

PacketScan™ SIP RTP is licensed either through software licensing or USB hardware dongle. Follow the procedures below as per your purchase order.

System Requirements

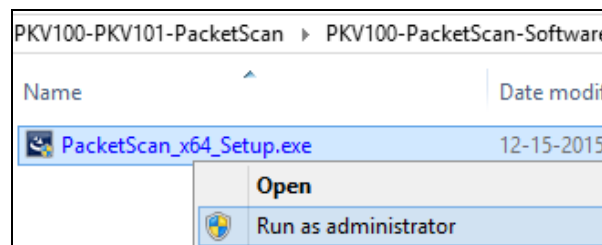
- Windows® 7 and above Operating System (32 bit or 64 bit).
- Core i3 to i7 or equivalent, 4 GB Memory, USB 2.0 Ports.

Software based licensing (for evaluation only)


- In case of software-based licensing, the software executables, license installer, and documents can be downloaded from the software licensing web portal (refer to email notification from GL Communications).
- Follow the instructions in the <https://www.gl.com/ses/download/GL-Software-License-Evaluation-Instructions.pdf> to install software license.
- To verify that the purchased licenses are installed correctly, open any web browser from the system on which the software license is installed and type the URL "<http://localhost:1947/int/products.html>". Click on **Features** and confirm that the following **Product licenses** are listed:
 - PKV100
- **Note:** Additional licenses may be required for optional applications. Please verify that all licenses purchased are displayed.
- After completing software license installation, execute **PacketScan_x64_Setup.exe** in **Run as Administrator** mode. Follow the on-screen instructions to complete the software installation.
- For functional verification, refer to the **Verification** section below.

USB Hardware Dongle based licensing (on purchase only)

- If the software is licensed through hardware USB dongle, your shipment will contain a **USB Installation Stick** (pen drive) with necessary software executables, license installer, and documents.
- Plug-in the **USB Installation Stick** (pen drive) to the PC
- Execute **GLLdkDongleLicenseInstaller_x64.exe** (or **GLLdkDongleLicenseInstaller_x86.exe**). Follow hardware dongle licensing procedure mentioned in the <https://www.gl.com/Brochures/Brochures/Installation-Instructions-for-Dongle-Programs.pdf>.
- Once the license installation is completed, plug the dongle to the USB port of your computer. Windows® should install all required drivers automatically. A red light should appear on the dongle indicating that it is functioning correctly from a physical point of view.
- Navigate to **PKV100-PKV101-PacketScan\PKV100-PacketScan-Software** folder, right-click on the **PacketScan_x64_Setup.exe** and select **Run as Administrator** mode. Follow onscreen instructions.



Normal Instructions – Follow these precisely

- It is recommended to reboot the system after the software installation.
- Right click on the PacketScan icon  created on the desktop and select "**Run as Administrator**" to launch the application. The application should invoke without any errors.

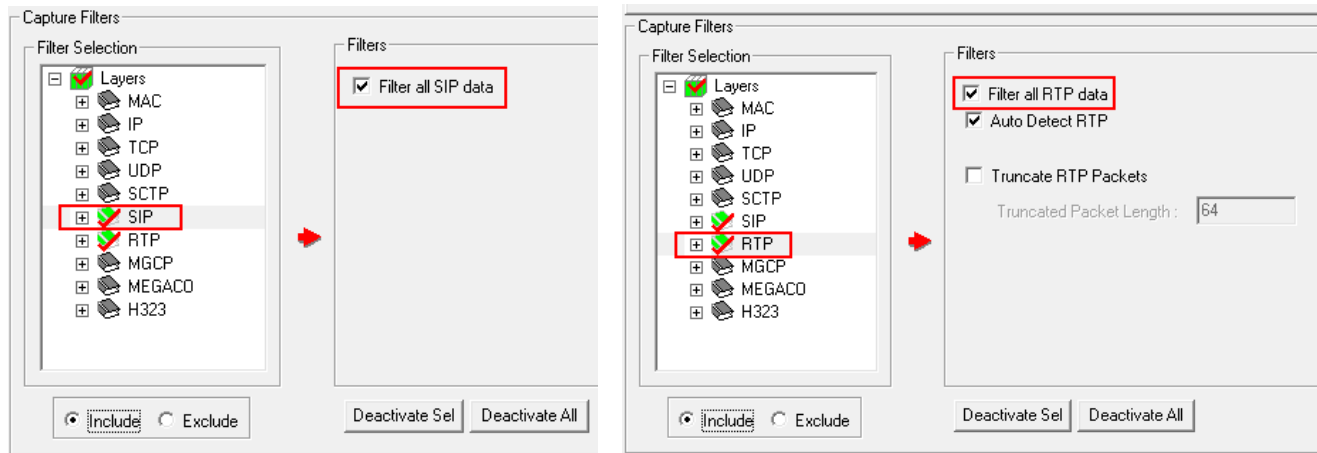
 **Note:**


- Additional licenses may be required for optional codec. Please verify that all licenses purchased are displayed using the appl_list.exe utility
- Verify that Widows® Firewall is disabled before proceeding with the instructions given below. You should **Turn off Windows Firewall** on Windows® and on any 3rd party Anti-Virus software that may be installed on the PC to make sure that Firewall is not blocking any packets or frames.


Verification

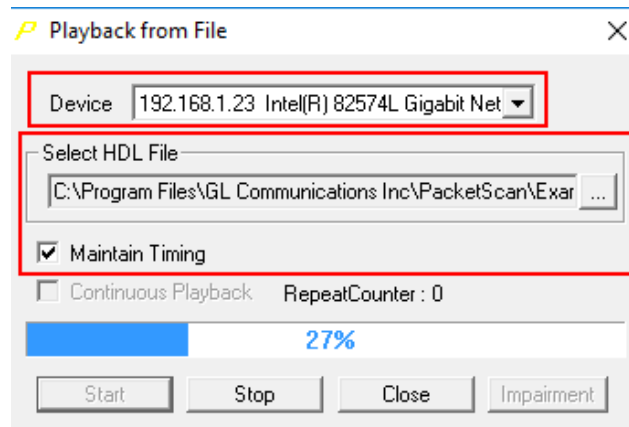
Follow the steps below for functional verification of PacketScan™ **Real-time** analysis feature.

- Select **Capture → Stream/Interface Selection** and select the Ethernet card on which packet needs to be captured
- On the left pane, select **Capture File Options** and verify that **Circular Capture Buffer** is checked.
- Now, on the left pane, select **Capture Filter** option, click on **SIP** in the Filter Selection and check **Filter all SIP data**. Similarly, click on **RTP** in the Filter Selection and check **Filter all RTP data**. Do not activate any other filters in the **Capture Filter**. Refer the below figures. After Filter configuration, close the window.



- From the **PacketScan™** main menu, select **Call Detail Records → Build Call Detail Records** to view call details.
- From the **PacketScan™** main menu, select **File → Start Real-time** or click on **Start Real-time**  icon from the toolbar.
- If the **Temp.hdl** file already exists in the PacketScan installation directory, a warning message will appear to replace Temp.hdl file, click **Yes** to overwrite the file.

- Generate traffic by playing HDL file using **PacketScanUtilities** application. From the PacketScan installation directory (C:\Program Files\GL Communications Inc\PacketScan) double-click on  **PacketScanUtilities** application. This will invoke PacketScan Utility application.
 - Select **Utilities** → **HDL Playback** from the menu.
 - In the **Device** option select NIC card on which PacketScan™ Real-time capture is configured. **Note:** Ensure that selected NIC card is enabled in PacketScan™ under **Capture** → **Stream/Interface Selection**.
 - In the **Select HDL File** option click on browse button to browse and select **C:\Program Files\GL Communications Inc\PacketScan\Examples\SIP\SIP.hdl** file from the PacketScan installation directory.
 - Enable **Maintain Timing** option and click **Start**.



- Observe the **SIP** and **RTP** decodes displayed in PacketScan™ analyzer summary and detail views.

Device	Frame#	TIME (Relative)	Length (Bytes)	Error	Length/Protocol Type MAC	Packet Type MAC	Source IP Address IP	Destination IP Address IP	Source Port UDP	Destination Port UDP	SIP Method Sip3261	SIP From Sip3261
✓ 2	0	00:00:00.000000	836		Internet IP(IPv4)	SIP	192.168.1.200	192.168.1.103	54098	5060	INVITE	0001@192.168.1.200
✓ 2	1	00:00:00.003232	354		Internet IP(IPv4)	SIP	192.168.1.103	192.168.1.200	54098	5060	SIP/2.0 100 Trying	0001@192.168.1.200
✓ 2	2	00:00:00.005649	355		Internet IP(IPv4)	SIP	192.168.1.103	192.168.1.200	54098	5060	SIP/2.0 180 Ringing	0001@192.168.1.200
✓ 2	3	00:00:00.005942	820		Internet IP(IPv4)	SIP	192.168.1.103	192.168.1.200	54098	5060	SIP/2.0 200 OK	0001@192.168.1.200
✓ 2	4	00:00:04.492036	385		Internet IP(IPv4)	SIP	192.168.1.200	192.168.1.103	54098	5060	ACK	0001@192.168.1.200
✓ 2	5	00:00:04.493709	214		Internet IP(IPv4)	RTP	192.168.1.200	192.168.1.103	1024	1024		
✓ 2	6	00:00:04.553004	214		Internet IP(IPv4)	RTP	192.168.1.200	192.168.1.103	1024	1024		


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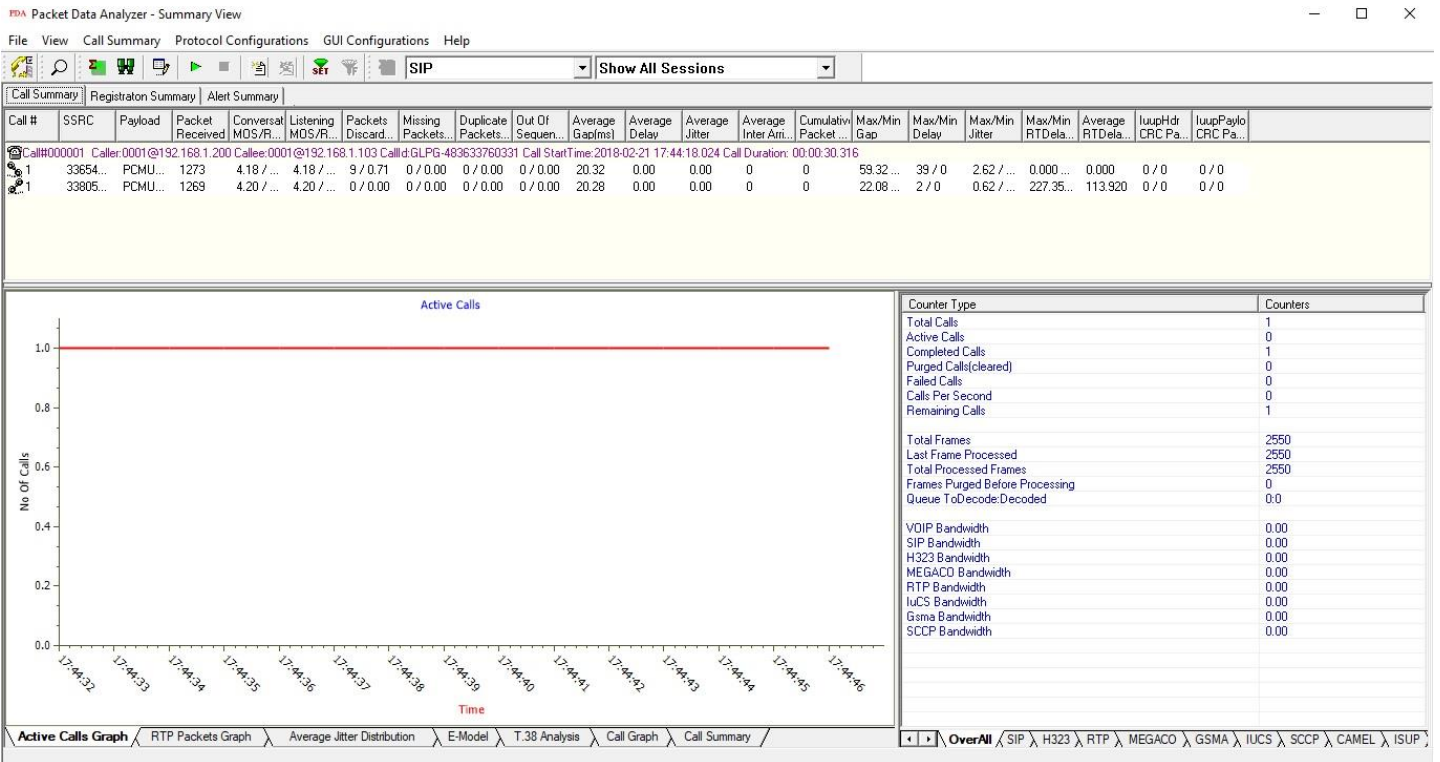
Device2 Frame=0 at 00:00:00.000000 OK Len=836
Ethernet Frame Data
***** MAC Layer *****
0000 Destination Address      = x0011116AF6D7
0006 Source Address          = x001676122661
000C Length/Protocol Type    = x0800 Internet IP(IPv4)
***** IP Layer *****
000E Version                  = 0100 ... (4)
000E Internet Header Length (In 32 bit words) = ...0101 (5)
000F Differentiated Services Field =
000F Differentiated Services Codepoint = 000000... Default
  
```

Call ID	Call Status	Protocol	Call Originating (Number / Address)	Call Destination (Number / Address)	Call Start Date & Time	Call Duration	Protocol Specific Info
0	Terminated	SIP	0001@192.168.1.200	0001@192.168.1.103	2017-07-10 12:14:48.313577	00:00:30.609839	<SIPCallID> GLPG-4836337603...

Capture Rate : 0.12 Mbps C:\Program Files\GL Communications Inc\PacketScan\Captured 2 550 frames Missed Frames : 0

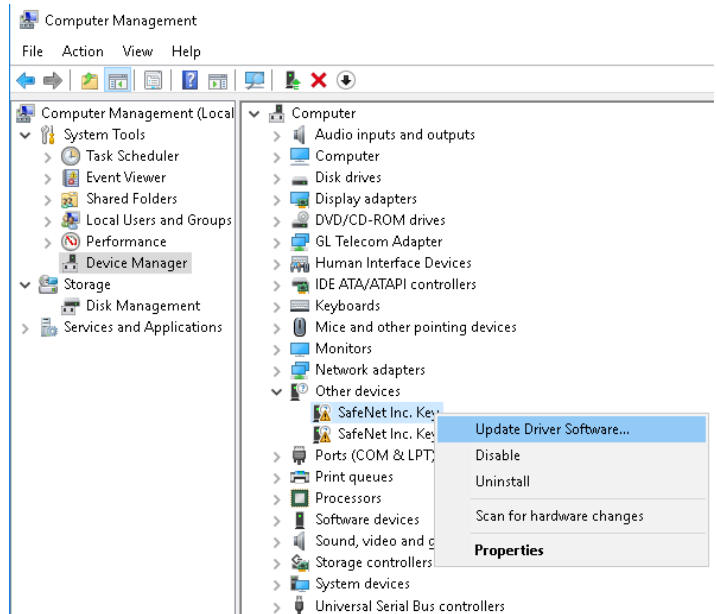
- From the **PacketScan™** main menu, select **Call Detail Records** → **Open Call Detail Records** to view Call Trace.

- From the **PacketScan™** main toolbar, click on the **PDA** icon to invoke PDA (Packet Data Analyzer) and select the call in the call summary to view detail analysis of each session, call graphs and quality scores for the captured **SIP** and **RTP** traffic.



Troubleshoot

- “Unknown device” error while installing USB Dongle.**
 - If you see this error, ensure you have installed the GL Dongle License Installer software first and then plugged the USB Dongle to the PC. The USB Dongle will then be recognized as “SafeNetInc. USB Key” and appropriate drivers will get installed automatically. If problem still persists, plug the USB Dongle to a different USB2.0 port and try again.
 - In the **Device Manager** → **Other devices** list, right-click “SafeNetInc. USB Key” and select **Update Device Software**. Update device drivers for unknown USB device using internet or check and install latest windows updates.



- “**Security Error: Application is not licensed**”, if you see this error when you run PacketScan™ it indicates a problem with either your dongle or license file.
 - First verify that the dongle is plugged in and the red light is on
 - Navigate to *C:\Program Files\GL Communications Inc\GLDONGLE*
 - Run *haspinfohl.exe*. Verify that Status is **OK** and make a note of the Serial #.
 - Run *appl_list.exe*. Verify that there is a line in the table reading **PKV100 PacketScan Online VoIP Analysis Software** with the serial number you noted above.
 - If the dongle does not appear in *haspinfohl.exe*, verify that it appears as a USB device in the Windows Device Manager. If it does not appear even in the device manager, remove the dongle and plug it into a different USB port, preferably one directly on the motherboard.

- Reasons why the Verification Step might fail are various:
 - Intermittent Frame Errors or Bit Errors generally indicates faulty equipment, either due to the Ethernet cable, the NICs or both.
 - Complete failure to SYNC could be a configuration issue, please review your settings. It could also be due to firewalls or other forms of security software. Please disable any security software if possible and try again.
 - Make sure that Firewall is not blocking any packets or frames. **Turn off Windows Firewall** on Windows® and on any 3rd party Anti-Virus software that may be installed on the PC. **Turn OFF Windows Firewall** - navigate to Control Panel > Systems & Security > Windows Firewall, click Turn Off windows Firewall for all networks.

- If you cannot resolve your issues, please contact your appointed technical support person. If you do not know your technical support contact, please reach us at info@gl.com