



Q & A

HIGH-DENSITY PACKET VOICE DIGITAL SIGNAL PROCESSOR MODULES

Q. How many versions are in PVDM2 modules?

A. PVDM2 has five versions. The product numbers for the five versions are PVDM2-8, PVDM2-16, PVDM2-32, PVDM2-48 and PVDM2-64 respectively. Each PVDM2 module includes:

PVDM2-8	8-Channel Packet Fax/Voice DSP Module	1 DSP (TI 2505)
PVDM2-16	16-Channel Packet Fax/Voice DSP Module	1 DSP (TI 2510)
PVDM2-32	32-Channel Packet Fax/Voice DSP Module	2 DSPs (TI 2510)
PVDM2-48	48-Channel Packet Fax/Voice DSP Module	3 DSPs (TI 2510)
PVDM2-64	64-Channel Packet Fax/Voice DSP Module	4 DSPs (TI2510)

Q. What does the digit number (i.e. 8, 16...) mean in the PVDM2 product number?

A. The number 8, 16, 32, 48 or 64 indicates the maximum number of G.711 voice calls that particular PVDM2 module can support.

Q. How many voice channels does each PVDM2 modules support?

A.

Name	Description ¹	Num. of DSPs	Max Num. of Channels in G.711	Max of Channels in High Complexity Codecs	Max Channels in Medium Complexity Codecs
PVDM2-8	8- Channel Packet Fax/Voice DSP Module	1 ²	8	4	4
PVDM2-16	16- Channel Packet Fax/Voice DSP Module	1	16	6	8
PVDM2-32	32- Channel Packet Fax/Voice DSP Module	2	32	12	16
PVDM2-48	48- Channel Packet Fax/Voice DSP Module	3	48	18	24
PVDM2-64	64- Channel Packet Fax/Voice DSP Module	4	64	24	32

1. The number of channels in PVDM2 product numbers and descriptions is the maximum channel density with G.711 codec.

2. PVDM2-8 contains one TNETV2505GGW DSP; others PVDM2 modules contain 1 to 4 TNETV2510GGW DSPs.

Q. What are the high complexity and medium complexity codecs supported in PVDM2?

A.

	High Complexity Codecs	Medium Complexity Codecs
PVDM2 Module	G.723.1, G.728, G.729, G.729b, GSM-EFR and Modem Relay	G.711 ¹ , g.729a, G.729ab, G.726, GSM-FR and Fax Relay

1. PVDM2 can support higher density of G.711 calls than that of other medium complexity codecs, see Table 1.

Q. Is there any tool that helps calculating the PVDM2 resources needed for a configuration?

A. Yes, Please refer to DSP Calculator in the following link: <http://www.cisco.com/cgi-bin/Support/DSP/dsp-calc.pl>

Q. Sometimes we read “PVDM”, and other times “DSP”. What are differences between these two terminologies in the context of this document and the PVDM2 data sheet?

A. PVDM stands for packet voice DSP module; it is the Cisco product name for the module that provides digital signal processing resources to a system. DSP stands for Digital Signal Processor; it is a generic Industry terminology. A PVDM module could be staffed with one or multiple DSPs.

Q. Is PVDM2 field-upgradable?

A. Yes. PVDM2 connects to the host through 80-pin SIMM interface. It can be easily plugged in, or removed.

Q. Is PVDM2 hot-swappable?

A. No.

Q. What does PVDM2 do for a VoIP application?

A. PVDM2 performs compression, voice activity detection, jitter management and echo cancellation functions to improve voice quality.

Q. Is PVDM2 and PVDM compatible? What are the differences between PVDM2 and PVDM?

A. No they are not compatible. Differences between the two products are shown in the table below:

PVDM2	PVDM
80-Pin SIMM Interface	72-Pin SIMM Interface
TI TNETV2505GGW or TNETV2510GGW	TI 549 or 542 DSP
200Mhz, 200MIPs per DSP	100Mhz, 100MIPs per DSP
8Mx16 External SDRAM per DSP	256Kx16 External SDRAM per DSP

Q. Can conferencing share the resources with transcoding or voice calls of a single DSP?

A. No. Conferencing needs a dedicated DSP resource. If a DSP is assigned for a conferencing session, then it cannot be used for transcoding or voice call initiations or terminations. Transcoding and voice calls can share the resource of a single DSP, however. Note that conferencing needs a dedicated DSP, but not a dedicated PVDM2 module. For example, PVDM2-64 contains 4 DSPs; if one of them is used for conferencing, the other three can still be used for other purposes.

Q. Which Cisco Access Routers or voice network modules support PVDM2? Which IOS releases and feature sets does PVDM2 require?

A. PVDM2 is supported in NM-HDV2, NM-HDV2-1T1/E1 and NM-HDV2-2T1/E1 starting from 12.3(7)T, in classic images IP PLUS above, and cross-platform images IP VOICE and above. NM-HDV2, NM-HDV2-1T1/E1 and NM-HDV2-2T1/E1 are supported on the Cisco 2600XM series, and Cisco 2691, 2811, 2821, 2851, 3725 and 3745 series access routers.

PVDM2 is supported in Cisco 2801, 2811, 2821, 2851 multi-service access routers, starting from 12.3(8)T4 in IP VOICE and above images; and in Cisco 3825 and 3845 multi-service access routers starting from 12.3(11)T in IP VOICE and above images. Please reference each platform's data sheet and Q&A for the maximum number of DSPs on each platform.

PVDM2 is supported in EVM-HD-8FXS/DID, EM-HAD-8FXS and EM-4BRI-NT/TE starting from 12.3(8)T4 in IP VOICE and above images.

Q. Does PVDM2 support echo cancellation?

A. Yes. PVDM2 supports echo cancellation on per channel base with 64ms tail length. The implementation is compliant to ITU-T G.168.

FOR MORE INFORMATION

For more information about the Cisco High-Density Packet Voice Digital Processing Module, visit

http://www.cisco.com/en/US/products/hw/modules/ps3115/prod_module_series_home.html



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