

DME Designer Component Resource Utilization

This document lists the DSP resource utilization of DME components. The values in this document were obtained by placing single components in the configuration and tabulating the resultant DME Designer resource meter readings. Since DME Designer's resource meter only displays DSP processor usage, even if less than 100% usage is indicated, limitations of internal memory and I/O pins may prevent a design from compiling. When using components which consume a large amount memory (delays), or have a large number of inputs or outputs, use the Analyze function to ensure that your design is compilable. The Analyze function can be found in the Designer window Tools menu, and may be used to compile off-line without DME devices being present.

Sampling Frequency (F _s): 48kHz				DME24N		DME64N		DME8i-C & DME8i-ES		DME8o-C & DME8o-ES		DME4io-C & DME4io-ES	
Main Component Category	Component sub-category 1	Component sub-category 2	Component	DSP	SPX	DSP	SPX	DSP	0%	DSP	0%	DSP	0%
Initial DSP amount				2%	0%	0%	0%	4%	0%	6%	0%	5%	0%
Ambient Noise Compensator			Mono	1%		1%		1%		1%		1%	
			Stereo	2%		1%		2%		2%		2%	
Audio Detector			Audio Detector	1%		1%		2%		2%		2%	
Auto Gain Control			Mono	2%		1%		2%		2%		2%	
			Stereo	3%		2%		3%		3%		3%	
Crossover			2 Way	3%		2%		3%		3%		3%	
			3 Way	4%		2%		5%		5%		5%	
			4 Way	6%		3%		6%		6%		6%	
			5 Way	7%		4%		7%		7%		7%	
			6 Way	8%		4%		8%		8%		8%	
Crossover Processor			2 Way	5%		3%		5%		5%		5%	
			3 Way	7%		4%		7%		7%		7%	
			4 Way	9%		5%		9%		9%		9%	
			5 Way	11%		6%		11%		11%		11%	
			6 Way	12%		6%		13%		13%		13%	
Crossover Processor II			2 Way	6%		3%		6%		6%		6%	
			3 Way	8%		4%		8%		8%		8%	
			4 Way	11%		6%		11%		11%		11%	
			5 Way	13%		7%		13%		13%		13%	
			6 Way	16%		8%		16%		16%		16%	
Delay	Long			1 Output	1%		1%		1%		1%		1%
				2 Output	1%		1%		1%		1%		1%
				3 Output	2%		1%		2%		2%		2%
				4 Output	2%		1%		2%		2%		2%
				5 Output	2%		1%		2%		2%		2%
				6 Output	3%		2%		3%		3%		3%
				7 Output	3%		2%		3%		3%		3%
				8 Output	3%		2%		3%		3%		3%
	Short			1 Output	1%		1%		1%		1%		1%
				2 Output	1%		1%		1%		1%		1%
				3 Output	2%		1%		2%		2%		2%
				4 Output	2%		1%		2%		2%		2%
				5 Output	2%		1%		2%		2%		2%
				6 Output	3%		2%		3%		3%		3%
				7 Output	3%		2%		3%		3%		3%
				8 Output	3%		2%		3%		3%		3%
Dynamics	Compander	Compander H	Mono	1%		1%		1%		1%		1%	
			Stereo	2%		1%		2%		2%		2%	
				Compander S	Mono	1%		1%		1%		1%	
				Stereo	2%		1%		2%		2%		2%
			Compressor	Mono	1%		1%		1%		1%		1%
				Stereo	2%		1%		2%		2%		2%
			De-Esser	Mono	2%		1%		2%		2%		2%
				Stereo	3%		2%		3%		3%		3%
			Ducking	Mono	1%		1%		1%		1%		1%
				Stereo	2%		1%		2%		2%		2%
			Expander	Mono	1%		1%		1%		1%		1%
				Stereo	2%		1%		2%		2%		2%
			Gate	Mono	1%		1%		1%		1%		1%
				Stereo	2%		1%		2%		2%		2%
			Limiter	Mono	1%		1%		1%		1%		1%
				Stereo	2%		1%		2%		2%		2%
			Program Ducker	Mono	1%		1%		1%		1%		1%
				Stereo	1%		1%		1%		1%		1%
	EQ	GEQ	Mono	7 Band	3%		2%		3%		3%		3%
						15 Band	4%		2%		4%		4%
				31 Band	6%		3%		7%		7%		
			Stereo	7 Band	5%		3%		5%		5%		
				15 Band	7%		4%		7%		7%		
				31 Band	12%		6%		12%		12%		
PEQ		Mono			2 Band	1%		1%		1%		1%	
					3 Band	1%		1%		1%		1%	
					4 Band	1%		1%		1%		1%	
					6 Band	2%		1%		2%		2%	
					8 Band	2%		1%		2%		2%	
				Stereo	2 Band	1%		1%		1%		1%	
					3 Band	2%		1%		2%		2%	
					4 Band	2%		1%		2%		2%	
					6 Band	3%		2%		3%		3%	
					8 Band	3%		2%		3%		3%	
Fader			1 Channel	1%		1%		1%		1%		1%	
			2 Channel	1%		1%		1%		1%		1%	
			4 Channel	1%		1%		1%		1%		1%	
			8 Channel	2%		1%		2%		2%		2%	
			12 Channel	3%		2%		3%		3%		3%	
			16 Channel	4%		2%		4%		4%		4%	
Feedback Suppressor			Feedback Suppressor	0%	25%	0%	25%	Not Available		Not Available		Not Available	
Filter	BPF			Mono	1%		1%		1%		1%		1%
				Stereo	1%		1%		1%		1%		1%
	HPF			Mono	1%		1%		1%		1%		1%
				Stereo	1%		1%		1%		1%		1%
	LPF			Mono	1%		1%		1%		1%		1%
				Stereo	1%		1%		1%		1%		1%
	Notch			Mono	1%		1%		1%		1%		1%
				Stereo	1%		1%		1%		1%		1%
	Programmable BPF			Mono	2%		1%		2%		2%		2%
				Stereo	3%		2%		3%		3%		3%
	Programmable HPF			Mono	1%		1%		1%		1%		1%
				Stereo	2%		1%		2%		2%		2%
Programmable LPF			Mono	1%		1%		1%		1%		1%	
			Stereo	2%		1%		2%		2%		2%	
Meter			1 Channel	1%		1%		1%		1%		1%	
			2 Channel	1%		1%		1%		1%		1%	
			4 Channel	1%		1%		1%		1%		1%	
			8 Channel	2%		1%		2%		2%		2%	
			12 Channel	3%		2%		3%		3%		3%	
			16 Channel	4%		2%		4%		4%		4%	
Miscellaneous			Oscillator										
			Wav File Player	N.B. A maximum of one Wav file player can be inserted per DME.	1%		1%		1%		1%		1%

DME Designer Component Resource Utilization

Sampling Frequency (F _s): 48kHz			DME24N		DME64N		DME8i-C & DME8i-ES		DME8o-C & DME8o-ES		DME4io-C & DME4io-ES				
Main Component Category	Component sub-category 1	Component sub-category 2	Component	DSP	SPX	DSP	SPX	DSP		DSP		DSP			
Mixer	Auto Mixer	2 Channel	2 Channel	2%		1%		2%		2%		2%			
			4 Channel	3%		2%		3%		3%		3%			
			8 Channel	5%		3%		5%		5%		5%			
			12 Channel	7%		4%		7%		7%		7%			
			16 Channel	9%		5%		9%		9%		9%			
		Auto Mixer II	8 Channel	5%		3%		5%		5%		5%			
			16 Channel	8%		4%		8%		8%		8%			
			Delay Matrix	2 Input	2 Output	3%		2%		3%		3%		3%	
					4 Output	4%		2%		4%		4%		4%	
				4 Input	8 Output	7%		4%		7%		7%		7%	
		12 Output			10%		5%		10%		10%		10%		
		8 Input	16 Output	12%		6%		13%		13%		13%			
			2 Output	4%		2%		4%		4%		4%			
			4 Output	7%		4%		7%		7%		7%			
			8 Output	13%		7%		13%		13%		13%			
			12 Output	18%		9%		19%		19%		19%			
	16 Output		24%		12%		24%		24%		24%				
	2 Output		8%		4%		8%		8%		8%				
	4 Output		14%		7%		14%		14%		14%				
	8 Output		25%		13%		26%		26%		26%				
	12 Output		31%		16%		32%		32%		32%				
	16 Output		40%		20%		42%		42%		42%				
	Matrix Mixer		2 Input	1 Output	2%		1%		2%		2%		2%		
		2 Output		2%		1%		2%		2%		2%			
		4 Input	1 Output	2%		1%		2%		2%		2%			
			2 Output	2%		1%		2%		2%		2%			
			4 Output	2%		1%		2%		2%		2%			
			8 Output	3%		2%		3%		3%		3%			
		8 Input	16 Output	4%		2%		4%		4%		4%			
			1 Output	2%		1%		2%		2%		2%			
			2 Output	2%		1%		2%		2%		2%			
			4 Output	3%		2%		3%		3%		3%			
			8 Output	3%		2%		4%		4%		4%			
			16 Output	5%		3%		6%		6%		6%			
		12 Input	32 Output	10%		5%		10%		10%		10%			
			1 Output	2%		1%		3%		3%		3%			
			2 Output	3%		2%		3%		3%		3%			
			4 Output	3%		2%		3%		3%		3%			
			8 Output	4%		2%		5%		5%		5%			
			12 Output	6%		3%		6%		6%		6%			
		16 Input	1 Output	3%		2%		3%		3%		3%			
			2 Output	3%		2%		3%		3%		3%			
			4 Output	4%		2%		4%		4%		4%			
			8 Output	5%		3%		6%		6%		6%			
			12 Output	7%		4%		8%		8%		8%			
			16 Output	9%		5%		9%		9%		9%			
			32 Output	16%		8%		17%		17%		17%			
			64 Output	Not Available		16%		Not Available		Not Available		Not Available			
			24 Input	24 Output	17%		9%		18%		18%		18%		
			32 Input	16 Output	16%		8%		17%		17%		17%		
			32 Output	32 Output	29%		15%		30%		30%		30%		
			64 Input	64 Output	Not Available		30%		Not Available		Not Available		Not Available		
		32 Output		Not Available		30%		Not Available		Not Available		Not Available			
					64 Output	Not Available		56%		Not Available		Not Available			
					N.B. A 64-input Matrix Mixer cannot be included simultaneously with any other components.										
		Simple Mixer			16 Channel	11%		6%		12%		12%		12%	
					24 Channel	16%		8%		17%		17%		17%	
			LCR			1 Channel	1%		1%		1%		1%		1%
						2 Channel	1%		1%		1%		1%		1%
						4 Channel	1%		1%		1%		1%		1%
						8 Channel	2%		1%		2%		2%		2%
						12 Channel	3%		2%		3%		3%		3%
						16 Channel	4%		2%		4%		4%		4%
			LR			1 Channel	1%		1%		1%		1%		1%
						2 Channel	1%		1%		1%		1%		1%
				4 Channel	1%		1%		1%		1%		1%		
				8 Channel	2%		1%		2%		2%		2%		
				12 Channel	2%		1%		2%		2%		2%		
				16 Channel	3%		2%		3%		3%		3%		
		Surround			3-1	1%		1%		1%		1%		1%	
			5.1	1%		1%		1%		1%		1%			
			6.1	1%		1%		1%		1%		1%			
			4 Room	2%		1%		2%		2%		2%			
			8 Room	3%		2%		4%		4%		4%			
			12 Room	6%		3%		6%		6%		6%			
	Room Combiner	Mono			16 Room	9%		5%		9%		9%			
					8 Room	3%		2%		4%		4%			
					4 Room	3%		2%		4%		4%			
					8 Room	9%		5%		9%		9%			
					12 Room	17%		9%		18%		18%			
					16 Room	29%		15%		30%		30%			
		Stereo			4 Room	3%		2%		4%		4%			
					8 Room	9%		5%		9%		9%			
					12 Room	17%		9%		18%		18%			
					16 Room	29%		15%		30%		30%			
	Router	1 Input			2 Output	1%		1%		1%		1%			
					4 Output	1%		1%		1%		1%			
					8 Output	1%		1%		1%		1%			
					12 Output	2%		1%		2%		2%			
					16 Output	2%		1%		2%		2%			
					32 Output	4%		2%		4%		4%			
		2 Input			2 Output	1%		1%		1%		1%			
					4 Output	1%		1%		1%		1%			
					8 Output	1%		1%		1%		1%			
					12 Output	2%		1%		2%		2%			
					16 Output	2%		1%		2%		2%			
					32 Output	4%		2%		4%		4%			
		4 Input			2 Output	1%		1%		1%		1%			
					4 Output	1%		1%		1%		1%			
					8 Output	1%		1%		1%		1%			
			12 Output	2%		1%		2%		2%					
			16 Output	2%		1%		2%		2%					
			32 Output	4%		2%		4%		4%					
8 Input				2 Output	1%		1%		1%		1%				
				4 Output	1%		1%		1%		1%				
				8 Output	2%		1%		2%		2%				
				12 Output	2%		1%		2%		2%				
				16 Output	2%		1%		2%		2%				
				32 Output	4%		2%		4%		4%				
12 Input				2 Output	2%		1%		2%		2%				
				4 Output	2%		1%		2%		2%				
				8 Output	2%		1%		2%		2%				
				12 Output	2%		1%		2%		2%				
				16 Output	2%		1%		2%		2%				
				32 Output	4%		2%		4%		4%				
16 Input				2 Output	2%		1%		2%		2%				
				4 Output	2%		1%		2%		2%				
				8 Output	2%		1%		2%		2%				
				12 Output	2%		1%		2%		2%				
				16 Output	2%		1%		2%		2%				
				32 Output	4%		2%		4%		4%				

DME Designer Component Resource Utilization

Sampling Frequency (F _s): 48kHz				DME24N		DME64N		DME8i-C & DME8i-ES		DME8o-C & DME8o-ES		DME4io-C & DME4io-ES		
				DSP	SPX	DSP	SPX	DSP		DSP		DSP		
Main Component Category	Component sub-category 1	Component sub-category 2	Component											
Source Selector	3 Position	4 Position	1 Channel	1%		1%		1%		1%		1%		
			2 Channel	1%		1%		1%		1%		1%		
	8 Position	6 Channel	1 Channel	2%		1%		2%		2%		2%		
			2 Channel	1%		1%		1%		1%		1%		
			6 Channel	1%		1%		1%		1%		1%		
		16 Position	1 Channel	1%		1%		1%		1%		1%		
			2 Channel	1%		1%		1%		1%		1%		
			6 Channel	3%		2%		3%		3%		3%		
	Speaker Processor		16 Position	1 Channel	1%		1%		1%		1%		1%	
			1 Way	4%		2%		4%		4%		4%		
2 Way			6%		3%		6%		6%		6%			
3 Way			8%		4%		8%		8%		8%			
4 Way			11%		6%		11%		11%		11%			
5 Way			13%		7%		13%		13%		13%			
6 Way			16%		8%		16%		16%		16%			
SPX			SPX	0%	25%	0%	25%	Not Available		Not Available		Not Available		
User Module				User defined		User defined		User defined		User defined		User defined		

Notes:

- 1) This document was collated using DME Designer V3.0.0E.
- 2) The component resources were measured at 48kHz sample rate. At 96kHz, resource usage will be approximately twice the value listed in the table.

YAMAHA Commercial Audio Business Unit, Technical Marketing Group