

Chat Display Plug-in

US Naval Research Laboratory

Code 5773

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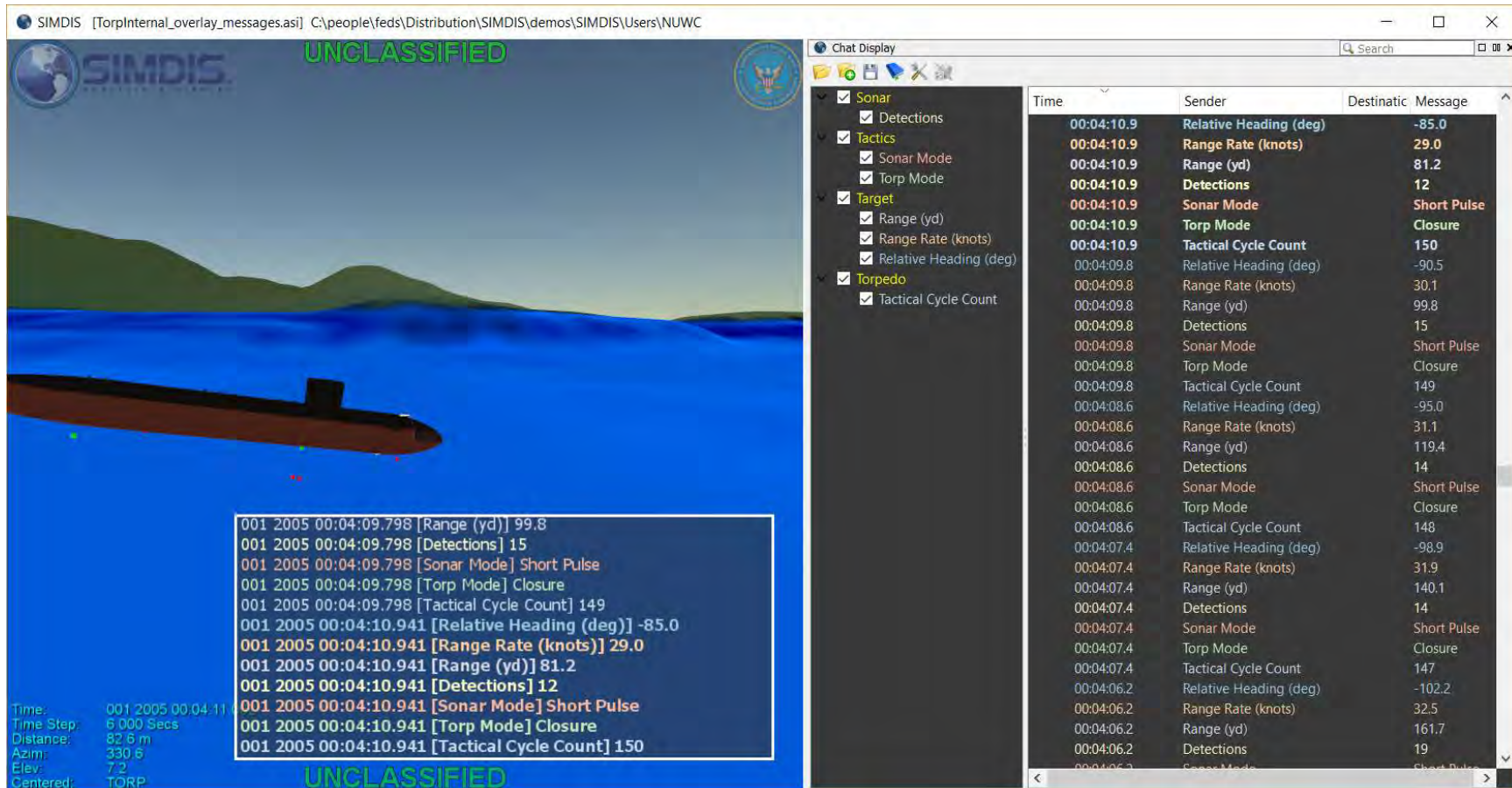
<https://simdis.nrl.navy.mil>

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Introduction

The Chat Display Plug-in provides various options for displaying chat data in a specialized format. It replaces the old Overlay Messages Plug-in. It will display both overlay text in a HUD window as well as provide a separate dockable dialog window.



Chat Display

| Time | Sender | Destination | Message |
|------------|------------------------|-------------|---------|
| 00:04:10.9 | Relative Heading (deg) | -85.0 | |
| 00:04:10.9 | Range Rate (knots) | 29.0 | |
| 00:04:10.9 | Range (yd) | 81.2 | |
| 00:04:10.9 | Detections | 12 | |
| 00:04:10.9 | Sonar Mode | Short Pulse | |
| 00:04:10.9 | Torp Mode | Closure | |
| 00:04:10.9 | Tactical Cycle Count | 150 | |
| 00:04:09.8 | Relative Heading (deg) | -90.5 | |
| 00:04:09.8 | Range Rate (knots) | 30.1 | |
| 00:04:09.8 | Range (yd) | 99.8 | |
| 00:04:09.8 | Detections | 15 | |
| 00:04:09.8 | Sonar Mode | Short Pulse | |
| 00:04:09.8 | Torp Mode | Closure | |
| 00:04:09.8 | Tactical Cycle Count | 149 | |
| 00:04:08.6 | Relative Heading (deg) | -95.0 | |
| 00:04:08.6 | Range Rate (knots) | 31.1 | |
| 00:04:08.6 | Range (yd) | 119.4 | |
| 00:04:08.6 | Detections | 14 | |
| 00:04:08.6 | Sonar Mode | Short Pulse | |
| 00:04:08.6 | Torp Mode | Closure | |
| 00:04:08.6 | Tactical Cycle Count | 148 | |
| 00:04:07.4 | Relative Heading (deg) | -98.9 | |
| 00:04:07.4 | Range Rate (knots) | 31.9 | |
| 00:04:07.4 | Range (yd) | 140.1 | |
| 00:04:07.4 | Detections | 14 | |
| 00:04:07.4 | Sonar Mode | Short Pulse | |
| 00:04:07.4 | Torp Mode | Closure | |
| 00:04:07.4 | Tactical Cycle Count | 147 | |
| 00:04:06.2 | Relative Heading (deg) | -102.2 | |
| 00:04:06.2 | Range Rate (knots) | 32.5 | |
| 00:04:06.2 | Range (yd) | 161.7 | |
| 00:04:06.2 | Detections | 19 | |
| 00:04:06.2 | Sonar Mode | Short Pulse | |
| 00:04:06.2 | Torp Mode | Closure | |
| 00:04:06.2 | Tactical Cycle Count | 146 | |

HUD Window

001 2005 00:04:09.798 [Range (yd)] 99.8
 001 2005 00:04:09.798 [Detections] 15
 001 2005 00:04:09.798 [Sonar Mode] Short Pulse
 001 2005 00:04:09.798 [Torp Mode] Closure
 001 2005 00:04:09.798 [Tactical Cycle Count] 149
 001 2005 00:04:10.941 [Relative Heading (deg)] -85.0
 001 2005 00:04:10.941 [Range Rate (knots)] 29.0
 001 2005 00:04:10.941 [Range (yd)] 81.2
 001 2005 00:04:10.941 [Detections] 12
 001 2005 00:04:10.941 [Sonar Mode] Short Pulse
 001 2005 00:04:10.941 [Torp Mode] Closure
 001 2005 00:04:10.941 [Tactical Cycle Count] 150

Time: 001 2005 00:04:11.0
 Time Step: 6.000 Secs
 Distance: 82.6 m
 Azim: 330.6
 Elev: 7.2
 Centered: TORP

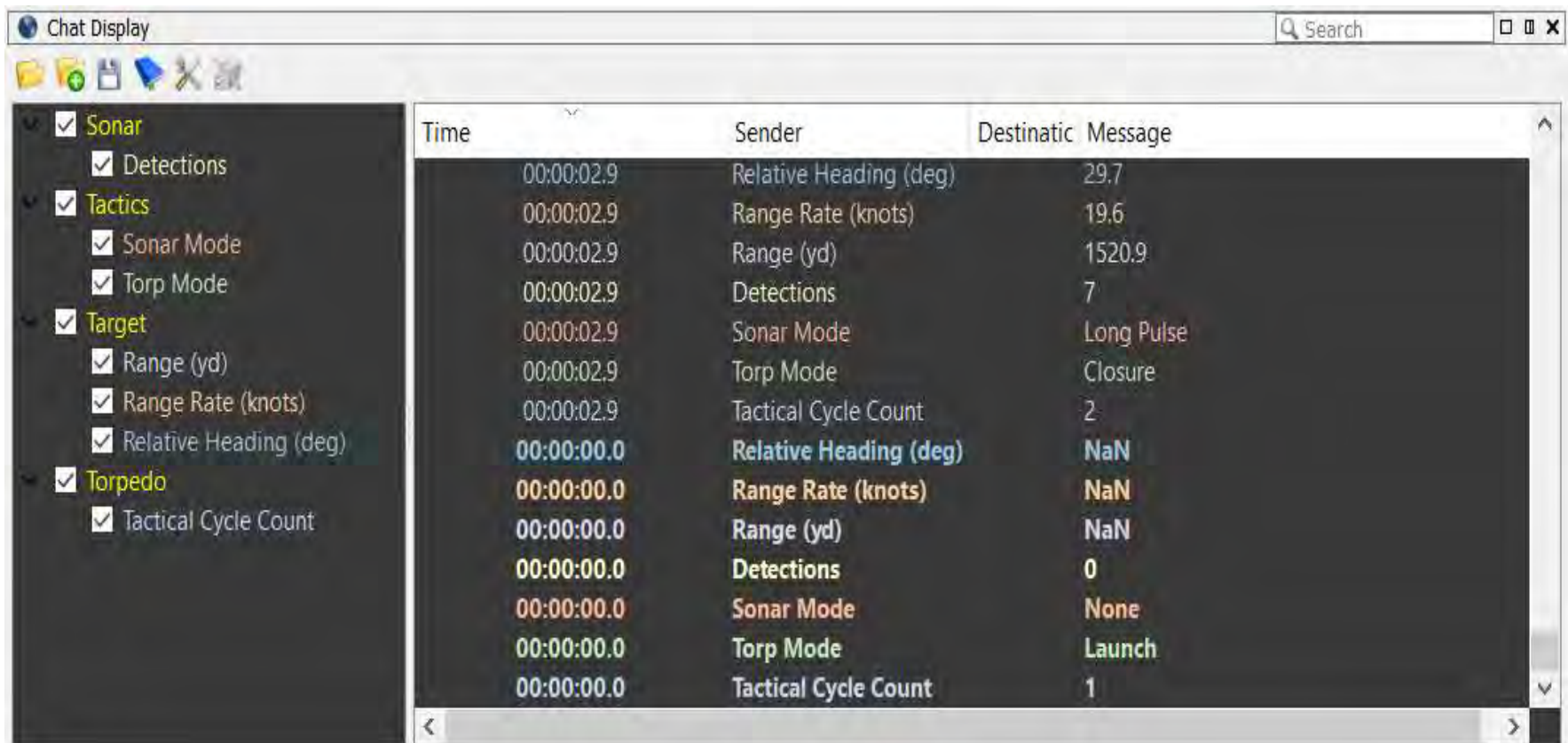
Chat data can be passed to the plug-in using the ChatDisplayInterface, which is part of the Plug-in API interfaces. This interface is currently supported by the JREAP Plug-in and the JAARDS Plug-in, which both pass along chat messages through the interface to the Chat Display Plug-in. The plug-in also supports the legacy method of reading chat data from the 'OverlayMessages' data table.

The ChatDisplayPlugin uses some terminology that may be different from what users are accustomed to:

- **“Channel” – The recipient of a message, similar to a chat room**
- **“Sender” – The origin of a message, be it a user or a system message**

Dialog

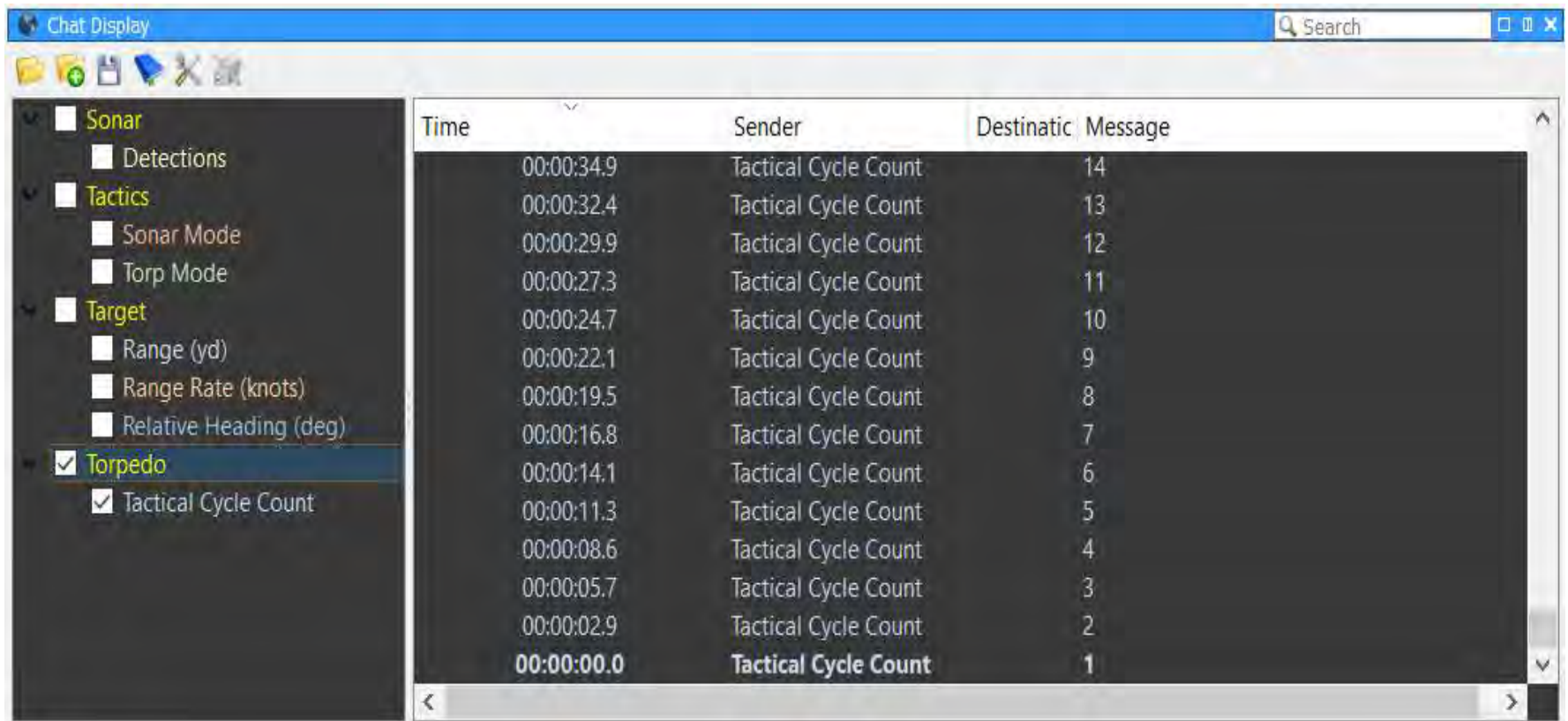
The main dialog for the Chat Display Plug-in displays the channel and sender data on the left, and the chat message data in the list on the right. All the columns in the list are sortable.



| Time | Sender | Destination | Message |
|------------|------------------------|-------------|---------|
| 00:00:02.9 | Relative Heading (deg) | 29.7 | |
| 00:00:02.9 | Range Rate (knots) | 19.6 | |
| 00:00:02.9 | Range (yd) | 1520.9 | |
| 00:00:02.9 | Detections | 7 | |
| 00:00:02.9 | Sonar Mode | Long Pulse | |
| 00:00:02.9 | Torp Mode | Closure | |
| 00:00:02.9 | Tactical Cycle Count | 2 | |
| 00:00:00.0 | Relative Heading (deg) | NaN | |
| 00:00:00.0 | Range Rate (knots) | NaN | |
| 00:00:00.0 | Range (yd) | NaN | |
| 00:00:00.0 | Detections | 0 | |
| 00:00:00.0 | Sonar Mode | None | |
| 00:00:00.0 | Torp Mode | Launch | |
| 00:00:00.0 | Tactical Cycle Count | 1 | |










Filtering

Chat messages can be filtered by either channel or sender. Checking any of the channel or sender items will toggle the display of their messages, which is useful for cleaning up the display to focus on specific chat data. The filtering state applies to both the dialog message list as well as the HUD window overlay text.



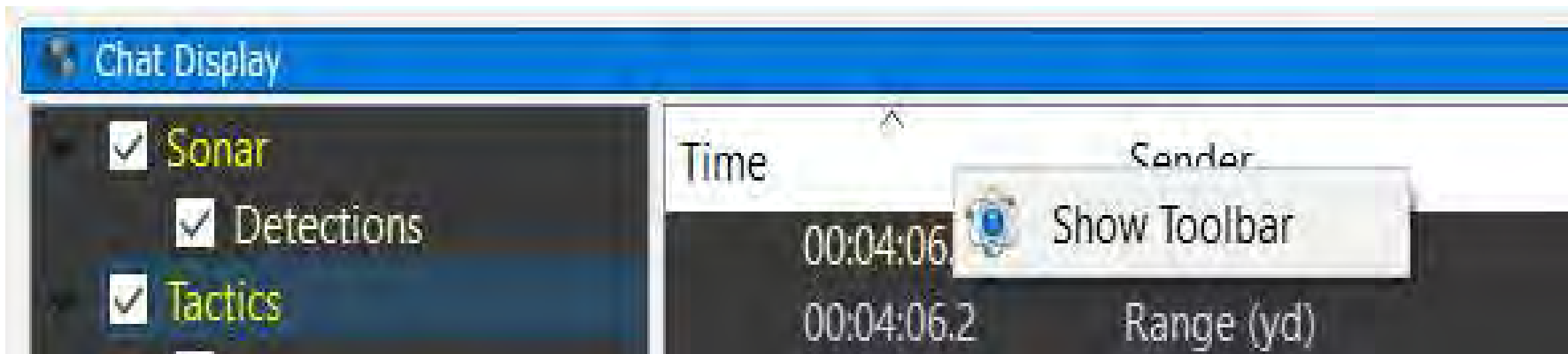
The screenshot shows a window titled "Chat Display" with a search bar and a sidebar of filters. The main area displays a list of chat messages with columns for Time, Sender, Destination, and Message. The "Torpedo" filter is selected in the sidebar, and the "Tactical Cycle Count" sub-filter is also selected. The message list shows 14 entries, all from "Tactical Cycle Count", with times ranging from 00:00:34.9 down to 00:00:00.0.

| Time | Sender | Destination | Message |
|------------|----------------------|-------------|---------|
| 00:00:34.9 | Tactical Cycle Count | 14 | |
| 00:00:32.4 | Tactical Cycle Count | 13 | |
| 00:00:29.9 | Tactical Cycle Count | 12 | |
| 00:00:27.3 | Tactical Cycle Count | 11 | |
| 00:00:24.7 | Tactical Cycle Count | 10 | |
| 00:00:22.1 | Tactical Cycle Count | 9 | |
| 00:00:19.5 | Tactical Cycle Count | 8 | |
| 00:00:16.8 | Tactical Cycle Count | 7 | |
| 00:00:14.1 | Tactical Cycle Count | 6 | |
| 00:00:11.3 | Tactical Cycle Count | 5 | |
| 00:00:08.6 | Tactical Cycle Count | 4 | |
| 00:00:05.7 | Tactical Cycle Count | 3 | |
| 00:00:02.9 | Tactical Cycle Count | 2 | |
| 00:00:00.0 | Tactical Cycle Count | 1 | |

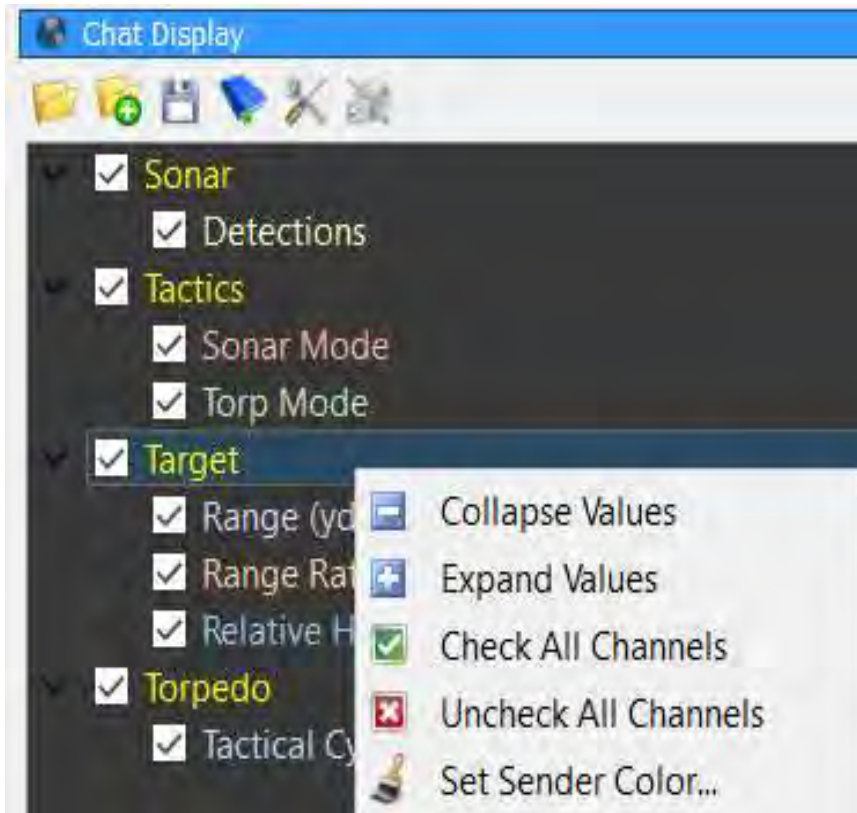
-  **Load a chat file that is in a supported format.**
-  **Load and append chat file that is in a supported format.**
-  **Save the chat message to a SIMDIS Chat (*.schat) formatted file.**
-  **Export the existing chat messages to bookmarks as comments.**
-  **Copy the selected message to the global clipboard.**
-  **Show the Configuration dialog.**
-  **Refresh the sender colors used from SIMDIS labels.**
-  **Allows for the configuration of multiple HUDs.**
-  **Display this PDF file.**

Toggle Toolbar

The toolbar can be toggled from the main right-click context menu. Note this menu is not available in the Sender/Channel list, but right clicking anywhere else on the display will activate it.



Channel/Sender List Options



The right-click context menu on the Channel/Sender list offers different options. It provides quick options to collapse/expand all items, as well as to check/uncheck all items. It also offers the option to set the color of the Sender (a.k.a. User) text dynamically. Note that color can only be changed for a Sender, not a top level Channel item.

Configuration

Chat Display Configuration

☐ Automatically Export to Bookmarks

☒ Display On First Message

☐ Use SIMDIS Label Color as Sender Color

☒ Hide Blank Messages

☒ Enable Auto-Scroll To Time

☒ Highlight Current Messages

Lead Items:

☒ Background Color

☒ Channel/Chat Room Color

Chat Display

☒ Show Time

☒ Show Sender

☒ Show Destination

☒ Show Message

HUD Window

☐ Show HUD Window

☐ Lock HUD Window

☐ Show Time Stamp

Font Size:

Time To Remain:

Configuration

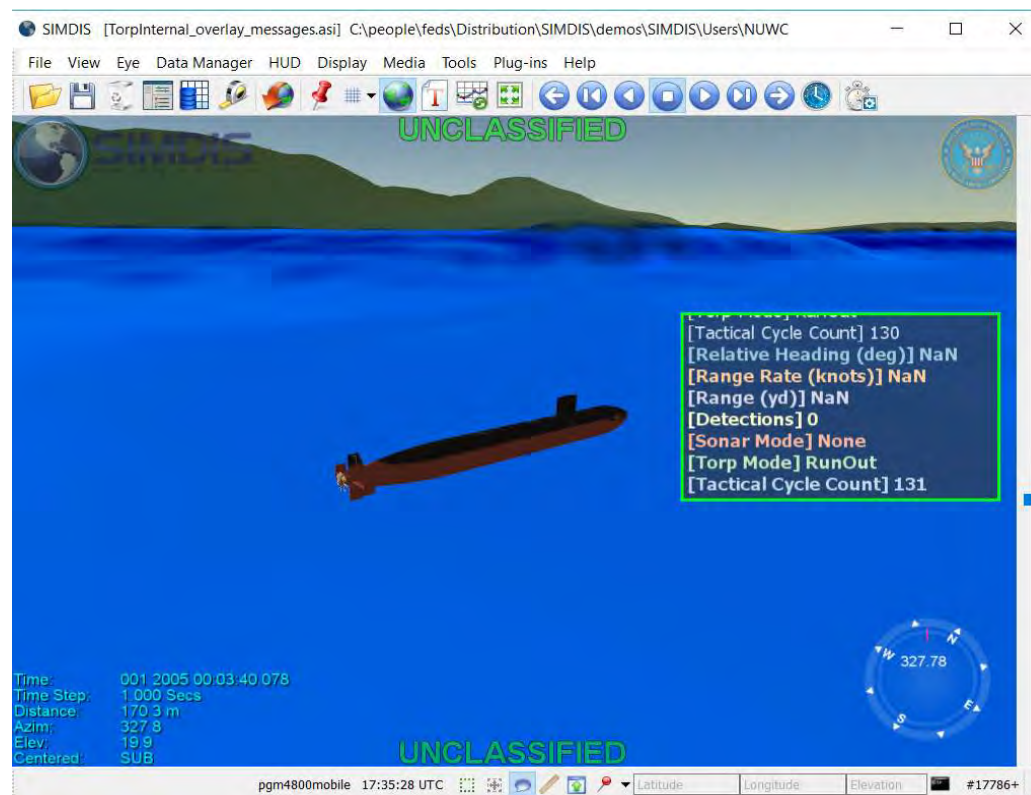
- **‘Automatically Export to Bookmarks’** will always generate comment bookmarks from all chat messages after a file is loaded or after transitioning into file mode.
- **‘Display on First Message’** will have the main dialog pop-up when the first chat message comes in.
- **‘Use SIMDIS Label Color as Sender Color’** will update the colors of each sender to the current label color of the equivalent entity in SIMDIS, if it exists. This assumes there is a platform in SIMDIS with a callsign that matches the name of the Sender.
- **‘Hide Blank Messages’** will hide any message that has no text.
- **‘Enable Auto-Scroll To Time’** will automatically scroll the message list in the dialog to the messages valid at the current time as scenario time changes. Note this has no effect on the HUD window, since that will always scroll to the current messages.
- **‘Highlight Current Messages’** will add a bold enlargement to indicate the chat messages valid at the current scenario time.
- **screen after their valid scenario time has passed. Note that 0 means no limit.**

Configuration

- **‘Lead Items’** is useful in file mode, defining a number of leading messages to show before the current messages to get a preview of upcoming messages as scenario time scrolls.
- **‘Background Color’** controls the color of the background for both the dialog and the HUD window.
- **‘Channel/Chat Room Color’** controls the text color for the top level channel items in the channel and sender list.
- The **‘Chat Display’** section allows showing/hiding specific columns in the dialog.
- **‘Show HUD Window’** toggles the display of the overlay text HUD window in the 3D view.
- **‘Lock HUD Window’** will lock the current position and size of the HUD window, disabling dynamic resize and repositioning.
- **‘Show Time Stamp’** toggles the display of the message time stamp pre-pended to the text in the HUD window.
- **‘Font Size’** controls the size of text in the HUD window.
- **‘Time To Remain’** controls how many seconds the HUD window text should remain on screen after their valid scenario time has passed. Note that 0 means no limit.

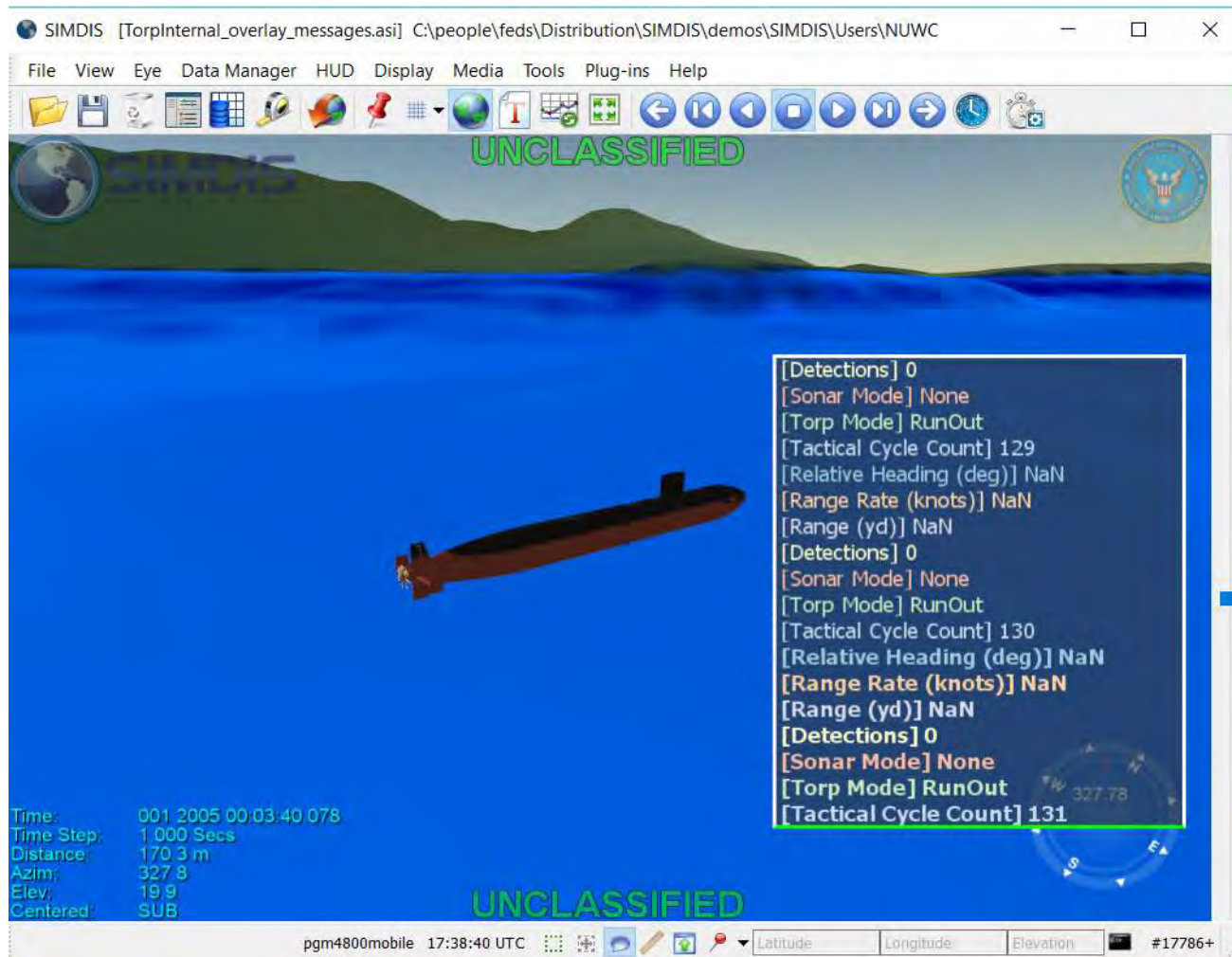
HUD Window

The HUD window displays the chat messages as overlay text directly in the 3D view. Chat message text is displayed with the sender in brackets, followed by the message body, with the option to pre-pend the timestamp. It is dynamically moveable and resizable, depending on the state of the 'Lock HUD Window' configuration setting. To re-position the text window simply left-click inside the drawn window and drag to the desired location. The border should turn green when editing.



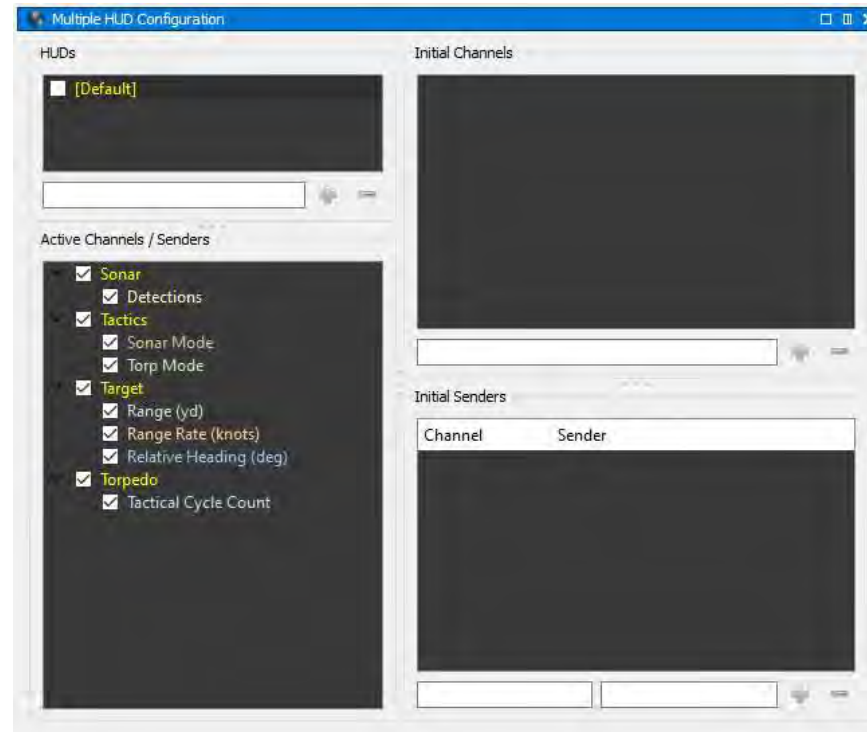
HUD Window

To resize, left-click on the border component to edit and drag. The active border component will turn green:



Multiple HUD Windows

- Channels and Senders can be directed to multiple HUD Windows.
- HUD Windows have independent controls for visibility and placement.



Configuring Multiple HUD Windows

- The HUD Group is for adding and deleting HUD definition. The HUD name should be unique. The Default HUD is the initial HUD and cannot be deleted.
- The Initial Channel Group is for adding and deleting Channels from a HUD definition. All senders registered for the specified channel will be displayed in the HUD Window.
- The Initial Senders Group is for adding and deleting Senders from the HUD definition.
- If both Initial Channel Group and Initial Senders Group are empty then all senders are displayed in the HUD Window.
- The Active Channel / Sender Group overrides the initial groups and immediately updates the HUD Window.

Example Multiple HUD Windows

DEBUG SIMDIS [TorInternal_overlay_messages.asi] C:\people\fed\Distribution\SIMDIS\demos\SIMDIS\Users\NUWC

File View Eye Data Manager HUD Display Media Tools Plug-ins Help Debug

Multiple HUD Configuration

HUDs

- ☒ [Default]
- ☒ Upper Right Corner

Active Channels / Senders

- ☐ Sonar
 - ☐ Detections
- ☐ Tactics
 - ☐ Sonar Mode
 - ☐ Torp Mode
- ☒ Target
 - ☒ Range (yd)
 - ☒ Range Rate (knots)
 - ☒ Relative Heading (deg)
- ☒ Torpedo
 - ☒ Tactical Cycle Count

Initial Channels

Target

Initial Senders

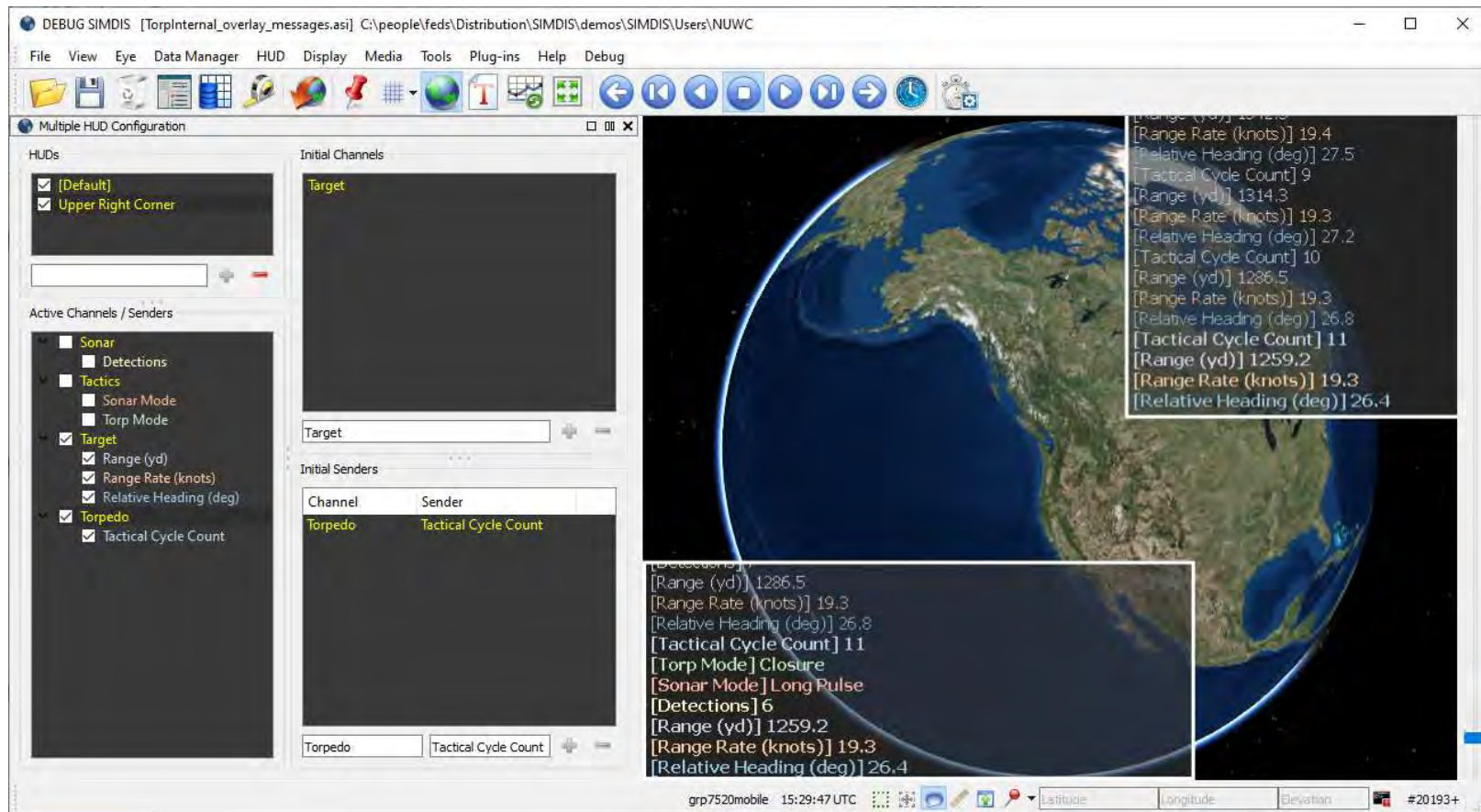
| Channel | Sender |
|---------|----------------------|
| Torpedo | Tactical Cycle Count |

Target

Torpedo

Tactical Cycle Count

grp7520mobile 15:29:47 UTC Latitude Longitude Elevation #20193+



Chat XML Format

The plug-in will serialize chat messages in a simple XML format, which can be saved to a chat log file (.schat), in the XML format.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<SIMDISChatFile>
  <Version>1.0</Version>
  <MessageDefinition>
    <Channel>Torpedo</Channel>
    <Sender>Tactical Cycle Count</Sender>
    <Year>2005</Year>
    <Seconds>0</Seconds>
    <Text>1</Text>
    <ExtraFields>
      <Field>
        <Name>Destination</Name>
        <Value />
      </Field>
    </ExtraFields>
  </MessageDefinition>
</SIMDISChatFile>
```

Chat Data Table

All messages are also automatically serialized into XML and saved to a scenario data table in the scenario, 'ChatDisplayMessages'. This ensures the chat messages will be saved out to an ASI file when data is exported.

The message from the previous slide, saved in an ASI file (note the entire DataTableRow block is on one line):

DataTable 0 1 "ChatDisplayMessages" "Messages" STRING

DataTableUnits 1 "Unknown"

**DataTableRow 1 "000 2005 00:00:00.00" "<?xml version='1.0' encoding='UTF-8' standalone='yes'?> <SIMDISChatFile>
<Version>1.0</Version> <MessageDefinition> <Channel>Torpedo</Channel> <Sender>Tactical Cycle Count</Sender>
<Year>2005</Year> <Seconds>0</Seconds> <Text>1</Text> <ExtraFields> <Field> <Name>Destination</Name> <Value />
</Field> </ExtraFields> </MessageDefinition> </SIMDISChatFile>"**