



# **JBL VERTEC V4 PRESETS XTA DP448 README FILE**



Before downloading JBL VerTec V4 preset data, check for the latest XTA firmware and Audiocore Software on: <http://www.xta.co.uk>

JBL VerTec V4 presets can be downloaded using two techniques:

- 1) Complete preset library download (use XTAFlashLoad.exe and Vertec V4 .BIN files)
- 2) Individual preset download (use AudioCore and Vertec V4 XTA DP448.XBL file)

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## **Complete Preset Library Download (using XTAFlashLoad and VerTec V4 .BIN files)**

XTAFlashLoad is used to download the following VerTec V4 preset files to XTA DP448 OEM factory memories (locations 10-49):

448R0001 VerTec VT4887A V4.BIN  
448R0001 VerTec VT4888 V4.BIN  
448R0001 VerTec VT4889 V4.BIN

Preset descriptions and channel assignments for VT4887A, VT4888 and VT4889 .BIN files are given in their respective Preset Summary sheets:

JBL VerTec VT4887A V4 XTA DP448 PRESET SUMMARY.PDF  
JBL VerTec VT4888 V4 XTA DP448 PRESET SUMMARY.PDF  
JBL VerTec VT4889 V4 XTA DP448 PRESET SUMMARY.PDF

or the master preset summary spreadsheet:

JBL VerTec V4 XTA DP448 PRESET SUMMARY.XLS

Connect from the serial port of your PC to the RS232 input of the XTA DP448 using a Male/Female Null Modem Cable. Use the front panel [MENU] key to access the 'Interface Submenu' and ensure that the unit is configured in 'RS232 Mode' with 'Remote ID Number = 1' (refer to your XTA user manual and the XTAFlashLoad Readme file for further details on how to set up communication parameters and serial port configuration for your computer).

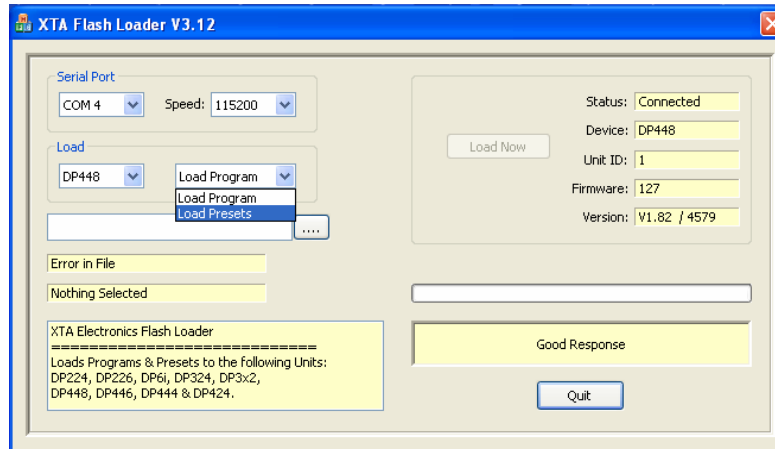


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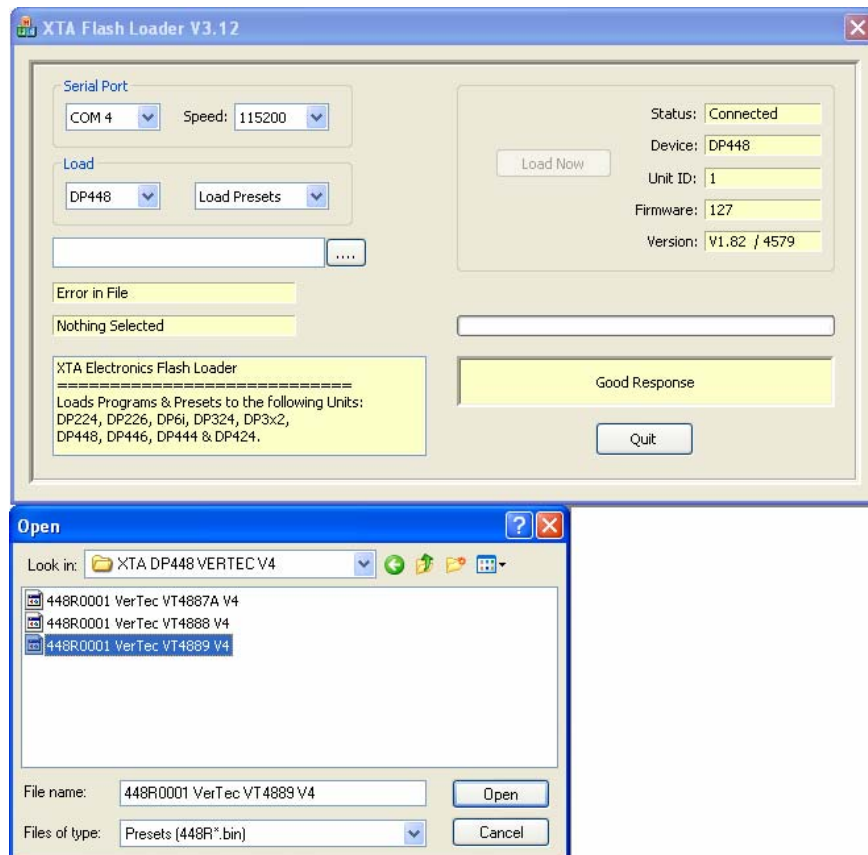
## Complete Preset Library Download - Continued (using XTAFlashLoad and VerTec V4 .BIN files)

- 1) Run XTAFlashLoad and select:  
Serial Port / Speed; unit type (DP448); "Load Presets" option



*Note: "Load Program" is selected for upgrading firmware*

- 2) Navigate to the directory containing VerTec V4 preset .BIN files and select the desired VerTec V4 preset library to be downloaded:



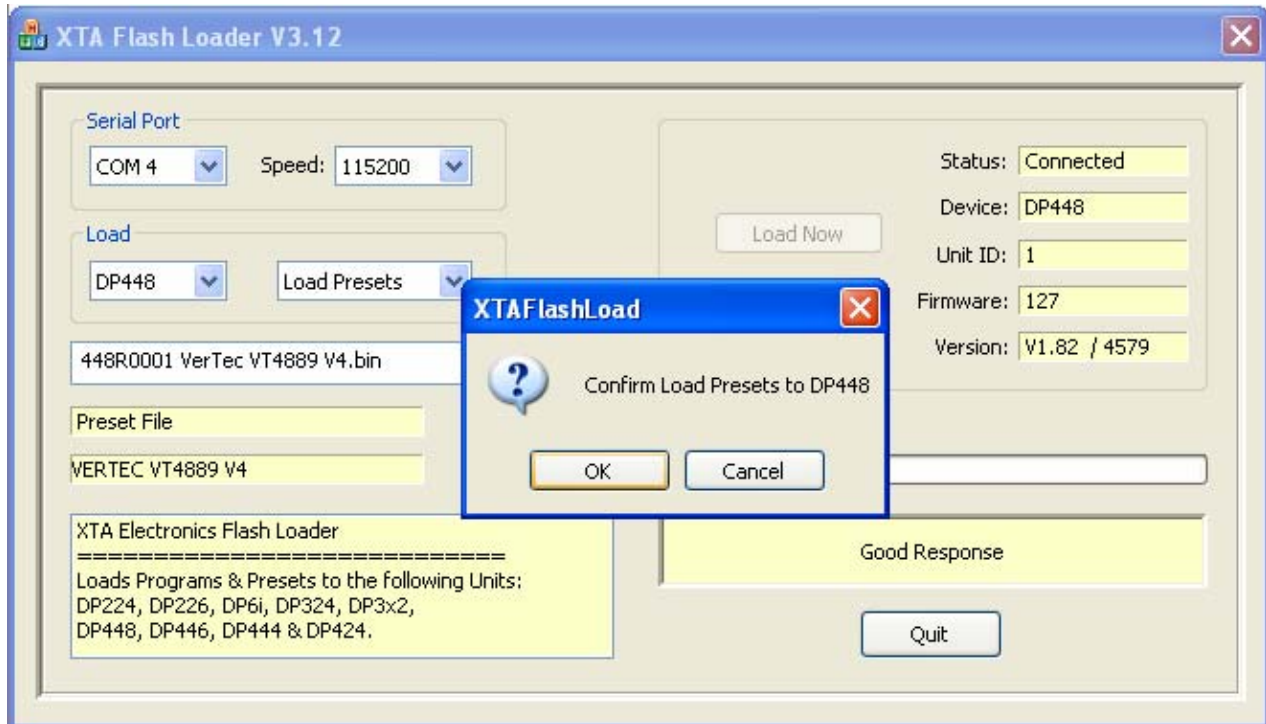


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## Complete Preset Library Download - Continued (using XTAFlashLoad and VerTec V4 .BIN files)

3) Select “Load Now” and Confirm to start downloading presets



4) After download is complete, the unit will reboot

5) To recall a preset using the XTA DP448 front panel interface, perform the following:

[MENU]	
GLOBAL MEMORY SUBMENU	[ENTER]
RECALL A MEMORY	[ENTER]
Type = Crossover Only	[ENTER]
(Use BACK/NEXT or WHEEL to select the desired preset)	[ENTER]
Press [ENTER] to Recall	[ENTER]

***For preset descriptions and channel assignments, refer to:***

***JBL VerTec VT4887A V4 XTA DP448 PRESET SUMMARY.PDF  
JBL VerTec VT4888 V4 XTA DP448 PRESET SUMMARY.PDF  
JBL VerTec VT4889 V4 XTA DP448 PRESET SUMMARY.PDF***

***or the Preset Summary Spreadsheet:***

***JBL VerTec V4 XTA DP448 PRESET SUMMARY.XLS***



# JBL VERTEC V4 PRESETS XTA DP448 README FILE

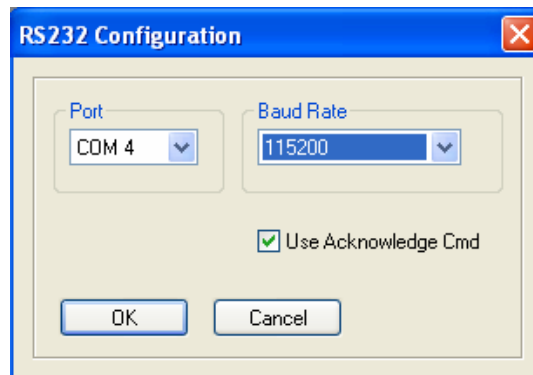


## Individual Preset Download

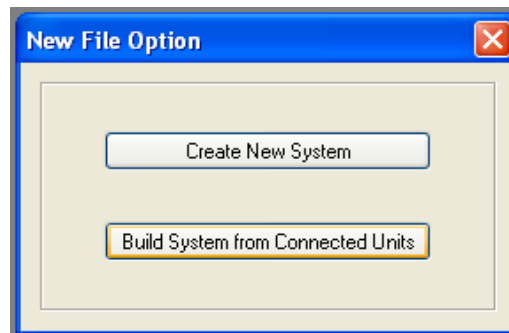
(using AudioCore and VerTec V4 XTA DP448.XBL file)

Connect from the serial port of your PC to the RS232 input of the XTA unit using a Male/Female Null Modem Cable (refer to your XTA user manual for guidelines on how to set up communication parameters and serial port configuration for your computer).

- 1) Start Audiocore
- 2) Select "Remote" on the main AudioCore menu bar and the appropriate COM port / baud rate (alternatively: RS485 depending on your network configuration):

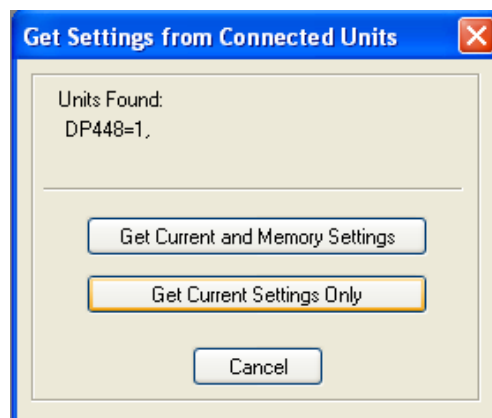


- 3) Select: "File / New / Build System from Connected Units"



*(Audiocore will then scan and find all connected units)*

- 4) Select: Get Current Settings Only



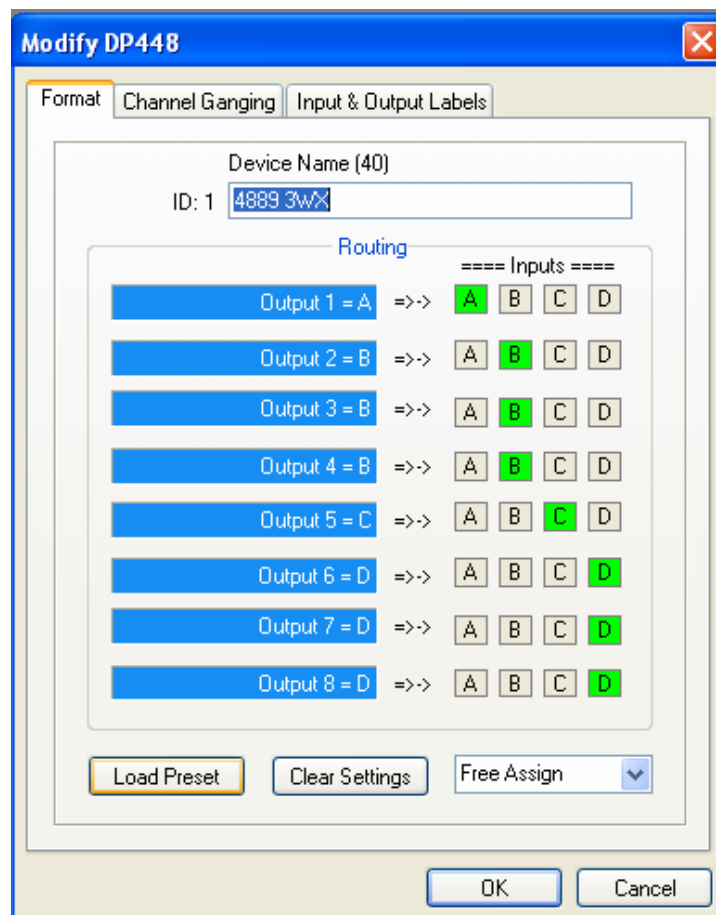
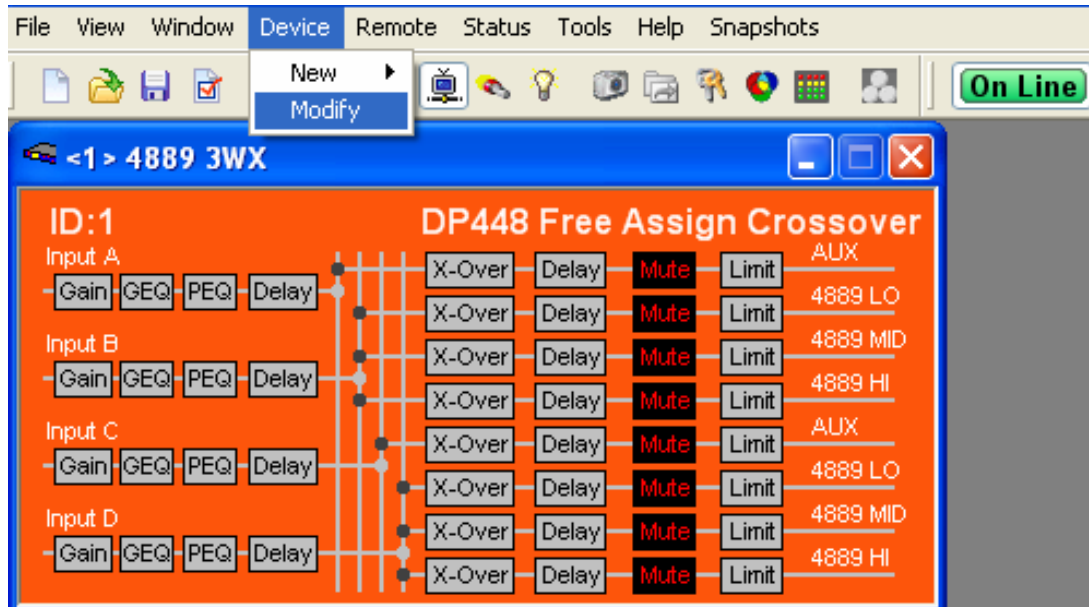


# JBL VERTEC V4 PRESETS XTA DP448 README FILE



## Individual Preset Download - Continued (using AudioCore and VerTec V4 XTA DP448.XBL file)

5) Highlight the desired unit then select: “Device / Modify / Presets”



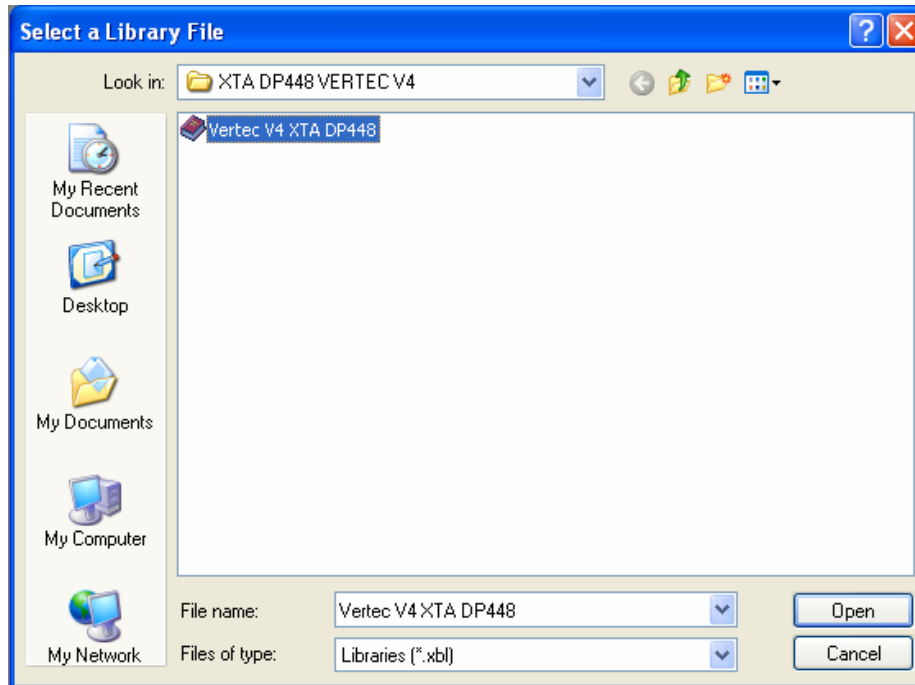


# JBL VERTEC V4 PRESETS XTA DP448 README FILE

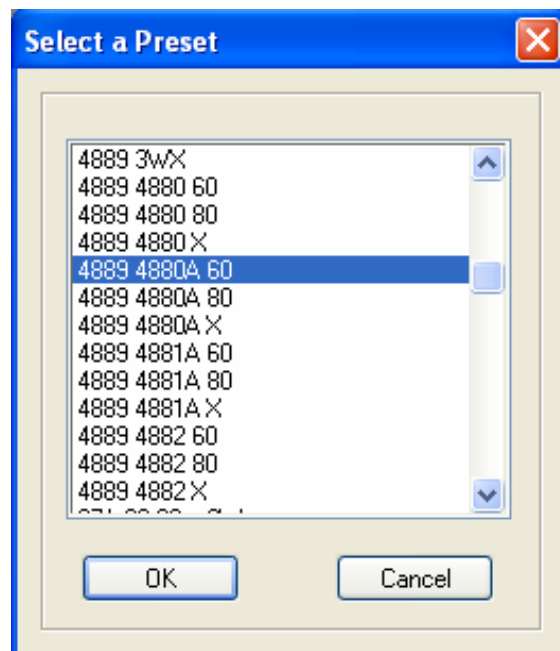


## Individual Preset Download - Continued (using AudioCore and VerTec V4 XTA DP448.XBL file)

- 6) Select “Load Preset” then navigate to the directory containing the file:  
VerTec V4 XTA DP448.xbl



- 7) Select the desired preset then ‘OK’ to download to the unit:



**Note:** Refer to the “VerTec V4 XTA PRESET SUMMARY” spreadsheet to determine the correct preset to use for your specific configuration

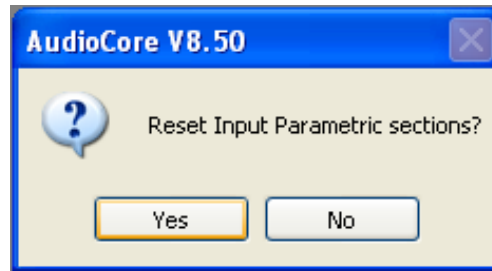


# JBL VERTEC V4 PRESETS XTA DP448 README FILE



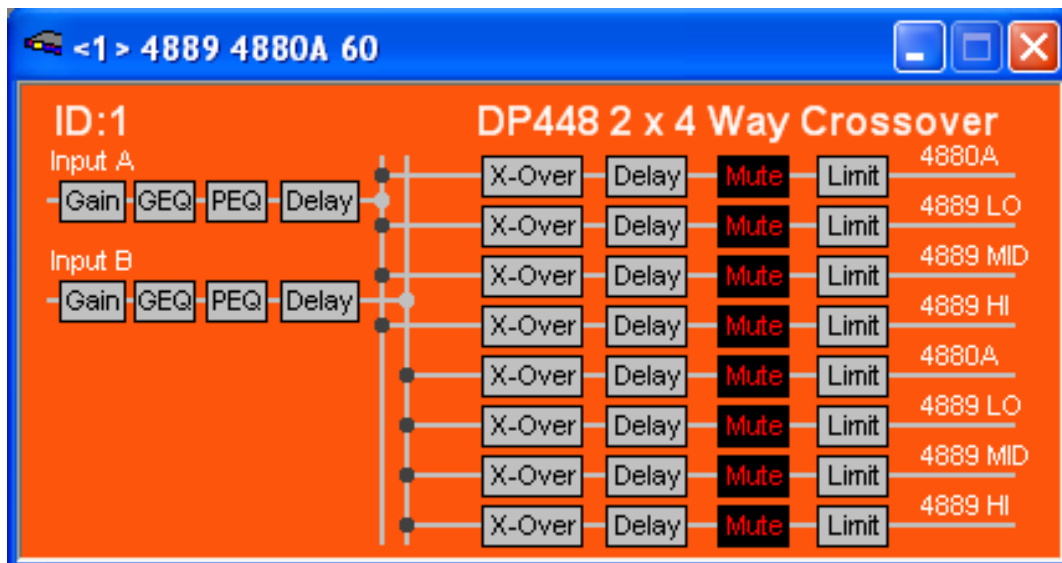
## Individual Preset Download - Continued (using AudioCore and VerTec V4 XTA DP448.XBL file)

8) The software will prompt whether you want to reset input parametric sections:



**Note:** XTA treats input memories and preset memories separately. Normally it is a good idea to reset input parametric filters and pre-delays when recalling a new preset and/or prior to system tuning. This can also be done manually on the front panel using the following key sequence: **MENU / INPUT SECTION Sub Menu / Input Reset / Clr All Inp. Delays: (Y/N) / Clr All Input Gains: (Y/N) / Clr All Inp Filters: (Y/N) / Clr Graphic Filters: (Y/N) / Press [ENTER] to CONFIRM.**

9) The selected preset data is then downloaded to the unit and AudioCore updates its display to reflect the new preset name, revised output channel names.



10) If desired, select to "Device / Modify" to adjust Routing, Channel Ganging etc.



# JBL VERTEC V4 PRESETS XTA DP448 README FILE



**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 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; limiter 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.





# JBL VERTEC V4 PRESETS XTA DP448 README FILE



**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 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 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.



# JBL VERTEC V4 PRESETS XTA DP448 README FILE



Default JBL VerTec V4 XTA DP448 Limiter Thresholds are calibrated  
for Crown I-Tech 8000 amplification at 26 dB gain:

## XTA DP448 LIMITER SETTINGS (2 HOUR POWER HANDLING)

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

ENCLOSURE MODEL	THRESHOLD * (dBU)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4887a MID/HI	8 dBU	2 msec	Atk x 16	2 dB	Medium
VT4887a LOW	15 dBU (14 dBU for 2WX)	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBU)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4888 HI	7 dBU	0.5 msec	Atk x 16	2 dB	Medium
VT4888 MID	11 dBU	2 msec	Atk x 16	2 dB	Medium
VT4888 LOW	14 dBU	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBU)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4889 HI	12 dBU	0.5 msec	Atk x 16	2 dB	Medium
VT4889 MID	14 dBU	4 msec	Atk x 16	2 dB	Medium
VT4889 LOW	14 dBU	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBU)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4881A	17 dBU	4 msec	Atk x 16	2 dB	Medium
VT4882	14 dBU	4 msec	Atk x 16	2 dB	Medium
VT4880	14 dBU	4 msec	Atk x 16	2 dB	Medium
VT4880A	18 dBU	4 msec	Atk x 16	2 dB	Medium

\* Limiter Thresholds 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 PRESETS XTA DP448 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



# JBL VERTEC V4 PRESETS XTA DP448 README FILE



## XTA DP448 LIMITER SETTINGS (2 HOUR POWER HANDLING)

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

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4887a MID/HI	8 dBu	2 msec	Atk x 16	2 dB	Medium
VT4887a LOW	15 dBu (14 dBu for 2WX)	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4888 HI	7 dBu	0.5 msec	Atk x 16	2 dB	Medium
VT4888 MID	11 dBu	2 msec	Atk x 16	2 dB	Medium
VT4888 LOW	14 dBu	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4889 HI	12 dBu	0.5 msec	Atk x 16	2 dB	Medium
VT4889 MID	14 dBu	4 msec	Atk x 16	2 dB	Medium
VT4889 LOW	14 dBu	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4881A	16 dBu	4 msec	Atk x 16	2 dB	Medium
VT4882	14 dBu	4 msec	Atk x 16	2 dB	Medium
VT4880	14 dBu	4 msec	Atk x 16	2 dB	Medium
VT4880A	17 dBu	4 msec	Atk x 16	2 dB	Medium

\* Limiter Thresholds 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.***



# JBL VERTEC V4 PRESETS XTA DP448 README FILE



## XTA DP448 LIMITER SETTINGS (2 HOUR POWER HANDLING)

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

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4887a MID/HI	8 dBu	2 msec	Atk x 16	2 dB	Medium
VT4887a LOW	14 dBu	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4888 HI	7 dBu	0.5 msec	Atk x 16	2 dB	Medium
VT4888 MID	11 dBu	2 msec	Atk x 16	2 dB	Medium
VT4888 LOW	13 dBu	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4889 HI	12 dBu	0.5 msec	Atk x 16	2 dB	Medium
VT4889 MID	14 dBu	4 msec	Atk x 16	2 dB	Medium
VT4889 LOW	14 dBu	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4881A	15 dBu	4 msec	Atk x 16	2 dB	Medium
VT4882	13 dBu	4 msec	Atk x 16	2 dB	Medium
VT4880	13 dBu	4 msec	Atk x 16	2 dB	Medium
VT4880A	16 dBu	4 msec	Atk x 16	2 dB	Medium

\* Limiter Thresholds 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.***



# JBL VERTEC V4 PRESETS XTA DP448 README FILE



## XTA DP448 LIMITER SETTINGS (2 HOUR POWER HANDLING)

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

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4887a MID/HI	8 dBu	2 msec	Atk x 16	2 dB	Medium
VT4887a LOW	14 dBu	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4888 HI	7 dBu	0.5 msec	Atk x 16	2 dB	Medium
VT4888 MID	11 dBu	2 msec	Atk x 16	2 dB	Medium
VT4888 LOW	13 dBu	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4889 HI	12 dBu	0.5 msec	Atk x 16	2 dB	Medium
VT4889 MID	13 dBu	4 msec	Atk x 16	2 dB	Medium
VT4889 LOW	13 dBu	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4881A	15 dBu	4 msec	Atk x 16	2 dB	Medium
VT4882	13 dBu	4 msec	Atk x 16	2 dB	Medium
VT4880	13 dBu	4 msec	Atk x 16	2 dB	Medium
VT4880A	15 dBu	4 msec	Atk x 16	2 dB	Medium

\* Limiter Thresholds 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.***



# JBL VERTEC V4 PRESETS XTA DP448 README FILE



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)



# JBL VERTEC V4 PRESETS XTA DP448 README FILE



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

## XTA DP448 LIMITER SETTINGS (100 HOUR POWER HANDLING)

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

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4887a MID/HI	6 dBu	2 msec	Atk x 16	2 dB	Medium
VT4887a LOW	13 dBu	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4888 HI	6 dBu	0.5 msec	Atk x 16	2 dB	Medium
VT4888 MID	9 dBu	2 msec	Atk x 16	2 dB	Medium
VT4888 LOW	12 dBu	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4889 HI	10 dBu	0.5 msec	Atk x 16	2 dB	Medium
VT4889 MID	12 dBu	4 msec	Atk x 16	2 dB	Medium
VT4889 LOW	12 dBu	4 msec	Atk x 16	2 dB	Medium

ENCLOSURE MODEL	THRESHOLD * (dBu)	ATTACK TIME	RELEASE TIME	CLIP LIMITER Level Above	CLIP LIMITER Release
VT4881A	16 dBu	4 msec	Atk x 16	2 dB	Medium
VT4882	13 dBu	4 msec	Atk x 16	2 dB	Medium
VT4880	13 dBu	4 msec	Atk x 16	2 dB	Medium
VT4880A	17 dBu	4 msec	Atk x 16	2 dB	Medium

\* Limiter Thresholds 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.