Open the *UserText Caption Interface* dialog window by right-clicking on the **UserText UCB**
3. Configure the caption, see (Fig. **Cap-4**):
 - Add the text of the caption in the area marked **Caption**
 - Select the style of type using the drop-down list marked **Font**.
 - Set the position, scale, line spacing, and character size by moving the sliders or entering the values in the spaces provided.
 - Change the text color with a color selection dialog window by pressing the button labeled **Text Color**.
 - If desired, add a time to appear and time to disappear in the **Time Appear** and **Time Disappear** spaces. Note: a “-1” in these spaces causes the entry to default to the start or end time.
 - If desired, entries for **Fade-In-Length** and **Fade-Out-Length** will cause the captions to gradually appear/disappear at the times set for **Time Appear/Time Disappear**.
4. Add a caption, see (Fig. **Cap-4**):
 - Use the buttons, **Add Caption** and **Delete Caption** to add or remove captions. Note: adding new captions results in new tabs near the top of the dialog window. Use these tabs to select a caption to configure.
5. Close the *UserText* configuration dialog window using the button marked **OK**. Press either **Save** or **Save As** in the *Playback Blocks* or *Simulation* configuration dialog window.

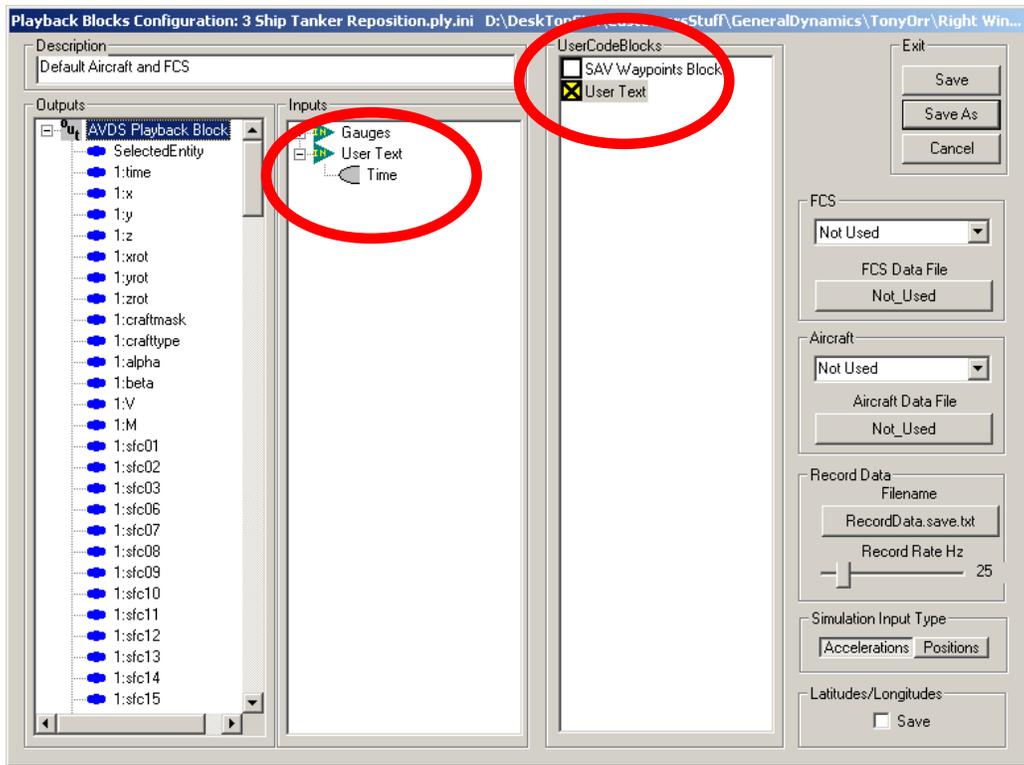


Figure Cap-3 Playback Blocks dialog window (similar to the Simulation blocks dialog window).

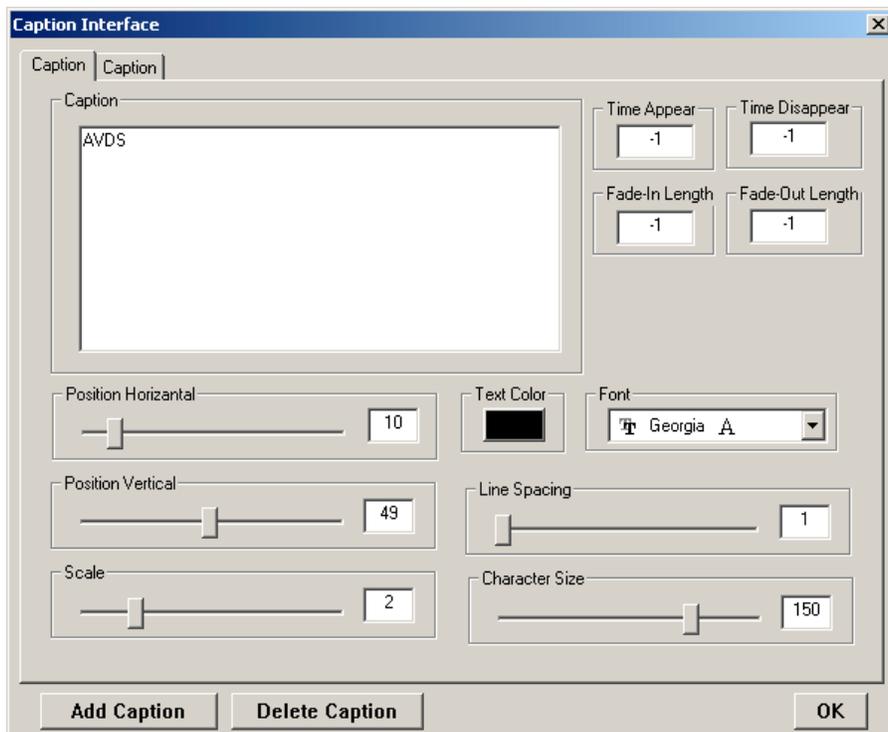


Figure Cap-4 Caption displayed using the *UserText* UCB

Adding Text to Entities in Playback Mode

In *Play* or *Sim/Play* modes unique text captions can be attached to each entity. The caption for each entity is configured independently by opening the **Entity Caption** dialog window for the selected entity.

To attached a text caption to a *Play* or *Sim/Play* entity:

1. Enable the entity caption and open the entities' **Entity Caption** dialog window (see Figs. **Cap-5** and **Cap-6**):
 - Open the *Playback Configuration* dialog window, from the AVDS menus select **Configure ->Playback**
 - Select the desired Entity ID
 - Enable the entity caption by selecting the check box marked **Enable** in the **Entity Caption** area of the dialog window.
 - Open the entities' **Entity Caption** dialog window by pressing the **button** located above the **Enable** check box in the **Entity Caption** area of the dialog window.
Note: the label on this button is the caption which is defaulted to the entity number, e.g. "#1"
2. Configure the entities' caption (see Fig. **Cap-6**):
 - Add the text of the caption in the area marked **Caption**
 - Select the style of type using the drop-down list marked **Font**.
 - Set the position, scale, and character size by moving the sliders or entering the values in the spaces provided.
 - Change the text color with a color selection dialog window by pressing the button labeled **Text Color**.
 - If desired, add a time to appear and time to disappear in the **Time Appear** and **Time Disappear** spaces. Note: a "-1" in these spaces causes the entry to default to the start or end time.
 - If desired, entries for **Fade-In-Length** and **Fade-Out-Length** will cause the captions to gradually appear/disappear at the times set for **Time Appear/Time Disappear**.
3. Close the **Entity Caption** dialog window using the button marked **OK** or **Cancel**. Change the **Entity ID** to configure the caption for another entity. Press either **Save** or **Save As** to close the *Playback Configuration* dialog window (see Figs. **Cap-5** and **Cap-6**).

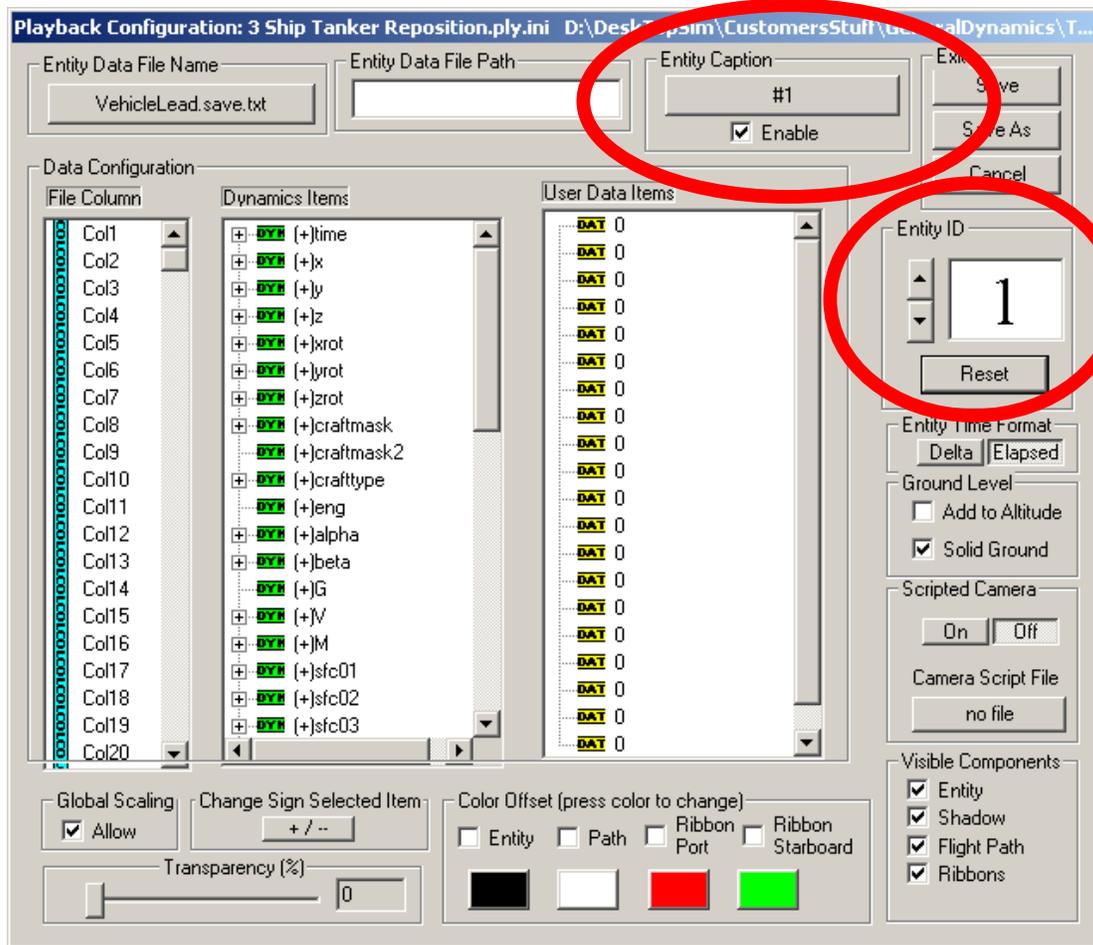


Figure Cap-5 Playback Configuration dialog window with Entity Caption and Entity ID areas highlighted

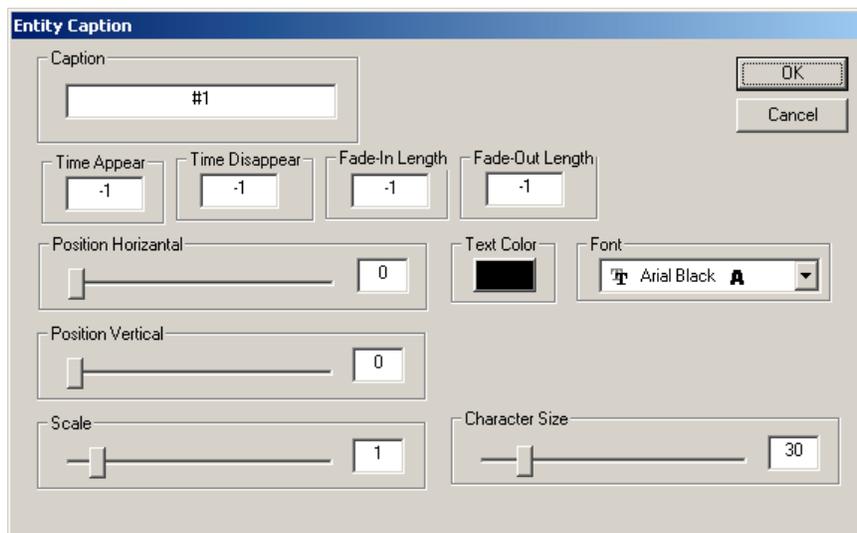


Figure Cap-6 Playback Entity Caption dialog window.

Adding Text to Entities in Observer Mode

In *Observer* mode text captions can be attached to each networked entity. The captions for all of the entities are configured by opening the networking **Entity Caption** dialog window.

To attached text captions to all of the Networked entities:

1. Enable the entity caption and open the entities' **Entity Caption** dialog window (see Figs. **Cap-7** and **Cap-8**):
 - Open the *Networking Configuration* dialog window, from the AVDS menus select **Configure ->Networking**
 - Enable the entity caption by selecting the check box marked **Enable** in the **Entity Caption** area of the dialog window.
 - Open the *Entity Caption* dialog window by pressing the **Configure** button located above the **Enable** check box in the **Entity Caption** area of the dialog window.
2. Configure the captions (see Fig. **Cap-8**):
 - Note: the caption text, for each networking entity, is set to the string transmitted in the entities' *Simulation ID*. The program sending the networking packets sets the *Simulation ID*. If that program is AVDS, then the *Simulation ID* is set in the *Networking Configuration* dialog window.
 - Select the style of type using the drop-down list marked **Font**.
 - Set the position, scale, and character size by moving the sliders or entering the values in the spaces provided.
 - Change the text color with a color selection dialog window by pressing the button labeled **Text Color**.
3. Close the **Entity Caption** dialog window using the button marked **OK** or **Cancel**. Press either **Save** or **Save As** to close the *Networking Configuration* dialog window (see Figs. **Cap-7** and **Cap-8**).

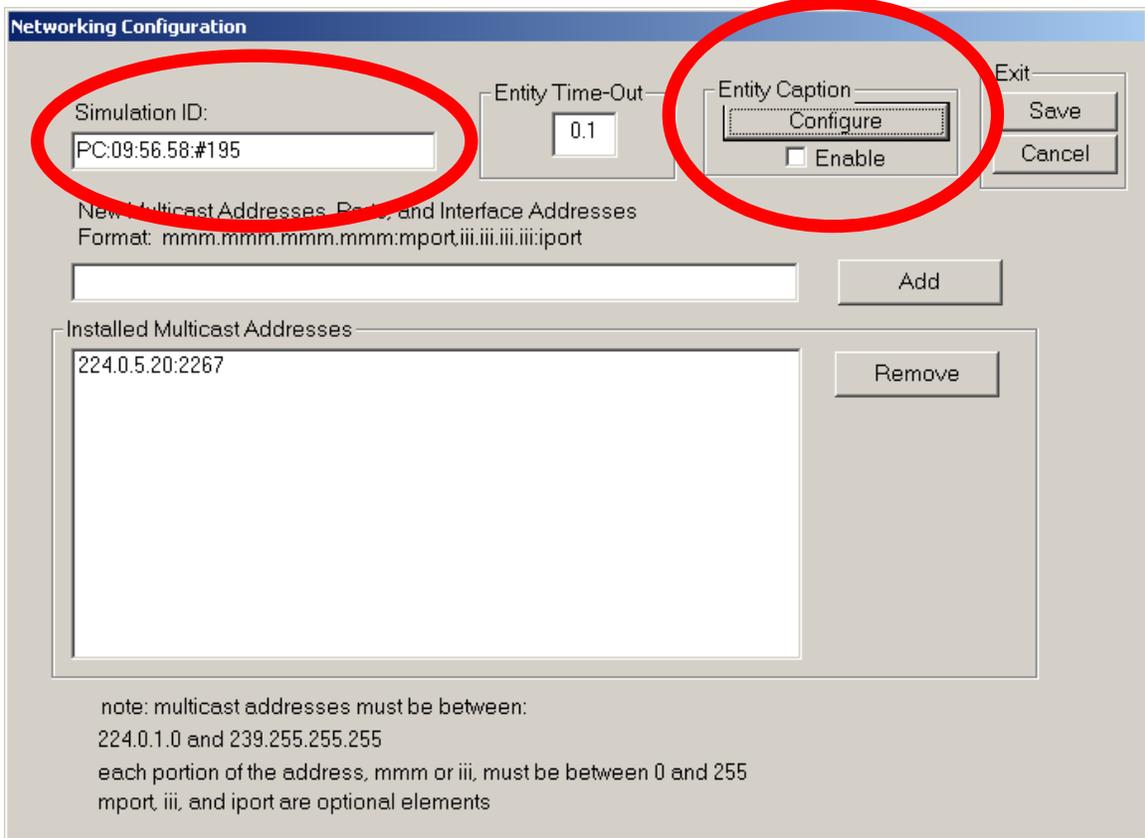


Figure Cap-7 Network Configuration dialog window with Entity Caption area and Simulation ID highlighted.

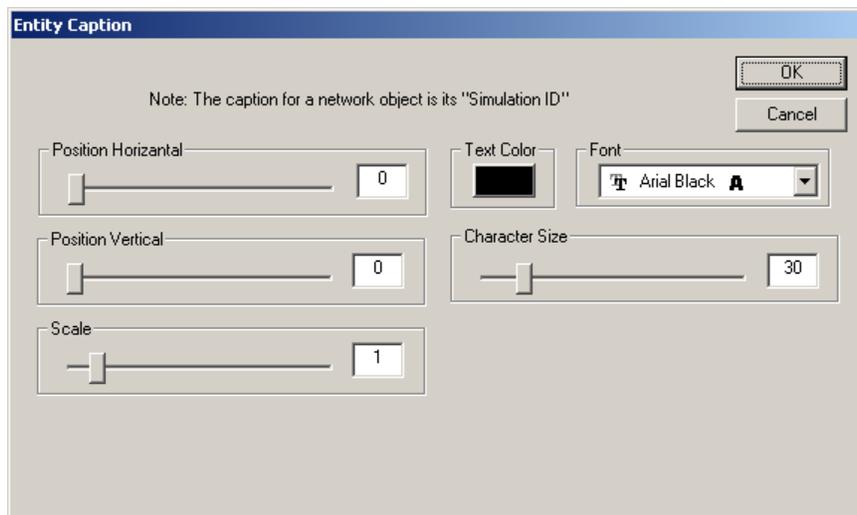


Figure Cap-8 Network Entity Caption configuration dialog window.