

Configuration Note

MP-26x Debugging and Diagnostic Tools

Version 4.2.2 and Later

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Notice

This document describes the debugging and diagnostic tools for AudioCodes MP-26x Telephone Adapter.

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Revision History

Revision	Date	MP-26x Version	Comments
1	11/11/13	4.2.2	First edition

1 Introducing Debugging and Diagnostic Tools

The MP-26x features the following debugging tools:

- TCPdump debug tool (see Section 2 on page 9)
- DSP packet recording (see Section 3 on page 13)
- SIP logs (see Section 4 on page 15)

This Configuration Note describes these tools and their use.

Reader's Notes

2 Debugging Using TCPdump

This section describes debugging using the TCPdump packet analyzer. TCPdump captures and analyzes network behavior, performance and applications that send or receive network traffic. TCPdump lets you intercept and display TCP/IP and other packets being transmitted or received over the network.

2.1 Updating Wireshark

To view ACP packets with Wireshark, update Wireshark by copying the two files in the FTP link below to your Wireshark directory, replacing the current files in it.

<ftp://vop-c5:audc76@ftp.audiocodes.com/patches/131107/>

The .lua files define the ACP filter in Wireshark.

2.2 Configuring and Activating Wireshark

When the feature is activated, packets will reach the destination IP configured below.

- Connect a PC running Wireshark to any LAN port.
- **To activate TCPdump:**
 1. Open a browser and connect to the MP-26x Web interface.
 2. In the Web interface, click **Advanced** menu and in the Diagnostics page that opens, click the **Debug** tab (see [Figure 2-1](#) below).
 3. Under the **Tcpdump** section, for **Network Interface** and choose **Multiple**.
 4. Select the relevant Interface, e.g. **ppp0**.
 5. Enter the IP address of the PC which is running Wireshark, e.g., **192.168.2.2**.
 6. Enter the destination port **7555**. To define a different destination port (other than port **7555**), see [Section 2.2.1](#) on page [11](#).
 7. Press the **Start Capture** button.

Figure 2-1: Configuring TCPdump – Start Capture

The screenshot displays the AudioCodes MP-262 web interface. On the left, a navigation menu includes 'Home', 'Quick Setup', 'Network Connections', 'Security', 'Voice Over IP', 'QoS', 'Advanced' (highlighted), 'System Monitoring', and 'Logout'. The main content area is titled 'Diagnostics' and 'Debug'. It contains three sections: 'Packet Recording' with a 'Recording Level' dropdown set to 'None' and a 'Go' button; 'SIP Debug Log' with 'Rv Log Filter' set to 'None', 'UDP Terminal Flag' set to 'Terminal', and 'Syslog Server' set to '192.168.2.2'; and 'Tcpdump' which features a table of network interfaces. The 'Any Multiple' dropdown is set to 'Any'. The 'Start Capture' button is highlighted in purple. The table below shows the configuration for each interface:

Network Interface	Captive Filter	IP Address Sent to	Destination Port
<input type="checkbox"/> br0		0, 0, 0, 0	0
<input type="checkbox"/> dsl0		0, 0, 0, 0	0
<input type="checkbox"/> ptm0		0, 0, 0, 0	0
<input type="checkbox"/> eth0		0, 0, 0, 0	0
<input checked="" type="checkbox"/> ppp0		192, 168, 2, 2	7555
<input type="checkbox"/> ipsec1		0, 0, 0, 0	0



Note: If you configure TCPdump on the same device that you send the packets, you'll create a loop. This is not recommended. To trace **ppp0**, for example, don't send the TCPdump packets out through the device on which **ppp0** is located but rather to a PC located in the LAN.

2.2.1 Defining a Different Destination Port (other than Port 7555)

To use a different destination port, decode destination packets in Wireshark as ACP. In the example shown in the figure below, port 4321 is defined.

Figure 2-2: Changing TCPdump Destination Port (Other than Port 7555)

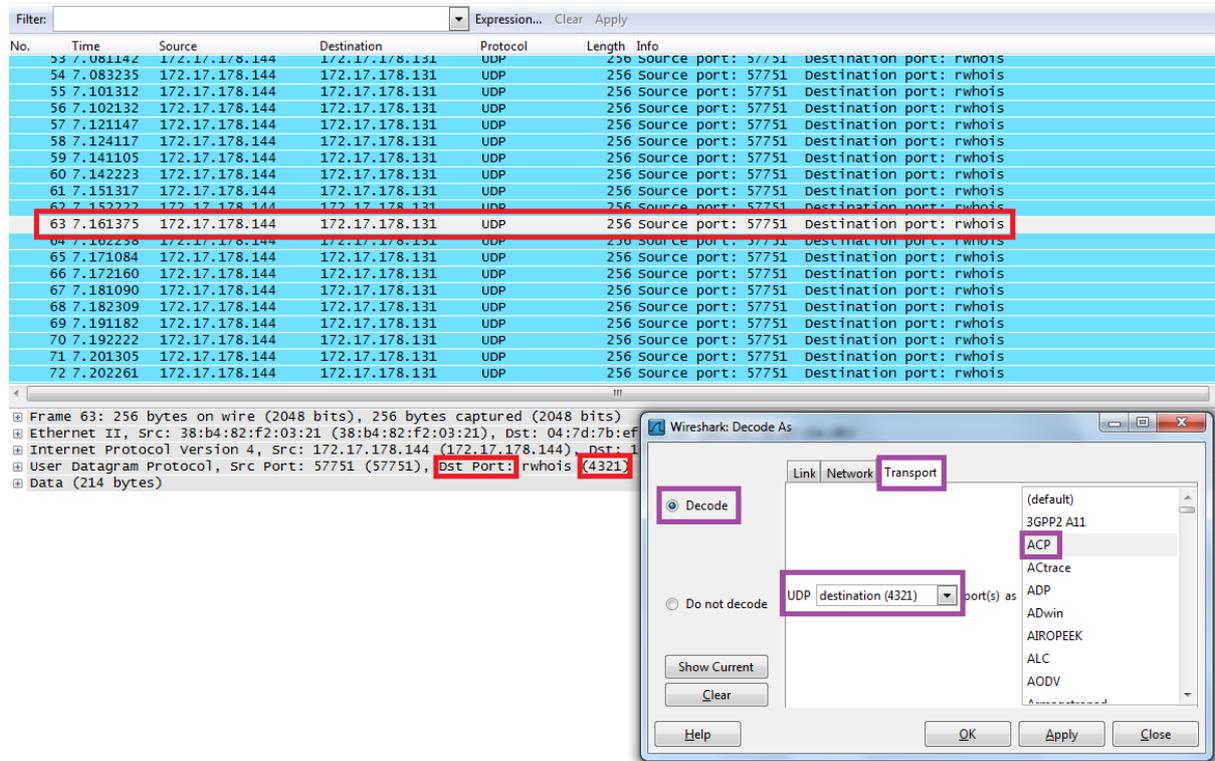
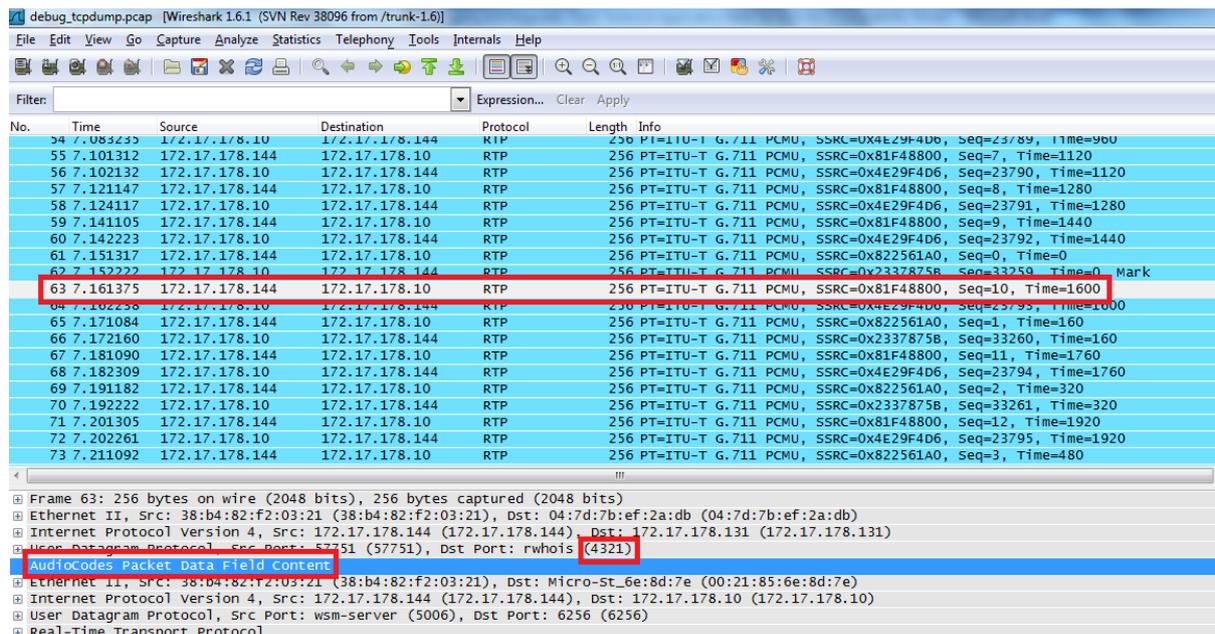


Figure 2-3: Changing TCPdump Destination Port – After the Decode



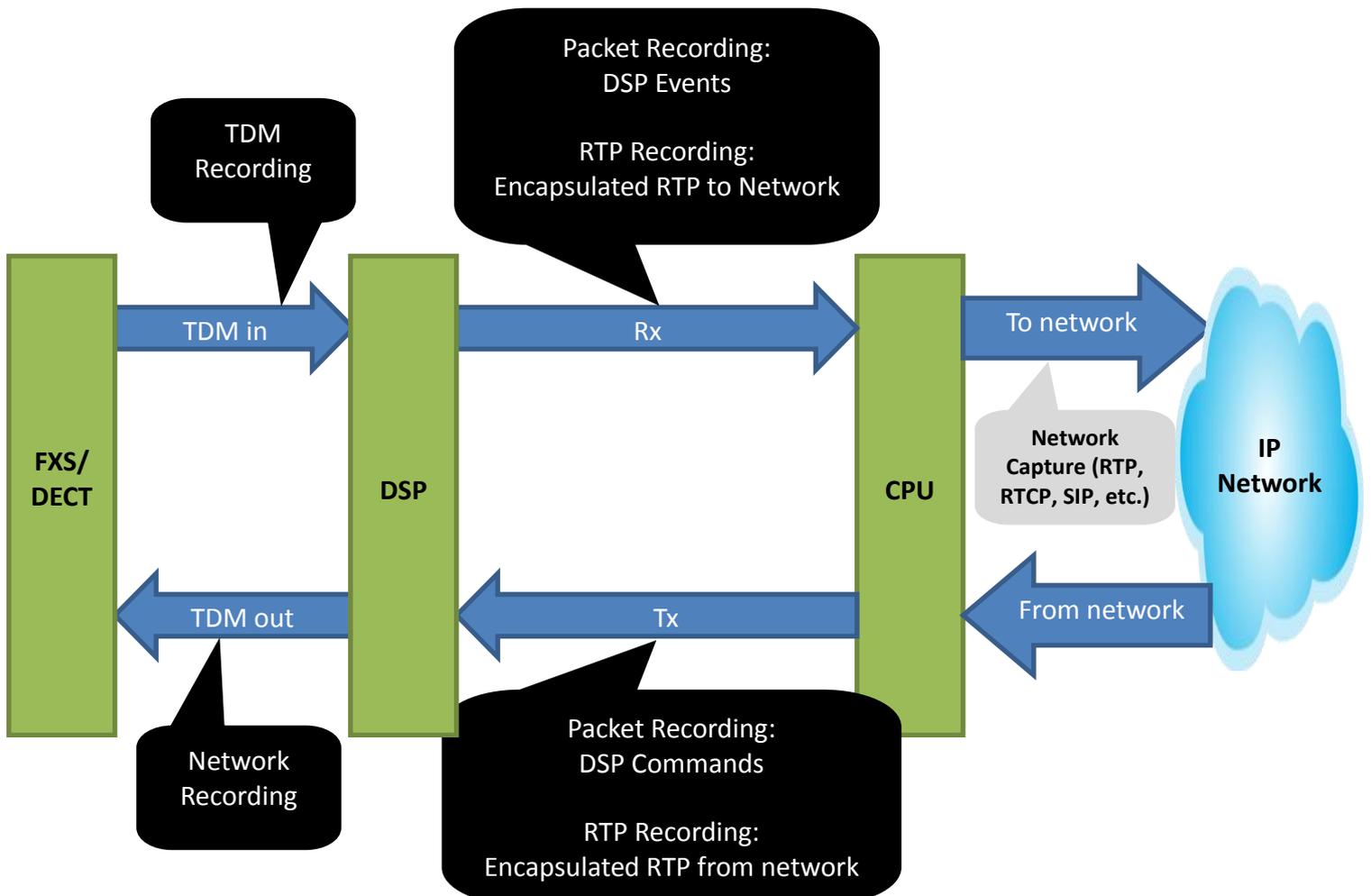
Reader's Notes

3 Recording Packets

The Packet Recording feature enables all packets transmitted and received by the MP-26x DSP, to be recorded.

3.1 Configuring and Activating Packet Recording

- Connect a PC running Wireshark to any LAN port.
- **To activate the Packet Recording feature:**
 1. Open a browser and connect to the MP-26x Web interface.
 2. In the Web interface, click the **Advanced** menu and in the Diagnostics page that opens, click the **Debug** tab.
 3. Under the Packet Recording section of the page, select the 'Recording Level':
 - **None** = stop recording
 - **Packet Recording** = command packets between DSP and CPU
 - **TDM** = prior level + voice samples packets from the FXS/DECT to the DSP
 - **Network** = prior level + voice samples packets from the DSP to the FXS/DECT
 - **RTP** = prior level + encapsulated RTP packets between DSP and Network



4. In 'Recording Channel ID', specify 1 or more channels to debug (use ',' or '-' to separate):
 - a. 5 = FXS1
 - b. 6 = FXS2
 - c. 0-2 = DECTs
 - For DECTs, the channels are dynamic, 0-2; the first handset that performs a call is assigned with 0, the second with 1, etc.
 - d. 3 = Bluetooth
5. In the 'IP Address Sent to' field, enter the IP address of the PC running Wireshark.
6. Press the **Go** button.

Figure 3-1: Configuring Packet Recording


The screenshot shows the AudioCodes MP-262 web interface. The left sidebar contains a navigation menu with 'Advanced' highlighted. The main content area shows the 'Diagnostics' section, with 'Debug' selected. Under 'Packet Recording', the following fields are visible:

Packet Recording	
Recording Level:	Network <input type="button" value="Go"/>
Recording Channel ID:	5
IP Address Sent to:	192 . 168 . 2 . 2

4 Capturing SIP Debug Logs

The MP-26x enables you to capture VoIP-related debug messages (including SIP stack, call control and the VoIP application). The SIP logs are sent to the host through the network port and can be captured using Wireshark.

4.1 Configuring and Activating SIP Debug Logs

- Connect a PC running Wireshark to any LAN port.
- **To activate the SIP logs:**
 1. Open a browser and connect to the MP-26x Web interface.
 2. In the Web interface, click the **Advanced** menu and in the Diagnostics page that opens, click the **Debug** tab.
 3. Under the SIP Debug Log section of the screen, in the 'Rv Log Filter' field, select **ALL**.
 4. In the 'UDP Terminal Flag' field, select **UDP**.
 5. In the 'Syslog Server' field, enter the IP of the PC running Wireshark.
 6. Press the **Go** button.

Figure 4-1: Configuring Capturing SIP Debug Logs

The screenshot shows the MP-26x web interface. The top left corner features the AudioCodes logo. The top right corner displays 'MP-262'. A navigation menu on the left includes: Home, Quick Setup, Network Connections, Security, Voice Over IP, QoS, **Advanced** (highlighted with a red box), System Monitoring, and Logout. The main content area is titled 'Diagnostics' (highlighted with a red box) and contains a 'Debug' tab (highlighted with a red box). Under the 'Debug' tab, there are two sections: 'Packet Recording' and 'SIP Debug Log'. The 'Packet Recording' section includes: Recording Level (Network), Recording Channel ID (5), and IP Address Sent to (192.168.2.2). The 'SIP Debug Log' section includes: Rv Log Filter (ALL), UDP Terminal Flag (UDP), and Syslog Server (192.168.2.2). A 'Go' button is present at the bottom right of the 'SIP Debug Log' section.

Reader's Notes

5 Wireshark Capture Location



Note: Users typically want to view all the information in one capture - SIP, RTP, packet recording and syslog.

➤ **To view all information in one capture:**

■ **SIPLog**

Configure packets to be sent from the WAN towards the WAN's default gateway IP.

- In the case of multiple WANs, configure the VoIP WAN default gateway IP.

■ **Packet Recording**

Configure packets to be sent from the WAN towards the WAN's default gateway IP.

■ **TCPDump**

Configure packets to be sent to a PC located in the LAN.

Configuration Note

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