How to Guide



Ancillary Data Inspector

WFM6120/7120 Version 5.0.2 Software

The latest firmware version 5.0.2 offers customers with the DAT option for the WFM7120/6120 series waveform monitor an ancillary data monitoring feature called ANC Data Inspector (Figure 1). This display simplifies the previous Ancillary data display which required the user to know the DID (Data Identifier) and SDID (Secondary Data Identifier) in order to inform the user that this type of Ancillary data is present in the stream. Now with the Watch List of the Ancillary Data Inspector enabled the user can see automatically all the ANC data present within the signal. The instrument can continually watch the signal for any changes in the presence of the data and alert the user to these changes.

				ANC Data Insp	ector
Name	DID/SDID	Presence	O Status	Location	
S299M Ctrl Grp 2	E2/	Present	ок	Field 2 / Line 8	_
S299M Ctrl Grp 1	E3/	Present	ок	Field 2 / Line 8	
S299M Aud Grp 2	E6/	Present	ок	Field 2 / Line 66	
S299M Aud Grp 1	E7/	Present	ок	Field 2 / Line 66	
S334-1 CDP(708)	61/01	Present	ОК	Field 1 / Line 4	
					Ţ
Detail V	iew Mode: Watc	h List	Time Elaps	sed Since Last Reset: 0 d, 00:0	1:09
Format: SMPTE 334M CDP DID: 61 (161) Type: SDID: 1 (101) DC: 4 Exp/Act Chksum: 1b4 / 1b	(708B) 2 32 (152) 4 14f 277 151	Field: 1 Link: Error: OK	Line: 4 Stream: Y	Presence: Present Sample:	
016 143 222 1fe 032 200 2fa 200	173 269 1fe 200 2fa 200	200 200 2fa 200 2fa 200	200 200 200 2fa 2	2fa 200 200 2fa 200 200 200 2fa 200 200 200 2fa 200 200	×
1080i 59.94 SDI Input A Ref: Internal	or 📩	Tektronix	ID: WFM Embd: P	7120 PPP PPPP	

Figure 1. Ancillary Data Inspector.

How To Enable Ancillary Data Inspector

- 1. Select one of the tiles (1, 2, 3 or 4) and press the **MEAS** button.
- Select FULL to make the display full screen, pressing FULL again will toggle back to FlexVu[™].
- 3. Press and hold the **MEAS** button to display the menu.
- 4. Move up and down the menu using the Arrow Keys or General Knob to the **Display Type** menu.
- 5. Move right and Select Anc Data Disp. from the measurement selections (Figure 2).

Name DID/SDID Presence Status Location S272M Ctrl Grp 1 EF/ Present OK Field 2 / Line 12 S272M Aud Grp 1 FF/ Present OK Field 2 / Line 38	
S272M Ctrl Grp 1 EF/ Present OK Field 2 / Line 12 S272M Aud Grp 1 FF/ Present OK Field 2 / Line 38	
S272M Aud Grp 1 FF/ Present OK Field 2 / Line 38	P
Detail View Mode: Watch List Time Elapsed Since Last Reset: 0 d, 00:01:48	
Format: SMPTE 272M Audio Ctrl Group 1 Presence: Present	
DID: ef (1ef) Type: 1 Field: 2 Line: 12 Sample:	
DBN: 0 (200) DC: 18 (212) Link: Stream:	
Timing Measure	
000 202 200 200 203 201 200 200 Datalist Display 200 200 200 200 200 200	
All Sessions Reset Press SEL to Reset Bowtie View Mode Watch List / All ANC Data Disp	
Display Type ANC Data Disp. / AV Delay	
525; 59.94	
SDI Input B Cmpst Gamut Error Tektronix Embd: PP	

Figure 2. MEAS Display Type menu for ANC Data Display.

Configuring Ancillary Data Inspector

- 1. Press and hold the **MEAS** button to display the menu.
- 2. Move up and down the menu using the Arrow Keys or General Knob to select the **View Mode** menu.
- 3. Select Watch List.
- 4. Press **MEAS** to dismiss the menu.
- 5. Move up and down the menu using the Arrow Keys or General Knob to select the ANC data type of interest.
- 6. Press **SEL** to toggle between the two windows.
- 7. Press MAG to expand the Detailed information on the ANC data type selected.

TIP

In the Watch List mode only Ancillary Data packets that are present in the signal and user selected types of interest will be displayed. This allows the user to quickly and easily see what ANC data types are present within his signal. This simplifies the previous needed operations to search through the specific data types and to be familiar with the DID and SDID of each ANC data type.

Configuring Ancillary Data Inspector Watch List

- 1. Press the **CONFIG** button to display the menu.
- 2. Move up and down the menu using the Arrow Keys or General Knob to select the **ANC Data Display** menu.
- 3. Move to the right and select the Watch List.
- 4. Press **SEL** to enter the menu (Figure 3).
- 5. Move up and down the menu using the Arrow Keys or General Knob to select the ANC data type which the user wishes to monitor.
- 6. Press SEL to select the ANC data type of interest.

			1	ANC Data Inspector	
Name	DID/SDID	Presence OSta	tus Location		
S299M Ctrl Grp 1	E3/	Present OK	Field 1 / Line	9	
S299M Aud Grp 1	E7/	Present OK	Field 1 / Line	62	
S12M-2 ATC	60/60	Present OK	Field 1 / Line	10	
Config Watch List					
Type WatchList	Type WatchList	Type WatchList	Type WatchList	Type WatchList	
ARIB B.27 CC	S299M Ctrl	S299M Audio	S272M Ctrl	RP165 EDH	
S272M Audio	S272M Ext	S353M MPEG(V)	S353M MPEG(H)	S305M SD-SDTI	
S348M HD-SDTI	S427 Link Enc	S352M VPID	S2016-3 AFD-Bar	S2016-3 PanScan	
RP2010 SCTE 104	S2031 SCTE VBI	ITU-R BT.1685	RDD8 OP47 SDP	RDD8 OP47 Mult	
\$346M	RP214 KLV(V)	RP214 KLV(H)	RP223 UMID	S2020-1 Ad Meta	
RP215 Film Xfer	ARIE B.37 Mob	ARIB B.37 Ana	ARIB B.37 SD	ARIB B.37 HD	
ARIB TR-B.22	ARIB TRB.23(2)	ARIE TRE.23(1)	ARIB B.35	ARIB B.39	
S12M-2 ATC	\$334-1 CDP(708)	\$334-1 EIA608	S334–1 Teletxt	S334 SDE	
\$334/RP207	S334–1 Future	\$334/RP208	RP196 LTC	RP196 VITC	
User Types	SELECT ALL	CLEAR ALL	RESET TO DEFAULT		
Return					
1080i 59.94 SDI Input A Ref: Internal	amut Error	Tektronix	ID: WFM7120 Embd: PPPP Anc TC: 07:19:11:01	-	

Figure 3. Watch List Configuration menu.

FAQ

What does it mean when an "Unknown Packet" is displayed in the ANC Data Inspector?

An "Unknown Packet" means that the ANC Data Inspector has detected the ancillary packet which is defined neither by SMPTE RP-291 nor by User Data Type. This prevents the user from missing any ancillary packets present within the signal.

FAQ

How does a customer enter their own DID and SDID like they did in the previous version of software?

In most cases the user does not have to enter the DID and SDID anymore because we provide a simple list of all the currently standardized DID and SDID formats and will automatically search through the signal to find the data types which are standardized in SMPTE RP291. If an Ancillary data packet is not defined by the RP291 standard it still will be shown with the display as an "Unknown Packet". However if the customer has their own specific DID and SDID they wish to verify they can create their own user data type which is now performed in the configure menu.

To Configure a User Data Type

- 1. Press the **CONFIG** button to display the menu.
- 2. Move up and down the menu using the Arrow Keys or General Knob to select the **ANC Data Display** menu (Figure 4).
- 3. Move to the right and select User ANC Types.
- 4. Up to 8 different user ANC types can be configured.
- 5. Move to the right and enter a **Name** for the ANC Data Type.
- 6. Select the **DID** and **SDID** hex values for the ANC data type.

Note: If you wish this data type to be present in the Watch List. Please remember to add the User Types selection within the Watch List configuration.



Figure 4. User ANC Type Configuration Menu.

ANC Data Inspector and CaptureVu™

ANC Data Inspector can be used in conjunction with CaptureVu to enhance the capabilities of the display. Either capture the current signal or restore a previously captured signal from a USB stick to the instrument. Now a complete Frame of video data is stored within the buffer of the waveform monitor.

Configuring ANC Data Inspector with CaptureVu™

- 1. Select one of the tiles (1, 2, 3 or 4) and press the **MEAS** button.
- 2. Press and hold the **MEAS** button to display the menu.
- 3. Move up and down the menu using the Arrow Keys or General Knob to select the **ANC Data Display** menu (Figure 4).
- 4. Press and hold the **CAPTURE** button to display the menu.
- 5. Ensure that **Capture Type Buffer** is selected use the Arrow Keys or General Knob to select Buffer mode.
- 6. Move up to **Delete & Capture** using the Arrow Keys and Press **SEL** to execute a capture of the signal.
- Once the capture is complete move down to Display Mode and select Buffer Only. Another load of the data will commence and once complete a new segment will be shown on the ANC Data Inspector display (Figure 5).

Capture Bur ANC Data Inspector					
Name	DID/SDID	Presence	 Status 	ANC Data Packets for E7/	
ARIB B.27 CC	CF/	Missing	4	StrmY /F2 /L562 /S1928	
S299M Ctrl Grp 4	E0/	Missing		StrmY /F2 /L562 /S1959	
S299M Ctrl Grp 3	E1/	Missing		StrmY /F1 /L1 /S1928	
S299M Ctrl Grp 2	E2/	Present	ОК	StrmY /F1 /L2 /S1928	
S299M Ctrl Grp 1	E3/	Present	ОК	StrmY /F1 /L3 /S1928	
S299M Aud Grp 4	E4/	Missing		StrmY /F1 /L3 /S1959	
S299M Aud Grp 3	E5/	Missing		StrmY /F1 /L4 /S1928	
S299M Aud Grp 2	E6/	Present	ОК	StrmY /F1 /L5 /S1928	
S299M Aud Grp 1	E7/	Present	ОК	StrmY /F1 /L5 /S1959	
S272M Ctrl Grp 4	EC/	Missing		StrmY /F1 /L6 /S1928	
S272M Ctrl Grp 3	ED/	Missing	🔽	Strmy /F1 /L7 /S1928	
Detail View Mode: All					
Format: SMPTE 299M Audio Group 1 Presence: Present					
DID: e7 (2e7) Type: 1 Field: 1 Line: 1 Sample: 1928					
DBN: 0 (2cc) DC: 24 (218) Link: Stream: Y					
Exp/Act Chksum: 2ec / 2ec Error:					
000 140 205 290 016 200 200 108	1bc 29c 18 242 25c 27	0 200 107 1 138 102	29c 180 200) 200 200 200 200 200 A	
1080i 59.94 SDI Input A Ref: Internal RGB Gamut Error					

8. Press Capture to dismiss the menu.

Figure 5. ANC Data Inspector in Buffer mode.

Using CaptureVu all the ANC data packets are now shown for the complete frame of stored data for each of the present Ancillary Data types present. This allows an engineer to investigate problems within the signal and verify that the ANC data present within this buffer is correct. Use the Arrow Keys to navigate the various windows and MAG to expand the Detail view of the ANC Data user words.

References

- WFM6000/7000 Series Waveform Monitors
- WVR6000/7000 Series Waveform Monitors

Data Sheets, Fact Sheets and additional product materials can be found at: www.tektronix.com/video_test/signal_monitors.html

Contact Tektronix: ASEAN / Australasia (65) 6356 3900 Austria +41 52 675 3777 Balkans, Israel, South Africa and other ISE Countries +41 52 675 3777 Belgium 07 81 60166 Brazil +55 (11) 40669400 Canada 1 (800) 661-5625 Central East Europe, Ukraine and the Baltics +41 52 675 3777 Central Europe & Greece +41 52 675 3777 Denmark +45 80 88 1401 Finland +41 52 675 3777 France +33 (0) 1 69 86 81 81 Germany +49 (221) 94 77 400 Hong Kong (852) 2585-6688 India (91) 80-22275577 Italy +39 (02) 25086 1 Japan 81 (3) 6714-3010 Luxembourg +44 (0) 1344 392400 Mexico, Central/South America & Caribbean 52 (55) 5424700 Middle East, Asia and North Africa +41 52 675 3777 The Netherlands 090 02 021797 Norway 800 16098 People's Republic of China 86 (10) 6235 1230 Poland +41 52 675 3777 Portugal 80 08 12370 Republic of Korea 82 (2) 6917-5000 Russia & CIS +7 (495) 7484900 South Africa +27 11 206 8360 Spain (+34) 901 988 054 Sweden 020 08 80371 Switzerland +41 52 675 3777 Taiwan 886 (2) 2722-9622 United Kingdom & Ireland +44 (0) 1344 392400 USA 1 (800) 426-2200 For other areas contact Tektronix, Inc. at: 1 (503) 627-7111 Contact numbers updated 30 October, 2008

For Further Information

Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit www.tektronix.com

Copyright © 2009, Tektronix. All rights reserved. Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supersedes that in all previously published material. Specification and price change privileges reserved. TEKTRONIX and TEK are registered trademarks of Tektronix, Inc. All other trade names referenced are the service marks, trademarks or registered trademarks of their respective companies. 06/09 AR/Tek 2PW-23513-1

