



JBL VERTEC V4 dbx DriveRack 4800 README FILE



Before downloading VerTec V4 preset modules, check for the latest version of System Architect Software on: <http://hignet.harmanpro.com/downloads.php>

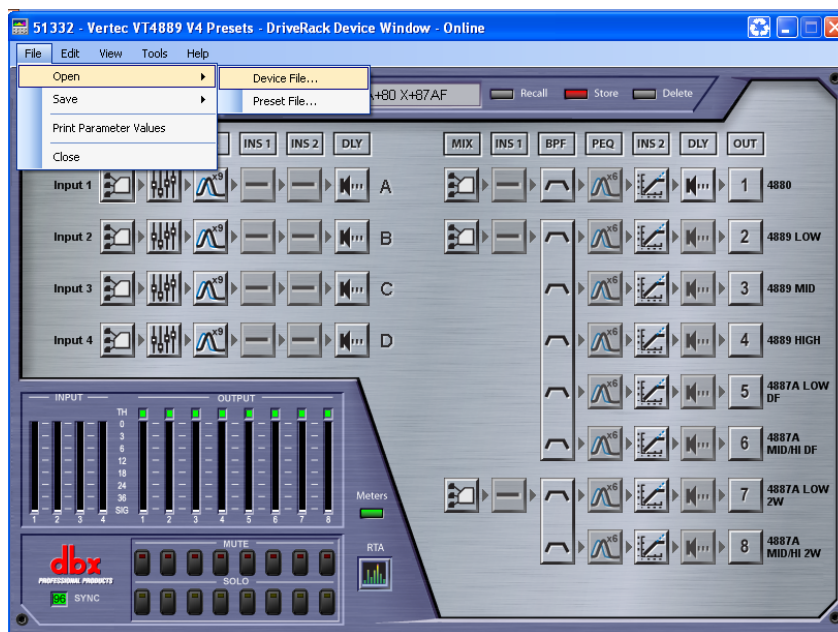
Note: JBL VerTec V4 presets for dbx DriveRack 4800 must be used with System Architect V1.503 or higher.

After downloading and installing System Architect software and upgrading dbx 4800 firmware (if necessary), unzip the JBL VerTec V4 dbx 4800 ZIP file and move device files to the following directory:

C:\Documents and Settings\ " your name " \My Documents\Harman Pro\Preset Files\JBL VerTec V4

After starting System Architect and establishing network connectivity, perform the following steps:

- 1) Double-click on the dbx 4800 DriveRack to be programmed
- 2) On the top menu bar, select: File / Open / Device File



- 3) Navigate to:

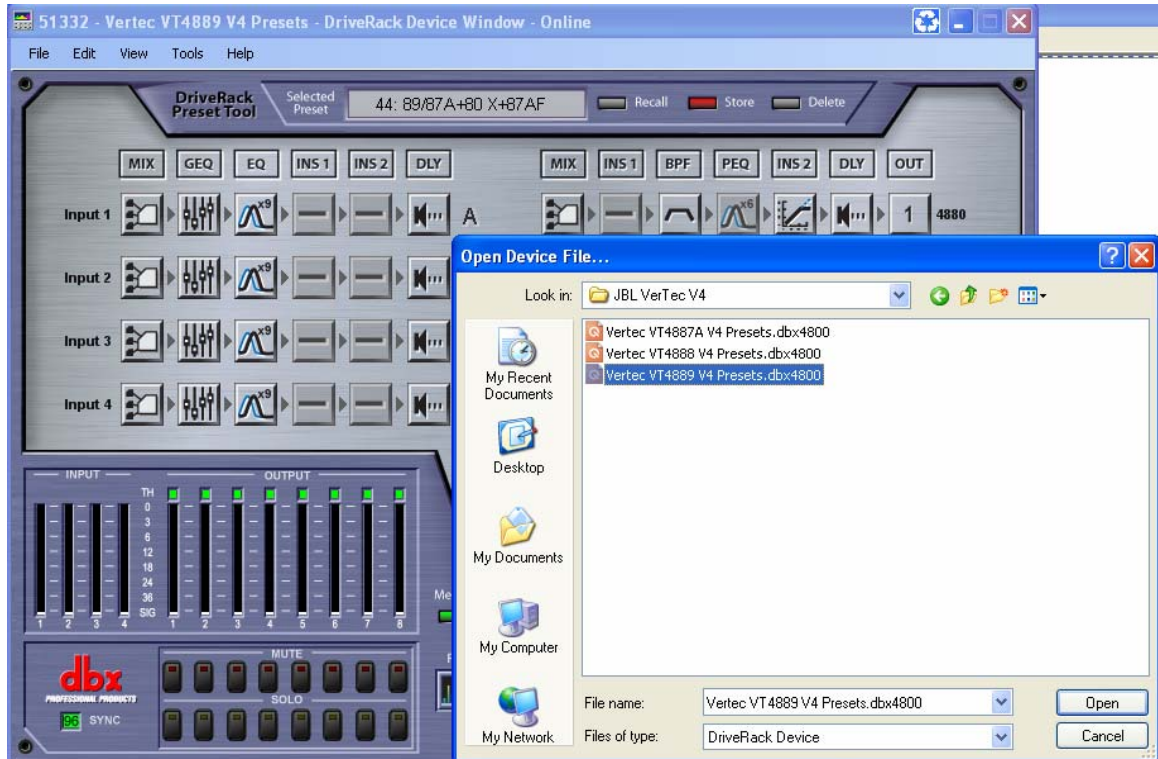
C:\Documents and Settings\ " your name " \My Documents\Harman Pro\Preset Files\JBL VerTec V4



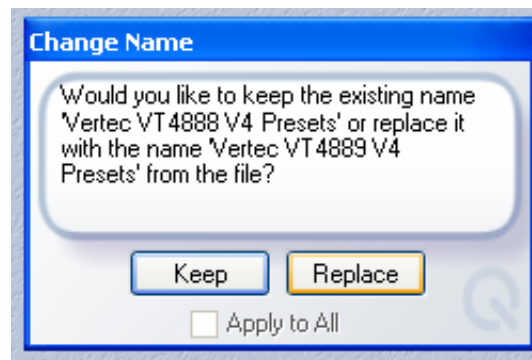
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- 4) Select the appropriate device file:
VerTec VT4887A V4 Presets.dbx4800
VerTec VT4888 V4 Presets.dbx4800
or
VerTec VT4889 V4 Presets.dbx4800



- 5) Keep or rename, as desired

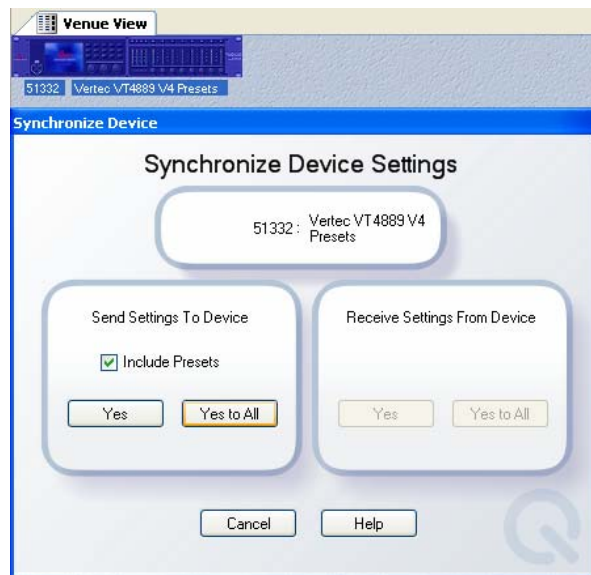




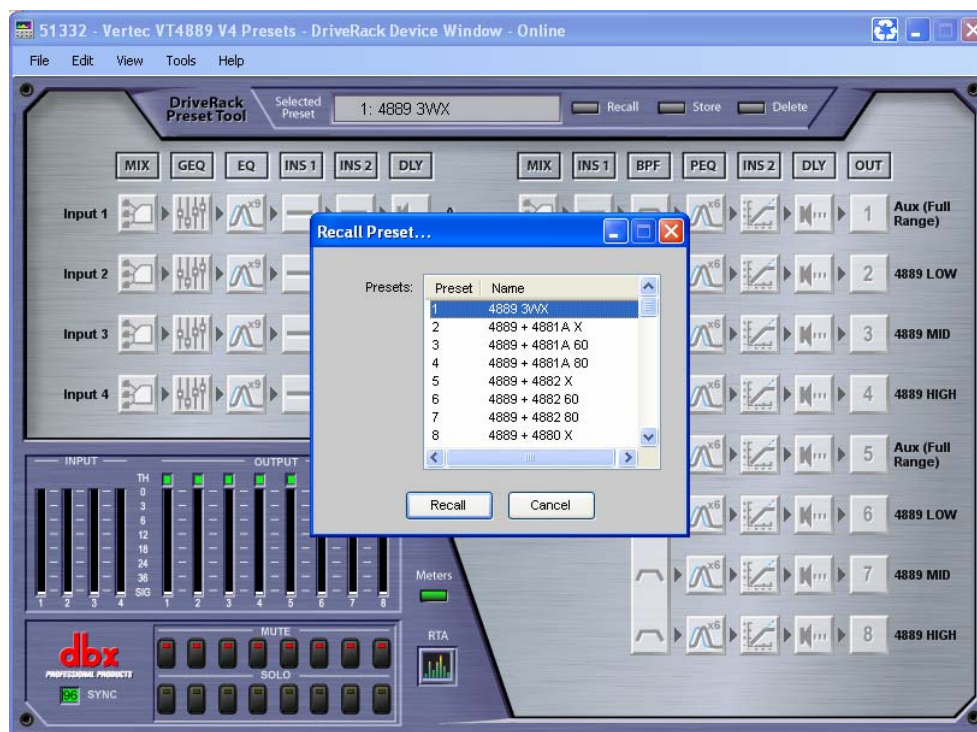
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6) Select “Send Settings to Device”, “Yes to All” when the Synchronize Device Settings window opens



6) After settings have been downloaded, use the RECALL function to load the desired preset (refer to the appropriate “JBL VerTec V4 dbx 4800 PRESET SUMMARY” setup sheet for details on preset modules and channel assignments)



Please refer to the appropriate “JBL VerTec V4 4800 PRESET SUMMARY” sheet to determine the correct preset to use for your configuration.



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Gain structure and limiting have been designed for amplifiers with 26 dB gain

Amplifiers driving all sections (sub, low, mid, high) should be set for 26 dB gain

Disclaimer: VerTec V4 limiter settings are intended to provide a starting point for optimum system performance while ensuring reliable system protection. However, the end user is ultimately responsible for system operation in the field and standard warranty conditions apply in the event of component damage.

1) For I-Tech 4000 and 6000 models it is necessary to change the maximum analog input level from +15 dBu to +21 dBu in order to be able to select 26 dB gain. Using the amplifier's front panel interface, go to the I-Tech Advanced Menu and select +21 dBu as maximum analog input level. This will then allow you to select 26 dB gain using the I-Tech's top level front panel menu.

2) With amplifier gain set to 26 dB, gain structure should provide the following behavior:

Console level 9 dBu (no sub/low limiting)
 12 dBu (approx 3 dB sub/low limiting, program dependent)
 15 dBu (approx 6-9 dB sub/low limiting, program dependent)

If you prefer to run your console hotter, scale all channel output gains (sub,low,mid,hi) down by 3 to 6 dB and leave limiter thresholds as is.

If you prefer to run your console at a lower level, scale all channel output gains (sub,low,mid,hi) up by 3 to 6 dB and leave limiter thresholds as is.

To verify gain structure and limiter functionality, it is recommended that signal flow from console → dsp → amplifiers is checked with loudspeakers disconnected prior to use.

3) For use with amplifiers having gain not equal to 26 dB, individual channel output levels and limiter thresholds (rms and peak) should be adjusted by the difference in amplifier gain for their respective channels.

Example: for amplifiers with 32 dB gain, channel output levels should be lowered by 6 dB; rms and peak thresholds for all channels should also be lowered by 6 dB.

4) Subwoofer sections for all X, 60, 80 presets are pre-time aligned. For flown 4889, 4888 or 4887A/4881A and ground stacked 4881A, 4882, 4880 or 4880A sub configurations, simply add the measured geometric path length difference between flown versus ground stacked (at your reference location of choice) to the pre-aligned delay as a starting point for time alignment measurements and further adjustment.



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**Limiter thresholds are based on 2x 2 Hour RMS power handling specifications
(dBu equivalent calculated based on 26 dB gain amplification):**

2 HOUR POWER HANDLING

ENCLOSURE MODEL	NOM LOAD (ohms)	RMS 2 HR (W)	PEAK POWER (W)	REC'D POWER (W)	dBu EQUIV * (2 x RMS)
VT4887a MID/HI	8	225	900	450	11.8 dBu
VT4887a LOW	8	750	3000	1500	17.0 dBu

ENCLOSURE MODEL	NOM LOAD (ohms)	RMS 2 HR (W)	PEAK POWER (W)	REC'D POWER (W)	dBu EQUIV (2 x RMS)
VT4888 HI	16	70	280	280	9.7 dBu
VT4888 MID	8	400	1600	800	14.3 dBu
VT4888 LOW	2 x 8 ohms	2 x 750 W	2 x 3000 W	2 x 1500 W	17.0 dBu

ENCLOSURE MODEL	NOM LOAD (ohms)	RMS 2 HR (W)	PEAK POWER (W)	REC'D POWER (W)	dBu EQUIV (2 x RMS)
VT4889 HI	16	165	660	660	13.4 dBu
VT4889 MID	8	1800	7200	3600	20.8 dBu
VT4889 LOW	2 x 8 ohms	2 x 690 W	2 x 2760 W	2 x 1380 W	16.6 dBu

ENCLOSURE MODEL	NOM LOAD (ohms)	RMS 2 HR (W)	PEAK POWER (W)	REC'D POWER (W)	dBu EQUIV (2 x RMS)
VT4881A	8	1500	6000	3000	20.0 dBu
VT4882	4	1550	6200	3100	17.1 dBu
VT4880	4	1550	6200	3100	17.1 dBu
VT4880A	4	3000	12000	6000	20.0 dBu

* dBu Equivalent calculated based on 26 dB amplifier gain (20x voltage gain)

In some cases (for example: VT4881A, VT4880A subwoofers and VT4889 mid section), the recommended amplification (= 2x 2 Hour RMS section power handling) exceeds amplifier output capability and limiters are calibrated to prevent RMS / Peak amplifier clip. VT4889 mid section limiter thresholds have been adjusted for optimum headroom relative to the low section. Under hard sub/low/high section limit conditions, the VT4889 mid section threshold may need to be further reduced in order to maintain spectral balance.

In other cases (for example: VT4887A, VT4888, VT4889 HF sections), limiter thresholds are calibrated to 2x 2 Hour RMS power handling. For more dynamic program material with low RMS signal content (for example, classical music) HF section limiter thresholds can be increased by 3 dB (or up to rms or peak amplifier clip - whichever value is lower) to match peak power handling. Conversely, for more demanding applications, limiter thresholds can be lowered by 3 dB to match RMS power handling.



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**Default JBL VerTec V4 dbx DriveRack 4800 Limiter Thresholds are calibrated
for Crown I-Tech 8000 amplification at 26 dB gain:**

dbx DriveRack 4800 LIMITER SETTINGS (2 HOUR POWER HANDLING)

**CROWN I-TECH 8000
(26 dB GAIN =6.52 Vrms=18.5 dBu)**

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4887a MID/HI	0	6 dBu	peakstop disabled	16.0 ms	0 ms	360 dB/sec
VT4887a LOW	2	14 dBu	peakstop disabled	16.0 ms	50 ms	48 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4888 HI	2	6 dBu	6 dB	1.5 ms	12 ms	100 dB/sec
VT4888 MID	1	10 dBu	6 dB	0.1 ms	22 ms	74 dB/sec
VT4888 LOW	2	17 dBu	4 dB	11.0 ms	120 ms	30 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4889 HI	2	10 dBu	6 dB	1.5 ms	12 ms	100 dB/sec
VT4889 MID	1	13 dBu	6 dB	0.1 ms	22 ms	74 dB/sec
VT4889 LOW	2	16 dBu	4 dB	11.0 ms	120 ms	30 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4881A	2	21 dBu	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4882	2	18 dBu	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4880	2	19 dBu	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4880A	2	22 dBu	peakstop disabled	0.1 ms	102 ms	49 dB/sec

* dbx Limiter Parameters have been calibrated to agree with other Vertec V4 - Supported Digital Signal Processors based on Audio Precision measurements of rms and peak voltages using pink noise and sine wave stimuli

For I-T8000 amplifier gain not equal to 26 dB, channel output levels and limiter thresholds should be further adjusted by the difference in selected amplifier gain versus 26 dB. For example: for 32 dB amplifier gain, channel output levels should be lowered by 6 dB; limiter thresholds for all channels should be lowered by an additional 6 dB.



JBL VERTEC V4 dbx DriveRack 4800 README FILE



For use of VerTec V4 presets with Crown amplifiers other than I-T8000, RMS and Peak limiter thresholds should be scaled to account for differences in amplifier input sensitivity:

CROWN MODEL	26 dB GAIN INPUT SENSITIVITY		
	VOLTS (rms)	dBu (rms)	dBu (peak)
MA-3600VZ	4.80 Vrms	15.8 dBu	18.8 dBu
MA-5002VZ	4.80 Vrms	15.8 dBu	18.8 dBu
I-T4000	5.01 Vrms	16.2 dBu	19.2 dBu
I-T6000	5.49 Vrms	17.0 dBu	20.0 dBu
I-T8000	6.52 Vrms	18.5 dBu	21.5 dBu



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dbx DriveRack 4800 LIMITER SETTINGS (2 HOUR POWER HANDLING)

CROWN I-TECH 6000
(26 dB GAIN=5.49 Vrms=17.0 dBU)

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4887a MID/HI	0	6 dBU	peakstop disabled	16.0 ms	0 ms	360 dB/sec
VT4887a LOW	2	14 dBU	peakstop disabled	16.0 ms	50 ms	48 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4888 HI	2	6 dBU	6 dB	1.5 ms	12 ms	100 dB/sec
VT4888 MID	1	10 dBU	6 dB	0.1 ms	22 ms	74 dB/sec
VT4888 LOW	2	17 dBU	4 dB	11.0 ms	120 ms	30 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4889 HI	2	10 dBU	6 dB	1.5 ms	12 ms	100 dB/sec
VT4889 MID	1	13 dBU	6 dB	0.1 ms	22 ms	74 dB/sec
VT4889 LOW	2	16 dBU	4 dB	11.0 ms	120 ms	30 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4881A	2	20 dBU	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4882	2	18 dBU	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4880	2	19 dBU	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4880A	2	21 dBU	peakstop disabled	0.1 ms	102 ms	49 dB/sec

* dbx Limiter Parameters have been calibrated to agree with other Vertec V4 - Supported Digital Signal Processors based on Audio Precision measurements of rms and peak voltages using pink noise and sine wave stimuli

For I-T6000 amplifier gain not equal to 26 dB, channel output levels and limiter thresholds should be further adjusted by the difference in selected amplifier gain versus 26 dB. For example: for 32 dB amplifier gain, channel output levels should be lowered by 6 dB; limiter thresholds for all channels should be lowered by an additional 6 dB.



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dbx DriveRack 4800 LIMITER SETTINGS (2 HOUR POWER HANDLING)

CROWN I-TECH 4000
(26 dB GAIN=5.01 Vrms=16.2 dBU)

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4887a MID/HI	0	6 dBU	peakstop disabled	16.0 ms	0 ms	360 dB/sec
VT4887a LOW	2	13 dBU	peakstop disabled	16.0 ms	50 ms	48 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4888 HI	2	6 dBU	6 dB	1.5 ms	12 ms	100 dB/sec
VT4888 MID	1	10 dBU	6 dB	0.1 ms	22 ms	74 dB/sec
VT4888 LOW	2	16 dBU	4 dB	11.0 ms	120 ms	30 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4889 HI	2	10 dBU	6 dB	1.5 ms	12 ms	100 dB/sec
VT4889 MID	1	13 dBU	6 dB	0.1 ms	22 ms	74 dB/sec
VT4889 LOW	2	16 dBU	4 dB	11.0 ms	120 ms	30 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4881A	2	19 dBU	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4882	2	17 dBU	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4880	2	18 dBU	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4880A	2	20 dBU	peakstop disabled	0.1 ms	102 ms	49 dB/sec

* dbx Limiter Parameters have been calibrated to agree with other Vertec V4 - Supported Digital Signal Processors based on Audio Precision measurements of rms and peak voltages using pink noise and sine wave stimuli

For I-T4000 amplifier gain not equal to 26 dB, channel output levels and limiter thresholds should be further adjusted by the difference in selected amplifier gain versus 26 dB. For example: for 32 dB amplifier gain, channel output levels should be lowered by 6 dB; limiter thresholds for all channels should be lowered by an additional 6 dB.



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dbx DriveRack 4800 LIMITER SETTINGS (2 HOUR POWER HANDLING)

CROWN MA-5002VZ
(26 dB GAIN = 4.8 Vrms = 15.8 dBu)

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4887a MID/HI	0	6 dBu	peakstop disabled	16.0 ms	0 ms	360 dB/sec
VT4887a LOW	2	13 dBu	peakstop disabled	16.0 ms	50 ms	48 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4888 HI	2	6 dBu	6 dB	1.5 ms	12 ms	100 dB/sec
VT4888 MID	1	10 dBu	6 dB	0.1 ms	22 ms	74 dB/sec
VT4888 LOW	2	16 dBu	4 dB	11.0 ms	120 ms	30 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4889 HI	2	10 dBu	6 dB	1.5 ms	12 ms	100 dB/sec
VT4889 MID	1	12 dBu	6 dB	0.1 ms	22 ms	74 dB/sec
VT4889 LOW	2	15 dBu	4 dB	11.0 ms	120 ms	30 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4881A	2	19 dBu	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4882	2	17 dBu	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4880	2	18 dBu	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4880A	2	20 dBu	peakstop disabled	0.1 ms	102 ms	49 dB/sec

* dbx Limiter Parameters have been calibrated to agree with other Vertec V4 - Supported Digital Signal Processors based on Audio Precision measurements of rms and peak voltages using pink noise and sine wave stimuli

For Crown MA-5002VZ amplifier gain equal to 36 dB (1.4 Vrms setting), channel output levels should be lowered by 10 dB; limiter thresholds for all channels should be lowered by an additional 10 dB.



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For more conservative protection and, as a result, more conservative system performance, limiter thresholds can be set to 2x 100 Hour RMS Power handling:

100 HOUR POWER HANDLING

ENCLOSURE MODEL	NOM LOAD (ohms)	RMS 100 HR (W)	PEAK POWER (W)	REC'D POWER (W)	dBu EQUIV * (2 x RMS)
VT4887a MID/HI	8	160	640	320	10.3 dBu
VT4887a LOW	8	520	2080	1040	15.4 dBu

ENCLOSURE MODEL	NOM LOAD (ohms)	RMS 100 HR (W)	PEAK POWER (W)	REC'D POWER (W)	dBu EQUIV (2 x RMS)
VT4888 HI	16	50	200	200	8.3 dBu
VT4888 MID	8	260	1040	520	12.4 dBu
VT4888 LOW	2 x 8 ohms	2 x 530 W	2 x 2120 W	2 x 1060 W	15.5 dBu

ENCLOSURE MODEL	NOM LOAD (ohms)	RMS 100 HR (W)	PEAK POWER (W)	REC'D POWER (W)	dBu EQUIV (2 x RMS)
VT4889 HI	16	105	420	420	11.5 dBu
VT4889 MID	8	1260	5040	2520	19.3 dBu
VT4889 LOW	2 x 8 ohms	2 x 450 W	2 x 1800 W	2 x 900 W	14.8 dBu

ENCLOSURE MODEL	NOM LOAD (ohms)	RMS 100 HR (W)	PEAK POWER (W)	REC'D POWER (W)	dBu EQUIV (2 x RMS)
VT4881A	8	900	3600	1800	17.8 dBu
VT4882	4	1090	4360	2180	15.6 dBu
VT4880	4	1230	4920	2460	16.1 dBu
VT4880A	4	1800	7200	3600	17.8 dBu

* dBu Equivalent calculated based on 26 dB amplifier gain (20x voltage gain)



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Limiter thresholds can be adjusted to correspond to 100 Hour ratings as follows:

dbx DriveRack 4800 LIMITER SETTINGS (100 HOUR POWER HANDLING)

CROWN I-TECH 8000
(26 dB GAIN =6.52 Vrms=18.5 dBu)

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4887a MID/HI	0	4 dBu	peakstop disabled	16.0 ms	0 ms	360 dB/sec
VT4887a LOW	2	12 dBu	peakstop disabled	16.0 ms	50 ms	48 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4888 HI	2	5 dBu	6 dB	1.5 ms	12 ms	100 dB/sec
VT4888 MID	1	8 dBu	6 dB	0.1 ms	22 ms	74 dB/sec
VT4888 LOW	2	15 dBu	4 dB	11.0 ms	120 ms	30 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4889 HI	2	8 dBu	6 dB	1.5 ms	12 ms	100 dB/sec
VT4889 MID	1	11 dBu	6 dB	0.1 ms	22 ms	74 dB/sec
VT4889 LOW	2	14 dBu	4 dB	11.0 ms	120 ms	30 dB/sec

ENCLOSURE MODEL	OVER EASY	RMS THRESHOLD	OVER SHOOT	ATTACK	HOLD	RELEASE
VT4881A	2	20 dBu	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4882	2	17 dBu	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4880	2	18 dBu	peakstop disabled	0.1 ms	102 ms	49 dB/sec
VT4880A	2	21 dBu	peakstop disabled	0.1 ms	102 ms	49 dB/sec

* dbx Limiter Parameters have been calibrated to agree with other Vertec V4 - Supported Digital Signal Processors based on Audio Precision measurements of rms and peak voltages using pink noise and sine wave stimuli

For other amplifier models (I-T6000, I-T4000, MA-5002VZ):

To re-calibrate thresholds to correspond to 100 Hour ratings, select whichever value is lower from the table above or the table corresponding to the amplifier in use given in the preceding pages.