
Ross Video Limited

**VANC Monitor
User Manual**



Live Production Technology

VANC Monitor User Manual

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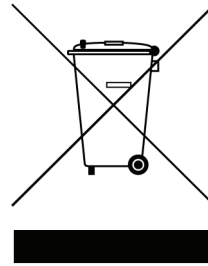
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Contents

Installation	1
Overview	1-2
System Requirements	1-2
Installing the VANC Monitor Program	1-3
Configuring the VANC Monitor Program	2
Overview	2-2
Audio Metadata	2-4
Using VANC Monitor	3
Overview	3-2
Caption Text Tab	3-3
608 Embedded XDS Tab	3-4
608 (61/2) Tab	3-5
Broadcast Flag Tab	3-6
AFD Tab	3-7
DID/SDID Tab	3-8
Dump Tab	3-9

Installation

In This Chapter

This chapter provides instructions for installing the VANC Monitor software.

The following topics are discussed:

- Overview
- Installing the VANC Monitor Program

Overview

The VANC Monitor program is designed to monitor the VANC content of a SMPTE-292M signal. It requires the use of one or more TTX890 cards.

The program provides:

- Audio Metadata Monitoring
- Closed Captioning Monitoring
- Capture of Captioning Text to a File
- Broadcast Flag Monitoring
- Active Format Description and Bar Data Monitoring
- A Map of the VANC Space Showing DID/ SDID Usage
- Hexadecimal Dump of DID/SDID Packets
- Capture of VANC Data to a File

System Requirements

The VANC Monitor program is designed to run on a Windows based PC. It requires a TTX890 card for each video stream you wish to monitor.

The following are the system requirements for the VANC Monitor program:

- Microsoft® Windows® Based PC, 500MHz Intel® Pentium®
- 256M of RAM
- 50M of disk space
- CDROM for installation
- Microsoft® Windows® 2000, XP or Vista
- TTX890 Card(s)

Installing the VANC Monitor Program

Run the TTX890 driver install on the CD before installing the TTX890 card(s) into the PC. Place the CD into the drive and it should auto run and present a menu. Select Install the TTX890 Driver from the menu and follow the instructions. Turn off the PC and install the TTX890 card(s). When the PC next starts it will detect the new card(s) and install the driver automatically.

To install the VANC Monitor application, put the install CD into the drive. It should auto run and display the menu. Click on the line to install the VANC Monitor programs and follow the install instructions. This is a standard windows install and will work for Windows 2000, XP and Vista.

The install program will place three application on your PC:

- **VANCMonSet** — a program to configure operation of the VANC Monitor program.
- **VANCConfigMan** — program to configure the monitoring of audio metadata.
- **VANC Monitor** — The main monitoring application

You must run the configuration programs before running VANC Monitor.

Configuring the VANC Monitor Program

In This Chapter

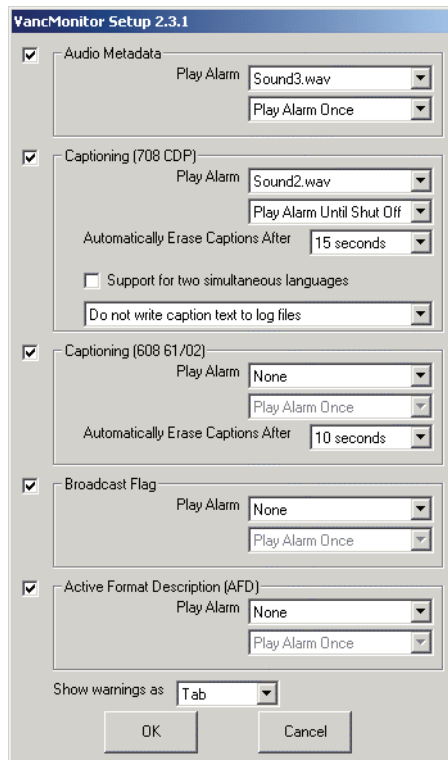
This chapter provides instructions for configuring the VANC Monitor program.

The following topics are discussed:

- Overview
- Audio Metadata

Overview

The **VancMonSet** program is used to configure the VANC Monitor program. The main screen is shown below.



VancMonitor Setup Menu

The check boxes beside Audio Metadata, Captioning, Broadcast Flag and Active Format Description determine if VANC Monitor will monitor these streams. Check the box if you wish to monitor each of the signals. The data will be decoded and displayed if present whether or not the box is checked. Checking the box enables error messages and warning indicators when the data is not present.

Play Alarm

The Play Alarm combo boxes determine if a sound will be played, how it will be played and what that sound will be if VANC Monitor detects a loss of signal. There will be no sound played when the sound is set to none. When a sound is selected the box below determines if it will be played just once or will play until it is turned off by clicking on the tab of the monitor tab generating the error. You can place more sounds into the executable directory and they will become available for use.

Captioning

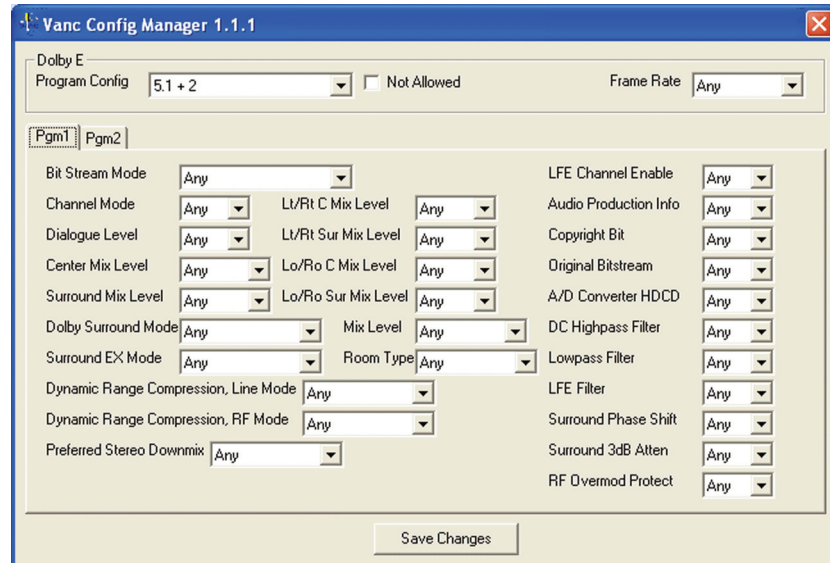
Captioning has additional settings. A combo box sets how long captions should dwell on the screen before being erased. This removes any stale captioning text from the display. There is a check box to select the display of two caption languages. When unchecked, the Caption tab displays one 608 caption stream and one 708 caption stream each of which is selectable. When this box is checked, CC1, CC3, S1 and S2 are displayed in separate windows. This shows the primary and secondary captions for both the 608 and 708 streams on the same screen simultaneously. The final feature allows the captioning text to be written to files. A file is opened for each of the caption streams in the executable directory.

Alarms

There are three possible ways for visual warnings to display in VANC Monitor. The type of visual display is controlled by the warning combo box at the bottom of the screen. Flat, chooses a 2D icon, Led chooses a 3D icon and Tab chooses the entire tab. The indicator will be green when data is present and correct, red when the data is not present or is incorrect and yellow if monitoring is disabled.

Audio Metadata

The **ConfigManager** program is used to configure how audio metadata is monitored. VANC Monitor does two distinct tasks. It monitors for loss of audio metadata and it checks the incoming metadata against expected profiles. The **ConfigManager** sets up these profiles.



Vanc Config Manager

There are 24 Program Configurations possible with audio metadata. Typically you will support only a small number of these.

At the top of the screen, in the **Dolby E** section, there is a Program Config combo box. Select each program configuration in turn and check or uncheck the Not Allowed box for that configuration. Notice that as you change program configurations the Pgm tabs change. For each of the program configurations that you allow you should set each attribute of each of the programs (Pgm). Each attribute (such as Bit Stream Mode) has a combo box containing all the possible settings plus the Any setting. The incoming metadata must match the attribute you select or the monitored data will be reported as in error. If you select Any, then no errors will be reported.

Using VANC Monitor

In This Chapter

This chapter provides a summary of the menus available for the VANC Monitor.

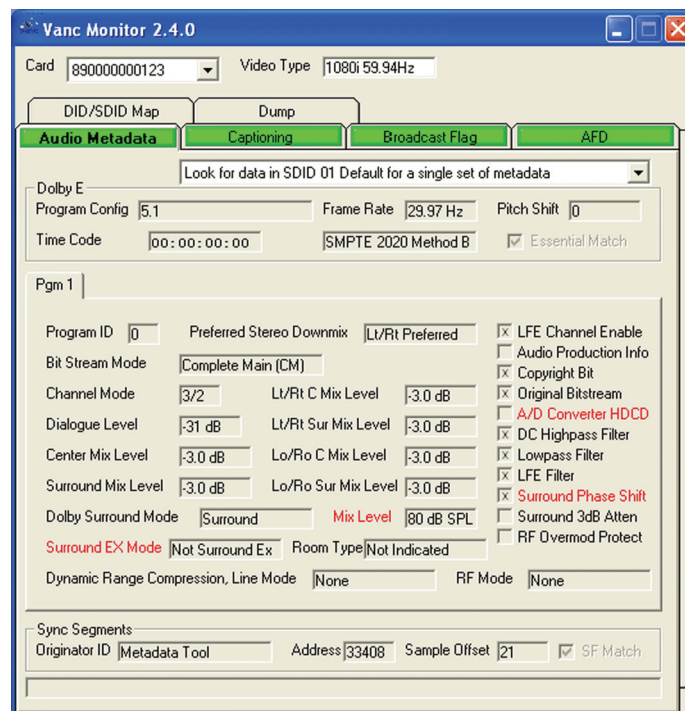
The following topics are discussed:

- Overview
- Caption Text Tab
- 608 Embedded XDS Tab
- 608 (61/2) Tab
- Broadcast Flag Tab
- AFD Tab
- DID/SDID Tab
- Dump Tab

Overview

The VANC Monitor program has six tabs. One each for Audio Metadata, Captioning, Broadcast Flag, Active Format Description, Dump and DID/SDIS. The four main streams (Audio Metadata, Captioning, Broadcast Flag and AFD) have graphic indicators on the tab.

- If the stream is present the tab will be green.
- If the stream is not present the tab will be flashing red.
- Clicking on the tab will stop it flashing.
- The tab will go green if the signal has already returned or go red if the stream is still not present.
- If you have set up VANC Monitor so that a stream is not being monitored then the tab will be yellow at all times.



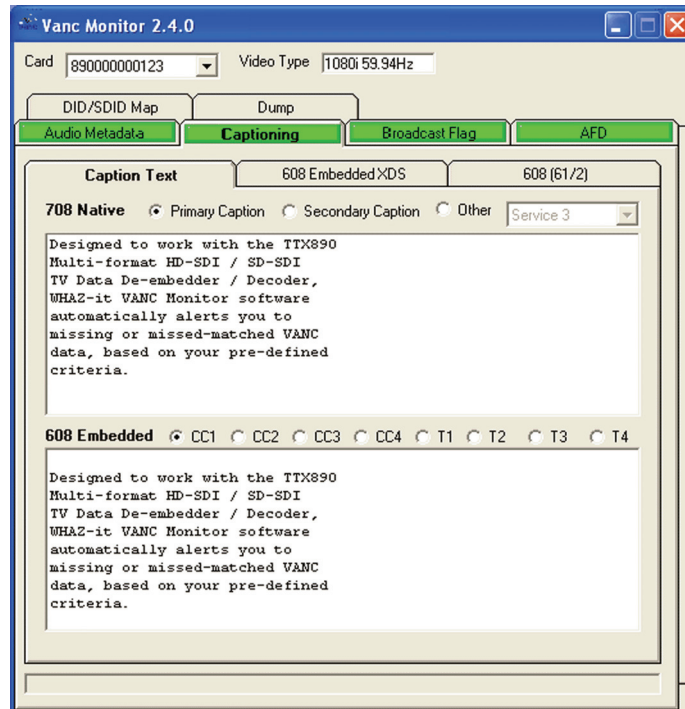
Vanc Monitor — Overview

At the top of the program window, above the tabs, are the TTX890 card selector combo box and the current video mode of the selected card. You will be able to select which TTX890 card to display with the monitor using the combo box. The video mode display will change if the video to the TTX890 card changes or you select a different TTX890 card using the combo box.

The tab for each of the streams contains the monitored data for that stream. In the case of Audio Metadata, it includes which program configuration is currently being used and the attribute settings for each program. The attribute will be in red if it does not match the configuration set up using the ConfigManager.

Caption Text Tab

Monitoring for captioning includes the text which is currently being displayed by both 708 (ATSC) and 608 (NTSC) decoders. There are three sub-tabs under captioning that show the different captioning content. The Caption Text tab shows the native 708 caption data and the 608 embedded caption text. The radio buttons at the top of the screen select which caption stream (language) is displayed.



Caption Text Tab

608 Embedded XDS Tab

The 608 Embedded XDS tab shows the 608 XDS data which is carried as part of the 708 data. This will be the caption data delivered to an NTSC TV set from a settop box tuned to an ATSC signal. The most common Extended Data Service (XDS) data is shown on the screen. The boxes to the right of each XDS record show counters of the time in seconds since the last record of that type and the total time between the last two records. The data will be erased from display if it is not refreshed within 30 seconds.

The screenshot shows the Vanc Monitor 2.4.0 application window. At the top, there are fields for 'Card' (890000000123) and 'Video Type' (1080i 59.94Hz). Below these are buttons for 'DID/SDID Map', 'Dump', 'Audio Metadata', 'Captioning' (which is selected), 'Broadcast Flag', and 'AFD'. The 'Captioning' tab is further divided into 'Caption Text', '608 Embedded XDS' (which is selected), and '608 (61/2)'. The '608 Embedded XDS' section displays a table of XDS data with columns for the field name, its value, and two time counters. The data is as follows:

Field	Value	Counter 1	Counter 2
Show	The One Show	19	
Rating	TVPG - TV-G	3	3
CGMS	5041 RCD=1, CGMS-A-One Generation, APS-No APS, ASB=0	7	11
Network	NPSG	4	
Affiliate	CNPK	1	
TSID	1234	30	
Type	Classical Fantasy	16	
Description	Episode One	9	3
Other	Durat - 01:00 elapsed 00:23	28	

608 Embedded XDS Tab

608 (61/2) Tab

The 608 (61/2) tab shows 608 caption data embedded in the VANC in DID 61, SDID 02 according to SMPTE 334. It is decoded and presented in the same way as 608 embedded data.

Vanc Monitor 2.4.0

Card: 890000000123 Video Type: 1080i 59.94Hz

Buttons: DID/SDID Map, Dump, Audio Metadata, Captioning, Broadcast Flag, AFD

608 (61/2)

CC1 CC2 CC3 CC4 T1 T2 T3 T4

Networks and stations can scrutinize HDTV signals at ingest to insure audio metadata and captions are present and as expected

Designed to work with the TTX890 Multi-format HD-SDI / SD-SDI TV Data De-embedder / Decoder,

Show	The One Show	11	
Rating	TVPG - TV-G	3	3
CGMS	5041 RCD=1, CGMS-A-One Generation, APS-No APS, ASB=0	9	22
Network	NPSG 28	Affiliate	CNPK 25
TSID	1234 22	Type	Classical Fantasy 8
Description	Episode One	1	3
Other	Durat - 01:00 elapsed 00:23	20	

608 (61/2) Tab

Broadcast Flag Tab

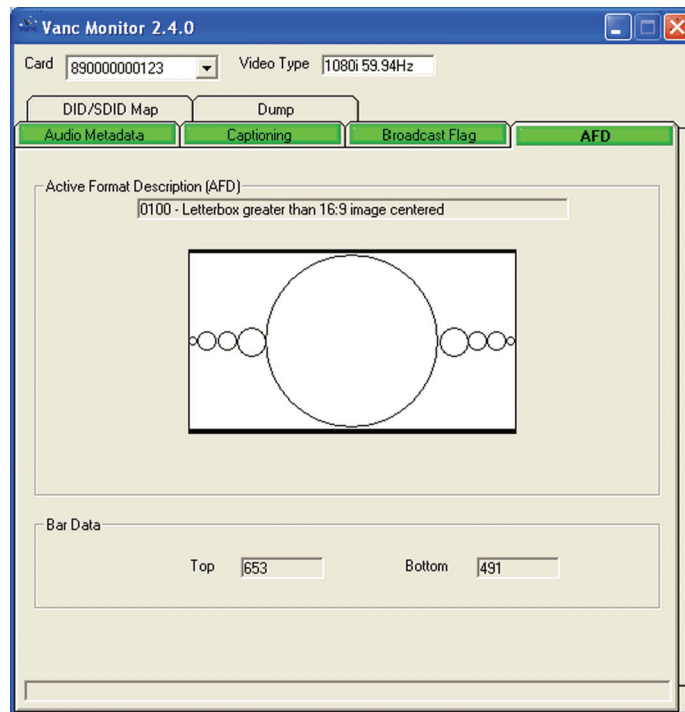
For the Broadcast Flag the time interval between repeats of the broadcast flag is displayed.



Broadcast Flag Tab

AFD Tab

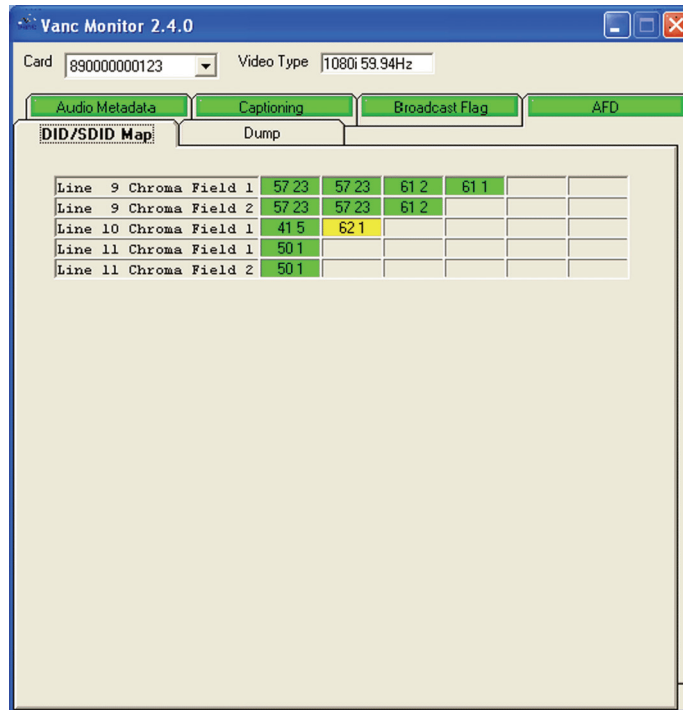
The AFD tab displays the current Active Format Description code and its meaning. There is also a graphical depiction on the meaning of the code. Bar data is displayed if it is indicated in the AFD Data.



AFD Tab

DID/SDID Tab

The DID/SDID tab shows a map of VANC line usage. The table expands and contracts to show just the VANC lines currently in use. Each row of the table represents chroma or luma for a single VANC line. Each entry of table shows a DID/SDID record which is on the line. If you hover the mouse pointer over the DID/SDID it will bring up a tool tip describing the content (if known) and the record size. Double-clicking on the DID/SDID takes you to the appropriate tab to view the data.

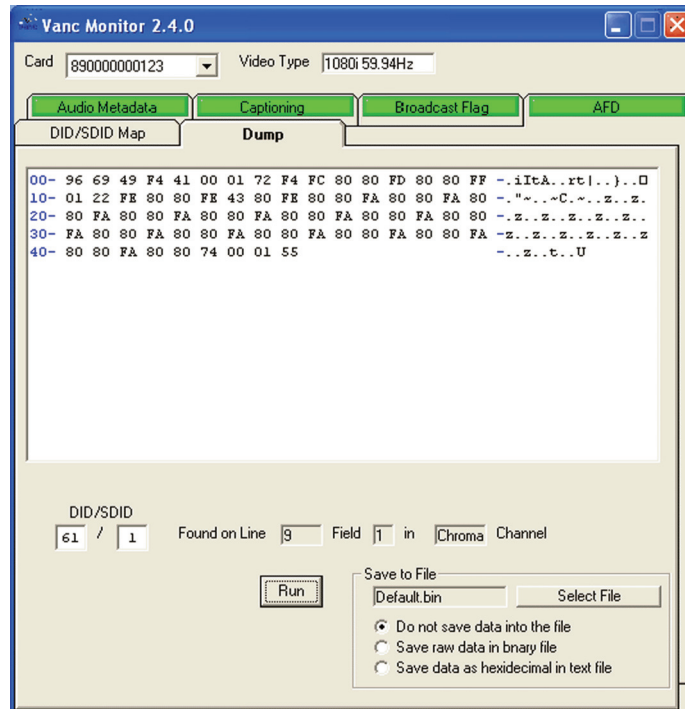


Line	9	Chroma	Field 1	57 23	57 23	61 2	61 1		
Line	9	Chroma	Field 2	57 23	57 23	61 2			
Line	10	Chroma	Field 1	41 5	62 1				
Line	11	Chroma	Field 1	50 1					
Line	11	Chroma	Field 2	50 1					

DID/SDID Tab

Dump Tab

The Dump tab allows for the display of the contents of a DID/SDID packet. Fill in the DID and SDID and the display will show the packets as they go by. The button allows you to pause the display to show the contents of one particular packet. The dump can be written to a file. While in the paused state, select a filename and specify if the data is to be stored raw or as text encoded hexadecimal file.



Dump Tab

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