



Commercial Loudspeaker, CBT, & AWC Recommended DSP Tunings

Ver. 171025

CEILING SPEAKERS

		Protective High-Pass Frequency (Slope 24 dB/oct)	Limiter Voltage (Ave/RMS -- not "peak")
Control 12C/T (&12C-VA)	Low-Z (8Ω)	70 Hz	12V RMS <i>Amp's 70V or 100V clipping limiter</i>
	15W Tap	80 Hz	
	7.5W Tap	60 Hz	
	Lower Taps	50 Hz	
Control 14C/T (&14C-VA)	Low-Z (8Ω)	75 Hz	15V RMS <i>Amp's 70V or 100V clipping limiter</i>
	25W Tap	75 Hz	
	12.5W Tap	55 Hz	
	Lower Taps	45 Hz	
Control 16C/T (&16C-VA)	Low-Z (8Ω)	65 Hz	20V RMS <i>Amp's 70V or 100V clipping limiter</i>
	30W Tap	70 Hz	
	15W Tap	55 Hz	
	Lower Taps	40 Hz	
Control 18C/T	Low-Z (8Ω)	45 Hz	30V RMS <i>Amp's 70V or 100V clipping limiter</i>
	60W Tap	60 Hz	
	30W Tap	50 Hz	
	Lower Taps	50 Hz	
Control 19CS	Low-Z (8Ω)	70 Hz	23V RMS
Control 19CST	75W Tap	80 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	30W Tap	70 Hz	
	Lower Taps	50 Hz	
Control 24C Micro	Low-Z (8Ω)	85 Hz	9.5V RMS
Control 24CT Micro	9W Tap	85 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	4W Tap	70 Hz	
	Lower Taps	65 Hz	
C24CT MicroPlus	25W Tap	85 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	12W Tap	70 Hz	
	6W Tap	65 Hz	
Control 24C	Low-Z (16Ω)	85 Hz	24V RMS
Control 24CT	30W Tap	100 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	15W Tap	85 Hz	
	Lower Taps	80 Hz	

CEILING SPEAKERS (Cont.)			
		Protective High-Pass Frequency (Slope 24 dB/oct)	Limiter Voltage (Ave/RMS -- not "peak")
Control 26C	Low-Z (16Ω)	75 Hz	32V RMS
Control 26CT& 26CT-LS	60W Tap	95 Hz	Amp's 70V or 100V clipping limiter
	30W Tap	75 Hz	
	Lower Taps	70 Hz	
Control 26-DT	30W Tap	100 Hz	Amp's 70V or 100V clipping limiter
	15W Tap	85 Hz	
	Lower Taps	80 Hz	
Control 40CS/T	Low-Z (8Ω)	35 Hz	Amp's 70V or 100V clipping limiter
	80W Tap	55 Hz	
	40W Tap	40 Hz	
	Lower Taps	30 Hz	
Control 42C	(16Ω)	150 Hz	16V RMS
Control 40CS/T + Control 42C (2 or 4 pcs) <i>(Using C40CS/T's built-in crossover)</i>	Low-Z (8Ω)	35 Hz	Amp's 70V or 100V clipping limiter
	80W Tap	55 Hz	
	40W Tap	40 Hz	
	Lower Taps	30 Hz	
Control 47C/T, 47LP, 47HC	Low-Z (8Ω)	55 Hz	Amp's 70V or 100V clipping limiter
	60W Tap	85 Hz	
	30W Tap	60 Hz	
	Lower Taps	50 Hz	
Control 226C/T	Low-Z (8Ω)	50 Hz	Amp's 70V or 100V clipping limiter
	68W Tap	50 Hz	
	Lower Taps	40 Hz	
Control 227C	Low-Z (8Ω)	45 Hz	23V RMS
Control 227CT	68W Tap	50 Hz	Amp's 70V or 100V clipping limiter
	34W Tap	45 Hz	
	Lower Taps	40 Hz	
Control 312C	Low-Z (8Ω)	40 Hz	46V RMS
Control 321C	Low-Z (8Ω)	40 Hz	30V RMS
Control 321CT	68W Tap	50 Hz	Amp's 70V or 100V clipping limiter
	34W Tap	45 Hz	
	Lower Taps	40 Hz	
Control 322C	Low-Z (8Ω)	35 Hz	38V RMS
Control 322CT	100W Tap	50 Hz	Amp's 70V or 100V clipping limiter
	50W Tap	40 Hz	
	Lower Taps	30 Hz	

CEILING SPEAKERS (Cont.)			Protective High-Pass Frequency (Slope 24 dB/oct)	Limiter Voltage (Ave/RMS -- not "peak")
Control 328C	Low-Z (8Ω)	50 Hz	29V RMS	
Control 328CT	68W Tap	60 Hz	Amp's 70V or 100V clipping limiter	
	34W Tap	50 Hz		
	Lower Taps	40 Hz		
CSS8004	Any 70V or 100V tap	130 Hz	Amp's 70V or 100V clipping limiter	
CSS8008	Any 70V or 100V tap	100 Hz	Amp's 70V or 100V clipping limiter	
CSS8018	Any 70V or 100V tap	90 Hz	Amp's 70V or 100V clipping limiter	
CSS-15C-VA	6W Tap	220 Hz	Amp's 70V or 100V clipping limiter	
	Lower Taps	180 Hz		
8124	Any 70V or 100V tap	60 Hz	Amp's 70V or 100V clipping limiter	
8128	6W Tap	60 Hz	Amp's 70V or 100V clipping limiter	
	Lower Taps	50 Hz		
8138	6W Tap	60 Hz	Amp's 70V or 100V clipping limiter	
	Lower Taps	50 Hz		

SURFACE-MOUNT SPEAKERS

		Protective High-Pass Frequency (Slope 24 dB/oct)	Limiter Voltage (Ave/RMS -- not "peak")
Control 23-1	Low-Z (8Ω)	80 Hz	16V RMS
	15W Tap	70 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	Lower Taps	60 Hz	
Control 23-1L	(8Ω)	80 Hz	16V RMS
Control 25-1	Low-Z (8Ω)	60 Hz	24V RMS
	30W Tap	60 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	Lower Taps	50 Hz	
Control 25AV & 25AV-LS	Low-Z (8Ω)	70 Hz	26V RMS
	60W Tap	85 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	30W Tap	70 Hz	
	Lower Taps	65 Hz	
Control 25-1L	(8Ω)	60 Hz	24V RMS
Control 28-1	Low-Z (8Ω)	45 Hz	26V RMS
	60W Tap	75 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	30W Tap	50 Hz	
	Lower Taps	40 Hz	
Control 28-1L	(8Ω)	45 Hz	26V RMS
Control 29AV-1	Low-Z (8Ω)	50 Hz	30V RMS
	110W Tap	70 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	55W Tap	50 Hz	
	Lower Taps	50 Hz	
Control 30	Low-Z (8Ω)	45 Hz	32V RMS
	150W Tap	80 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	75W Tap	60 Hz	
	Lower Taps	35 Hz	
Control 31	Low-Z (8Ω)	45 Hz	42V RMS
	150W Tap	45 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	75W Tap	40 Hz	
	Lower Taps	35 Hz	

SURFACE-MOUNT SPEAKERS (Cont.)

		Protective High-Pass Frequency (Slope 24 dB/oct)	Limiter Voltage (Ave/RMS -- not "peak")
Control 50S/T	Low-Z (8Ω)	35 Hz	22V RMS <i>Amp's 70V or 100V clipping limiter</i>
	80W Tap	60 Hz	
	40W Tap	40 Hz	
	Lower Taps	30 Hz	
Control 52	(16Ω)	150 Hz	16V RMS
Control 50S/T + Control 52 (2 or 4 pcs) <i>(Using C50S/T's built-in crossover)</i>	Low-Z (8Ω)	35 Hz	16V RMS <i>Amp's 70V or 100V clipping limiter</i>
	80W Tap	60 Hz	
	40W Tap	40 Hz	
	Lower Taps	30 Hz	
Control CRV	Low-Z (8Ω)	90 Hz	15V RMS <i>Amp's 70V or 100V clipping limiter</i>
	30W Tap	100 Hz	
	15W Tap	80 Hz	
	Lower Taps	60 Hz	
Control SB2	Low-Z (8Ω), per input	40 Hz	22V RMS
Control SB2210	Low-Z (8Ω)	45 Hz	60V RMS <i>Amp's 70V or 100V clipping limiter</i>
	Top 2 Taps <i>(with optional MTC-SBT300)</i>	45 Hz	
	Smaller Taps <i>(with optional MTC-SBT300)</i>	35 Hz	
Control HST	Low-Z (8Ω)	50 Hz	25V RMS <i>Amp's 70V or 100V clipping limiter</i>
	60W Tap	80 Hz	
	Lower Taps	50 Hz	
CSS-15/T	10W Tap	100 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	Lower Taps	80 Hz	
CSS-H15	Any 70V or 100V tap	400 Hz	<i>Amp's 70V or 100V clipping limiter</i>
CSS-H30	Any 70V or 100V tap	380 Hz	<i>Amp's 70V or 100V clipping limiter</i>

OUTDOOR SPEAKERS

		Protective High-Pass Frequency (Slope 24 dB/oct)	Limiter Voltage (Ave/RMS -- not "peak")
AWC62	Low-Z (8Ω)	60 Hz	28V RMS <i>Amp's 70V or 100V clipping limiter</i>
	120W Tap	60 Hz	
	60W Tap	50 Hz	
	Lower Taps	40 Hz	
AWC82	Low-Z (8Ω)	65 Hz	34V RMS <i>Amp's 70V or 100V clipping limiter</i>
	200W Tap	65 Hz	
	100W Tap	45 Hz	
	Lower Taps	40 Hz	
AWC129	Low-Z (8Ω)	50 Hz	43 VRMS <i>Amp's 70V or 100V clipping limiter</i>
	200W Tap	55 Hz	
	100W Tap	45 Hz	
	Lower Taps	40 Hz	
AWC159	Low-Z (8Ω)	50 Hz	52 VRMS <i>Amp's 70V or 100V clipping limiter</i>
	300W Tap	45 Hz	
	150W Tap	45 Hz	
	Lower Taps	40 Hz	
AWC15LF	Low-Z (8Ω)	40 Hz	52 VRMS <i>Amp's 70V or 100V clipping limiter</i>
	300W Tap	40 Hz	
	150W Tap	40 Hz	
	Lower Taps	35 Hz	

LANDSCAPE SPEAKERS

		Protective High-Pass Frequency (Slope 24 dB/oct)	Limiter Voltage (Ave/RMS -- not "peak")
Control 85M	Low-Z (8Ω)	65 Hz	22V RMS <i>Amp's 70V or 100V clipping limiter</i>
	30W Tap	60 Hz	
	Lower Taps	50 Hz	
Control 88M	Low-Z (8Ω)	45 Hz	26V RMS <i>Amp's 70V or 100V clipping limiter</i>
	60W Tap	80 Hz	
	Lower Taps	50 Hz	

PENDANT SPEAKERS			
		Protective High-Pass Frequency (Slope 24 dB/oct)	Limiter Voltage (Ave/RMS -- not "peak")
Control 64P/T	Low-Z (8Ω)	80 Hz	18V RMS
	30W Tap	80 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	15W Tap	70 Hz	
	Lower Taps	60 Hz	
Control 65P/T	Low-Z (8Ω)	55 Hz	20V RMS
	60W Tap	90 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	30W Tap	65 Hz	
	Lower Taps	50 Hz	
Control 67P/T, 67HC/T	Low-Z (8Ω)	65 Hz	20V RMS
	60W Tap	85 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	30W Tap	65 Hz	
	Lower Taps	50 Hz	
Control 60PS/T	Low-Z (8Ω)	50 Hz	31V RMS
	110W Tap	50 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	55W Tap	40 Hz	
	Lower Taps	40 Hz	
Control 62P	(16Ω)	150 Hz	14V RMS
Control 60PS/T + Control 62P (2 or 4 pcs) <i>(Using C60's built-in crossover)</i>	Low-Z (8Ω)	50 Hz	14V RMS
	110W Tap	50 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	55W Tap	40 Hz	
	Lower Taps	40 Hz	

IN-WALL SPEAKERS			
		Protective High-Pass Frequency (Slope 24 dB/oct)	Limiter Voltage (Ave/RMS -- not "peak")
Control 126W	Low-Z (8Ω)	45 Hz	14V RMS
Control 126WT	30W	70 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	Lower Taps	60 Hz	
Control 128W	Low-Z (8Ω)	40 Hz	15V RMS
Control 128WT	50W Tap	70 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	Lower Taps	60 Hz	

CBT COLUMN SPEAKERS			Protective High-Pass Frequency (Slope 24 dB/oct)	Limiter Voltage (Ave/RMS -- not "peak")
CBT 1000 CBT 1000 +1000E (in parallel with CBT 1000) CBT 1000E (driven separately)	(4Ω)	35 Hz	63V RMS	
	(4Ω)	35 Hz	63V RMS	
	(8Ω)	35 Hz	96V RMS	
CBT 70J-1	(8Ω)	55 Hz	48V RMS in Speech Mode, 53V RMS in Music Mode	
CBT 70J-1w MTC-CBT-70T x-former	120W Tap	60 Hz	Amp's 70V or 100V clipping limiter	
	60W Tap	45 Hz		
	Lower Taps	35 Hz		
CBT 70J-1 + 70JE-1	(4Ω)	45 Hz	48V RMS in Speech Mode, 53V RMS in Music Mode	
CBT 70J-1+JE-1 with MTC-CBT-70T x-former	120W Tap	60 Hz	Amp's 70V or 100V clipping limiter	
	60W Tap	45 Hz		
	Lower Taps	35 Hz		
CBT 200LA-1	Low-Z (4Ω)	70 Hz	40V RMS in either Speech or Music Mode	
	120W Tap (per module)	70 Hz	Amp's 70V or 100V clipping limiter	
	60W Tap (per module)	50 Hz		
	Lower Taps	40 Hz		
CBT 100LA-1	Low-Z (4Ω)	70 Hz	40V RMS in either Speech or Music Mode	
	120W Tap	70 Hz	Amp's 70V or 100V clipping limiter	
	60W Tap	50 Hz		
	Lower Taps	40 Hz		
CBT 100LA-LS	Low-Z (4Ω)	90 Hz	40V RMS in either Speech or Music Mode	
	120W Tap	80 Hz	Amp's 70V or 100V clipping limiter	
	60W Tap	60 Hz		
	Lower Taps	50 Hz		

CBT COLUMN SPEAKERS (cont.)			
		Protective High-Pass Frequency (Slope 24 dB/oct)	Limiter Voltage (Ave/RMS -- not "peak")
CBT 50LA-1	Low-Z (4Ω)	70 Hz	32V RMS in either Speech or Music Mode
	60W Tap	85 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	30W Tap	80 Hz	
	Lower Taps	75 Hz	
CBT 50LA-LS	Low-Z (4Ω)	90 Hz	32V RMS in either Speech or Music Mode
	60W Tap	90 Hz	<i>Amp's 70V or 100V clipping limiter</i>
	30W Tap	80 Hz	
	Lower Taps	75 Hz	

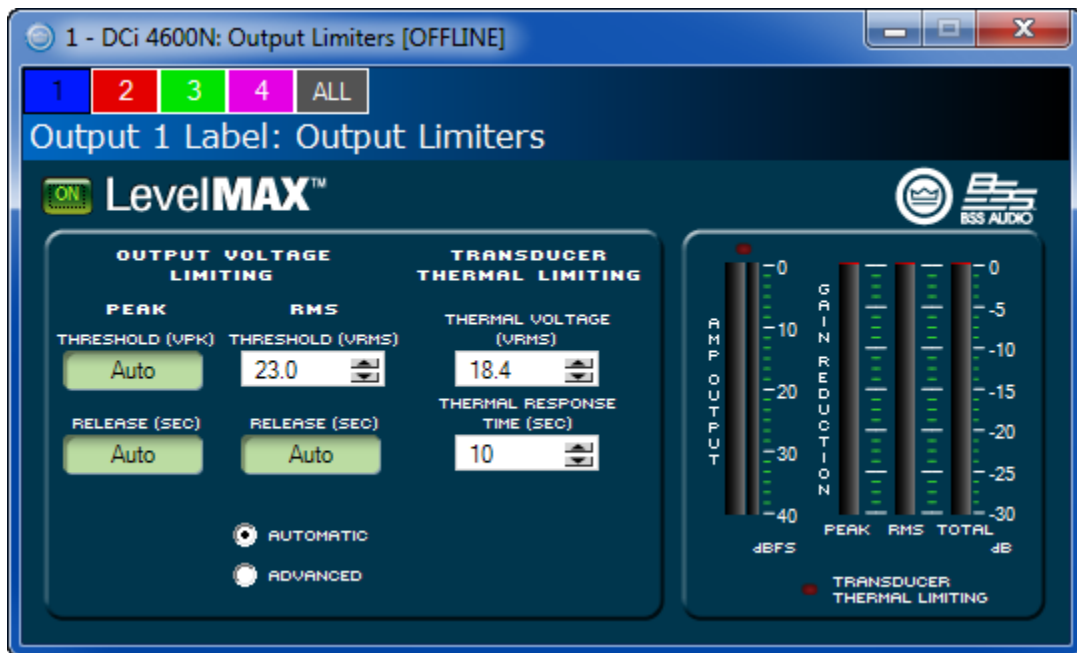
NOTES:

- High-Pass Frequencies apply to stated tap setting figure, regardless whether driven by 70V or 100V distributed line.

Setting the LevelMAX™ Limiter on HARMAN Crown DCi and CDI DriveCore Power Amplifiers

- Set the RMS THRESHOLD (VRMS) to the RMS Voltage figure from the chart
- Set the THERMAL VOLTAGE (VRMS) to 80% of RMS THRESHOLD (VRMS) value.
- Check the bubble for AUTOMATIC, which will set PEAK THRESHOLD (VPK), PEAK RELEASE (SEC), and RELEASE (SEC) to Auto.

Important Note: At the very end of the process, after inputting the tuning data, it is important to double-check that the high-pass filter (HPF) is still engaged. For example, even if you set and engaged the HPF earlier in the process, it may become disabled by changing the output mode (low-impedance, 70V, 100V) setting (or under some circumstances, when the mode setting is reviewed).



Shown as set for Control 47C/T at Low-Z (8Ω), listed for a Limiter Voltage of 23V RMS

The dynamics of limiters incorporated into various brands of power amplifiers vary. For other brands of power amplifier, contact the manufacturer to adapt the RMS Output Voltage Limiting figure listed in this chart to determine the various other settings for which they may allow the selection.