

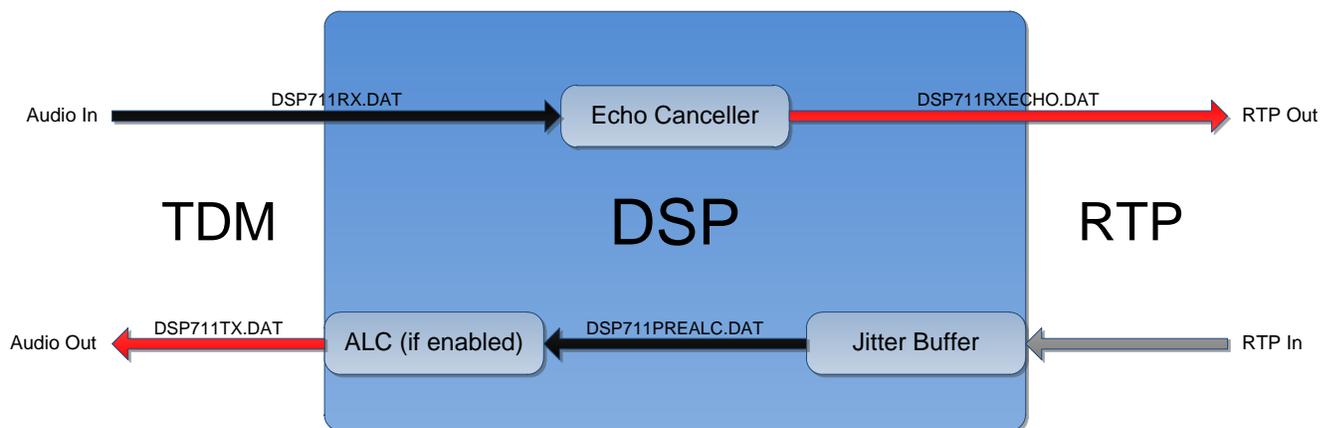


How to Perform a DSP Capture

Sometimes when troubleshooting poor voice quality, digit collection, echo, one-way talk path, or other audio problems, it becomes necessary to perform a DSP capture.

Performing the DSP Capture

All products except the NetVanta 640 Series & NetVanta 6240 Series

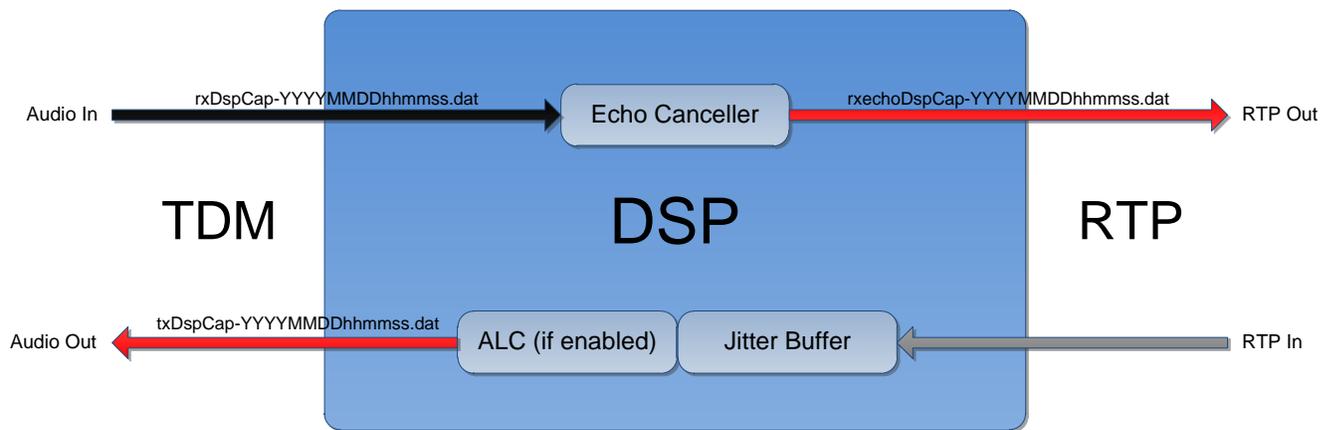


1. If possible, ensure no other calls are active on the unit to make it easier to find the channel on which to perform the capture.
2. Gain CLI access to the device and get into enable mode.
3. Place a call to an external number. There needs to be a RTP-to-TDM conversion for the DSP to be used.
4. In order to see which DSP channel is being utilized, issue the **show media-gateway summary active** command. Note the DSP slot/port and channel that the call is on.
5. Type **voice dsp capture start <channel> <slot>/<port>** at the prompt. Next, type **y** to start the capture. A message will appear at regular intervals notifying the user of an active capture.
 - a. **NOTE:** The unit will only hold the last 60 seconds of audio in the capture, so if the call is 5 minutes long, only the last 60 seconds will be in the capture. Thus, if you need to capture the beginning of the call, stop the capture before 60 seconds elapses.
6. Type **voice dsp capture stop** to stop the capture.
 - a. **NOTE:** Messages will appear on the console notifying the user which file is being written to flash. It can take up to 10 minutes for the DSP to write all of the files to flash.
7. There will be 6 .DAT files present on flash once the unit has finished writing out the files. To check the transfer status, type **show flash *.DAT** until the file sizes are no

longer increasing. An explanation of the four files that contain audio is shown in the diagram above.

- a. **NOTE:** If **alc** is not enabled on both the endpoint and the trunk, *DSP711PREALC.DAT* should be ignored.
 - b. **NOTE:** If echo cancellation is disabled on the DSP channel involved in the capture, whether by the config, modem-passthrough, or T.38, *DSP711RXECHO.DAT* will be empty and can be safely ignored.
8. Retrieve the files via TFTP or FTP. Once the files have been copied off the unit and you have confirmed the copy was successful, delete them from flash to conserve space.

NetVanta 640 Series & NetVanta 6240 Series



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5. Type **voice dsp capture start <channel> <slot>/<port>** at the prompt. Next, type **y** to start the capture. A message will appear at regular intervals notifying the user of an active capture.
 - a. **NOTE:** If there is less than 5% free space remaining on flash, a DSP capture cannot be started.
 - b. **NOTE:** Although there is no set time limit on a DSP capture, active captures will be stopped automatically once the unit is down to 5% free space remaining on flash.
6. Type **voice dsp capture stop** to stop the capture.
7. Because the files are written to flash in real time, the 3 .dat files present on flash are immediately available after the capture is stopped. An explanation of the files is shown in the diagram above.
 - a. **NOTE:** If echo cancellation is disabled on the DSP channel involved in the capture, whether by the config or modem-passthrough, the audio in

rxechoDspCap-YYYYMMDDhhmmss.dat will be a copy of the audio from *rxDspCap-YYYYMMDDhhmmss.dat*.

- b. **NOTE:** If T.38 is active on the DSP channel involved in the capture, *rxechoDspCap-YYYYMMDDhhmmss.dat* will be empty and can be safely ignored.
8. Retrieve the files via TFTP or FTP. Once the files have been copied off the unit and you have confirmed the copy was successful, delete them from flash to conserve space.

Listening to the DSP Capture

1. To listen to the DSP capture, use Audacity (<http://audacity.sourceforge.net/>).
2. To open the file in Audacity, go to **Project -> Import Raw Data**.
3. Select one of the DSP capture files
4. Set the options as described in the tables below and then click **Import**. The options in the first table are the same for all files. The options in the second table may vary by file.

Endianness	No endianness
Start Offset	0 bytes
Channels	1 Channel (Mono)
Amount to Import	100%

File	Format	Sample Rate
DSP711PREALC.DAT	U-Law	8000 Hz
DSP711RX.DAT	U-Law or A-Law (depends on TDM companding)	8000 Hz
DSP711RXECHO.DAT	U-Law	8000 Hz
DSP711TX.DAT	U-Law	8000 Hz
rxDspCap-YYYYMMDDhhmmss.dat	U-Law or A-Law (depends on TDM companding)	8000 Hz
rxechoDspCap-YYYYMMDDhhmmss.dat	Signed 16 bit PCM	8000 Hz
txDspCap-YYYYMMDDhhmmss.dat	U-Law or A-Law (depends on TDM companding)	8000 Hz