

## APPENDIX D SINE WAVE TABLE

This sine wave table is normally used by FFT routines which use bit reversed address pointers. This table can be used as it is for up to 512 point FFTs; however, for larger FFTs, the table must be copied to a different memory location to allow the reverse-carry addressing mode to be used (see **Section 5.3.2.3 REVERSE-CARRY MODIFIER (Mn=\$0000)** in the **DSP56000/DSP56001 Digital Signal Processor User's Manual** for additional information).

	ORG	Y:\$100		S_38	DC	\$7D8A5F	; +0.9807853103
				S_39	DC	\$7E1D94	; +0.9852777123
				S_3A	DC	\$7E9D56	; +0.9891765118
				S_3B	DC	\$7F0992	; +0.9924796224
				S_3C	DC	\$7F6237	; +0.9951847792
				S_3D	DC	\$7FA737	; +0.9972904921
				S_3E	DC	\$7FD888	; +0.9987955093
				S_3F	DC	\$7FF622	; +0.9996988773
				S_40	DC	\$7FFFFFF	; +0.9999998808
				S_41	DC	\$7FF622	; +0.9996988773
				S_42	DC	\$7FD888	; +0.9987955093
				S_43	DC	\$7FA737	; +0.9972904921
				S_44	DC	\$7F6237	; +0.9951847792
				S_45	DC	\$7F0992	; +0.9924796224
				S_46	DC	\$7E9D56	; +0.9891765118
				S_47	DC	\$7E1D94	; +0.9852777123
				S_48	DC	\$7D8A5F	; +0.9807853103
				S_49	DC	\$7CE3CF	; +0.9757022262
				S_4A	DC	\$7C29FC	; +0.9700313210
				S_4B	DC	\$7B5D04	; +0.9637761116
				S_4C	DC	\$7A7D05	; +0.9569402933
				S_4D	DC	\$798A24	; +0.9495282173
				S_4E	DC	\$788484	; +0.9415441155
				S_4F	DC	\$776C4F	; +0.9329928160
				S_50	DC	\$7641AF	; +0.9238795042
				S_51	DC	\$7504D3	; +0.9142097235
				S_52	DC	\$73B5EC	; +0.9039893150
				S_53	DC	\$72552D	; +0.8932244182
				S_54	DC	\$70E2CC	; +0.8819212914
				S_55	DC	\$6F5F03	; +0.8700870275
				S_56	DC	\$6DCA0D	; +0.8577286005
				S_57	DC	\$6C2429	; +0.8448535204
				S_58	DC	\$6A6D99	; +0.8314697146
				S_59	DC	\$68A69F	; +0.8175848722
				S_5A	DC	\$66CF81	; +0.8032075167
				S_5B	DC	\$64E889	; +0.7883464098
				S_5C	DC	\$62F202	; +0.7730104923
				S_5D	DC	\$60EC38	; +0.7572088242
				S_5E	DC	\$5ED77D	; +0.7409511805
				S_5F	DC	\$5CB421	; +0.7242470980
				S_60	DC	\$5A827A	; +0.7071068287
				S_61	DC	\$5842DD	; +0.6895405054
				S_62	DC	\$55F5A5	; +0.6715589762
				S_63	DC	\$539B2B	; +0.6531729102
				S_64	DC	\$5133CD	; +0.6343932748
				S_65	DC	\$4EBFE9	; +0.6152315736
				S_66	DC	\$4C3FE0	; +0.5956993103
				S_67	DC	\$49B415	; +0.5758082271
				S_68	DC	\$471CED	; +0.5555701852
				S_69	DC	\$447ACD	; +0.5349975824
				S_6A	DC	\$41CE1E	; +0.5141026974
				S_6B	DC	\$3F174A	; +0.4928981960
				S_6C	DC	\$3C56BA	; +0.4713967144
				S_6D	DC	\$398CDD	; +0.4496113062
				S_6E	DC	\$36BA20	; +0.4275551140
				S_6F	DC	\$33DEF3	; +0.4052414000
				S_70	DC	\$30FBC5	; +0.3826833963
				S_71	DC	\$2E110A	; +0.3598949909
				S_72	DC	\$2B1F35	; +0.3368898928
S_00	DC	\$000000	; +0.0000000000				
S_01	DC	\$03242B	; +0.0245412998				
S_02	DC	\$0647D9	; +0.0490676016				
S_03	DC	\$096A90	; +0.0735644996				
S_04	DC	\$0C8BD3	; +0.0980170965				
S_05	DC	\$0FAB27	; +0.1224106997				
S_06	DC	\$12C810	; +0.1467303932				
S_07	DC	\$15E214	; +0.1709619015				
S_08	DC	\$18F8B8	; +0.1950902939				
S_09	DC	\$1C0B82	; +0.2191012055				
S_0A	DC	\$1F19F9	; +0.2429800928				
S_0B	DC	\$2223A5	; +0.2667128146				
S_0C	DC	\$25280C	; +0.2902846038				
S_0D	DC	\$2826B9	; +0.3136816919				
S_0E	DC	\$2B1F35	; +0.3368898928				
S_0F	DC	\$2E110A	; +0.3598949909				
S_10	DC	\$30FBC5	; +0.3826833963				
S_11	DC	\$33DEF3	; +0.4052414000				
S_12	DC	\$36BA20	; +0.4275551140				
S_13	DC	\$398CDD	; +0.4496113062				
S_14	DC	\$3C56BA	; +0.4713967144				
S_15	DC	\$3F174A	; +0.4928981960				
S_16	DC	\$41CE1E	; +0.5141026974				
S_17	DC	\$447ACD	; +0.5349975824				
S_18	DC	\$471CED	; +0.5555701852				
S_19	DC	\$49B415	; +0.5758082271				
S_1A	DC	\$4C3FE0	; +0.5956993103				
S_1B	DC	\$4EBFE9	; +0.6152315736				
S_1C	DC	\$5133CD	; +0.6343932748				
S_1D	DC	\$539B2B	; +0.6531729102				
S_1E	DC	\$55F5A5	; +0.6715589762				
S_1F	DC	\$5842DD	; +0.6895405054				
S_20	DC	\$5A827A	; +0.7071068287				
S_21	DC	\$5CB421	; +0.7242470980				
S_22	DC	\$5ED77D	; +0.7409511805				
S_23	DC	\$60EC38	; +0.7572088242				
S_24	DC	\$62F202	; +0.7730104923				
S_25	DC	\$64E889	; +0.7883464098				
S_26	DC	\$66CF81	; +0.8032075167				
S_27	DC	\$68A69F	; +0.8175848722				
S_28	DC	\$6A6D99	; +0.8314697146				
S_29	DC	\$6C2429	; +0.8448535204				
S_2A	DC	\$6DCA0D	; +0.8577286005				
S_2B	DC	\$6F5F03	; +0.8700870275				
S_2C	DC	\$70E2CC	; +0.8819212914				
S_2D	DC	\$72552D	; +0.8932244182				
S_2E	DC	\$73B5EC	; +0.9039893150				
S_2F	DC	\$7504D3	; +0.9142097235				
S_30	DC	\$7641AF	; +0.9238795042				
S_31	DC	\$776C4F	; +0.9329928160				
S_32	DC	\$788484	; +0.9415441155				
S_33	DC	\$798A24	; +0.9495282173				
S_34	DC	\$7A7D05	; +0.9569402933				
S_35	DC	\$7B5D04	; +0.9637761116				
S_36	DC	\$7C29FC	; +0.9700313210				
S_37	DC	\$7CE3CF	; +0.9757022262				

**Figure D-1. Sine Wave Table Contents (Sheet 1 of 3)**

S_73	DC	\$2826B9	; +0.3136816919	S_B4	DC	\$8582FB	; -0.9569402933
S_74	DC	\$25280C	; +0.2902846038	S_B5	DC	\$84A2FC	; -0.9637761116
S_75	DC	\$2223A5	; +0.2667128146	S_B6	DC	\$83D604	; -0.9700313210
S_76	DC	\$1F19F9	; +0.2429800928	S_B7	DC	\$831C31	; -0.9757022262
S_77	DC	\$1C0B82	; +0.2191012055	S_B8	DC	\$8275A1	; -0.9807853103
S_78	DC	\$18F8B8	; +0.1950902939	S_B9	DC	\$81E26C	; -0.9852777123
S_79	DC	\$15E214	; +0.1709619015	S_BA	DC	\$8162AA	; -0.9891765118
S_7A	DC	\$12C810	; +0.1467303932	S_BB	DC	\$80F66E	; -0.9924796224
S_7B	DC	\$0FAB27	; +0.1224106997	S_BC	DC	\$809DC9	; -0.9951847792
S_7C	DC	\$0C8BD3	; +0.0980170965	S_BD	DC	\$8058C9	; -0.9972904921
S_7D	DC	\$096A90	; +0.0735644996	S_BE	DC	\$802778	; -0.9987955093
S_7E	DC	\$0647D9	; +0.0490676016	S_BF	DC	\$8009DE	; -0.9996988773
S_7F	DC	\$03242B	; +0.0245412998	S_C0	DC	\$800000	; -1.0000000000
S_80	DC	\$000000	; +0.0000000000	S_C1	DC	\$8009DE	; -0.9996988773
S_81	DC	\$FCDBD5	; -0.0245412998	S_C2	DC	\$802778	; -0.9987955093
S_82	DC	\$F9B827	; -0.0490676016	S_C3	DC	\$8058C9	; -0.9972904921
S_83	DC	\$F69570	; -0.0735644996	S_C4	DC	\$809DC9	; -0.9951847792
S_84	DC	\$F3742D	; -0.0980170965	S_C5	DC	\$80F66E	; -0.9924796224
S_85	DC	\$F054D9	; -0.1224106997	S_C6	DC	\$8162AA	; -0.9891765118
S_86	DC	\$ED37F0	; -0.1467303932	S_C7	DC	\$81E26C	; -0.9852777123
S_87	DC	\$EA1DEC	; -0.1709619015	S_C8	DC	\$8275A1	; -0.9807853103
S_88	DC	\$E70748	; -0.1950902939	S_C9	DC	\$831C31	; -0.9757022262
S_89	DC	\$E3F47E	; -0.2191012055	S_CA	DC	\$83D604	; -0.9700313210
S_8A	DC	\$E0E607	; -0.2429800928	S_CB	DC	\$84A2FC	; -0.9637761116
S_8B	DC	\$DDDC5B	; -0.2667128146	S_CC	DC	\$8582FB	; -0.9569402933
S_8C	DC	\$DAD7F4	; -0.2902846038	S_CD	DC	\$8675DC	; -0.9495282173
S_8D	DC	\$D7D947	; -0.3136816919	S_CE	DC	\$877B7C	; -0.9415441155
S_8E	DC	\$D4E0CB	; -0.3368898928	S_CF	DC	\$8893B1	; -0.9329928160
S_8F	DC	\$D1EEF6	; -0.3598949909	S_D0	DC	\$89BE51	; -0.9238795042
S_90	DC	\$CF043B	; -0.3826833963	S_D1	DC	\$8AFB2D	; -0.9142097235
S_91	DC	\$CC210D	; -0.4052414000	S_D2	DC	\$8C4A14	; -0.9039893150
S_92	DC	\$C945E0	; -0.4275551140	S_D3	DC	\$8DAAD3	; -0.8932244182
S_93	DC	\$C67323	; -0.4496113062	S_D4	DC	\$8F1D34	; -0.8819212914
S_94	DC	\$C3A946	; -0.4713967144	S_D5	DC	\$90A0FD	; -0.8700870275
S_95	DC	\$C0E8B6	; -0.4928981960	S_D6	DC	\$9235F3	; -0.8577286005
S_96	DC	\$BE31E2	; -0.5141026974	S_D7	DC	\$93DBD7	; -0.8448535204
S_97	DC	\$BB8533	; -0.5349975824	S_D8	DC	\$959267	; -0.8314697146
S_98	DC	\$B8E313	; -0.5555701852	S_D9	DC	\$975961	; -0.8175848722
S_99	DC	\$B64BEB	; -0.5758082271	S_DA	DC	\$99307F	; -0.8032075167
S_9A	DC	\$B3C020	; -0.5956993103	S_DB	DC	\$9B1777	; -0.7883464098
S_9B	DC	\$B14017	; -0.6152315736	S_DC	DC	\$9D0DFE	; -0.7730104923
S_9C	DC	\$AECC33	; -0.6343932748	S_DD	DC	\$9F13C8	; -0.7572088242
S_9D	DC	\$AC64D5	; -0.6531729102	S_DE	DC	\$A12883	; -0.7409511805
S_9E	DC	\$AA0A5B	; -0.6715589762	S_DF	DC	\$A34BDF	; -0.7242470980
S_9F	DC	\$A7BD23	; -0.6895405054	S_E0	DC	\$A57D86	; -0.7071068287
S_A0	DC	\$A57D86	; -0.7071068287	S_E1	DC	\$A7BD23	; -0.6895405054
S_A1	DC	\$A34BDF	; -0.7242470980	S_E2	DC	\$AA0A5B	; -0.6715589762
S_A2	DC	\$A12883	; -0.7409511805	S_E3	DC	\$AC64D5	; -0.6531729102
S_A3	DC	\$9F13C8	; -0.7572088242	S_E4	DC	\$AECC33	; -0.6343932748
S_A4	DC	\$9D0DFE	; -0.7730104923	S_E5	DC	\$B14017	; -0.6152315736
S_A5	DC	\$9B1777	; -0.7883464098	S_E6	DC	\$B3C020	; -0.5956993103
S_A6	DC	\$99307F	; -0.8032075167	S_E7	DC	\$B64BEB	; -0.5758082271
S_A7	DC	\$975961	; -0.8175848722	S_E8	DC	\$B8E313	; -0.5555701852
S_A8	DC	\$959267	; -0.8314697146	S_E9	DC	\$BB8533	; -0.5349975824
S_A9	DC	\$93DBD7	; -0.8448535204	S_EA	DC	\$BE31E2	; -0.5141026974
S_AA	DC	\$9235F3	; -0.8577286005	S_EB	DC	\$C0E8B6	; -0.4928981960
S_AB	DC	\$90A0FD	; -0.8700870275	S_EC	DC	\$C3A946	; -0.4713967144
S_AC	DC	\$8F1D34	; -0.8819212914	S_ED	DC	\$C67323	; -0.4496113062
S_AD	DC	\$8DAAD3	; -0.8932244182	S_EE	DC	\$C945E0	; -0.4275551140
S_AE	DC	\$8C4A14	; -0.9039893150	S_EF	DC	\$CC210D	; -0.4052414000
S_AF	DC	\$8AFB2D	; -0.9142097235	S_F0	DC	\$CF043B	; -0.3826833963
S_B0	DC	\$89BE51	; -0.9238795042	S_F1	DC	\$D1EEF6	; -0.3598949909
S_B1	DC	\$8893B1	; -0.9329928160	S_F2	DC	\$D4E0CB	; -0.3368898928
S_B2	DC	\$877B7C	; -0.9415441155	S_F3	DC	\$D7D947	; -0.3136816919
S_B3	DC	\$8675DC	; -0.9495282173	S_F4	DC	\$DAD7F4	; -0.2902846038

Figure D-1. Sine Wave Table Contents (Sheet 2 of 3)

S_F5	DC	\$DDDC5B	;	-0.2667128146	S_FB	DC	\$F054D9	;	-0.1224106997
S_F6	DC	\$E0E607	;	-0.2429800928	S_FC	DC	\$F3742D	;	-0.0980170965
S_F7	DC	\$E3F47E	;	-0.2191012055	S_FD	DC	\$F69570	;	-0.0735644996
S_F8	DC	\$E70748	;	-0.1950902939	S_FE	DC	\$F9B827	;	-0.0490676016
S_F9	DC	\$EA1DEC	;	-0.1709619015	S_FF	DC	\$FCDBD5	;	-0.0245412998
S_FA	DC	\$ED37F0	;	-0.1467303932					

**Figure D-1. Sine Wave Table Contents (Sheet 3 of 3)**

