

TTL Device Summary

Device	Function	Similar Devices
7400	Quad 2-Input NAND Gate	7403 / 74132 / 4011 / 4093 / 40107
7402	Quad 2-Input NOR Gate	4001
7403	Quad 2-Input NAND Gate (Open collector)	7400 / 74132 / 4011 / 4093 / 40107
7404	Hex Inverter	7405 / 7406 / 7414 / 4009 / 4049 / 4069
7405	Hex Inverter (Open collector)	7404 / 7406 / 7414 / 4009 / 4049 / 4069
7406	Hex Inverter (Open collector)	7404 / 7405 / 7414 / 4009 / 4049 / 4069
7407	Hex Buffer	74240 / 74241 / 74244 / 74365 / 74541 / 4050 / 4503 / 40106
7408	Quad 2-Input AND Gate	4081
7410	Triple 3-Input NAND Gate	4023
7411	Triple 3-Input AND Gate	4073
7414	Hex Inverter (Schmitt trigger)	7404 / 7405 / 7406 / 4009 / 4049 / 4069
7420	Dual 4-Input NAND Gate	4012
7421	Dual 4-Input AND Gate	4082
7427	Triple 3-Input NOR Gate	4025
7430	8-Input NAND Gate	4068
7432	Quad 2-Input OR Gate	4071
7447	BCD to 7-Segment decoder (15v)	7448 / 4056 / 4511
7448	BCD to 7-Segment decoder	7447 / 4056 / 4511
7473	Dual J-K Flip-Flop	7476 / 4027
7474	Dual D-Type Flip-Flop	74175 / 74273 / 4013 / 40174
7476	Dual J-K Flip-Flop	7473 / 4027
7483	4-Bit Binary Full Adder	74283
7485	4-Bit Magnitude Comparator	4063 / 4585
7486	Quad 2-Input XOR Gate	74266 / 4030 / 4070 / 4077
7490	Decade Counter	74390 / 4017 / 4510
7493	4-Bit Binary Counter	74161 / 74163 / 74193 / 74393 / 4029
74121	Monostable Multivibrator	74221 / 4098 / 4528
74123	Dual Retriggerable Monostable	
74125	Quad Bus Buffer	
74132	Quad 2-Input NAND Gate (Schmitt trigger)	7400 / 7403 / 4011 / 4093 / 40107
74133	13-Input NAND Gate	
74137	3 to 8 Line Decoder	74138
74138	3 to 8 Line Decoder	74137
74139	Dual 2 to 4 Line Decoder	
74154	4 to 16 Line Decoder	4514
74157	Quad 2 to 1 Line Select	
74161	4-Bit Binary Counter	7493 / 74163 / 74193 / 74393 / 4029
74163	4-Bit Binary Counter	7493 / 74161 / 74193 / 74393 / 4029
74161	8-Bit Shift Register	74164 / 4014 / 4015
74164	8-Bit Shift Register	74161 / 4014 / 4015
74175	Quad D-Type Flip-Flop	7474 / 74273 / 4013 / 40174
74193	Dual 4-Bit Binary Counter	7493 / 74161 / 74163 / 74393 / 4029
74221	Dual Monostable Multivibrator	74121 / 4098 / 4528
74240	Octal Buffer	7407 / 74241 / 74244 / 74365 / 74541 / 4050 / 4503 / 40106
74241	Octal Buffer	7407 / 74240 / 74244 / 74365 / 74541 / 4050 / 4503 / 40106
74244	Octal Buffer	7407 / 74240 / 74241 / 74365 / 74541 / 4050 / 4503 / 40106
74245	Octal Bus Transceiver	
74259	8-Bit Addressable Latch	4099
74260	Dual 5-Input NOR Gate	
74266	Quad 2-Input XOR Gate	7486 / 4030 / 4070 / 4077
74273	Octal D-Type Flip-Flop	7474 / 74175 / 4013 / 40174
74279	Octal S-R Latch	
74283	4-Bit Binary Full Adder	7483
74365	Hex Buffer	7407 / 74240 / 74241 / 74244 / 74541 / 4050 / 4503 / 40106
74373	Octal D-Type Latch (Inverting / Tri-State)	74374 / 74533 / 74573 / 74574 / 4042
74373	Octal D-Type Latch (Inverting / Tri-State)	74374 / 74533 / 74573 / 74574 / 4042
74374	Octal D-Type Latch	74373 / 74533 / 74573 / 74574 / 4042

74374	Octal D-Type Latch	74373 / 74533 / 74573 / 74574 / 4042
74390	Dual Decade Counter	7490 / 4017 / 4510
74393	Dual 4-Bit Binary Counter	7493 / 74161 / 74163 / 74193 / 4029
74533	Octal D-Type Latch	74373 / 74374 / 74573 / 74574 / 4042
74533	Octal D-Type Latch	74373 / 74374 / 74573 / 74574 / 4042
74541	Octal Buffer	7407 / 74240 / 74241 / 74244 / 74365 / 4050 / 4503 / 40106
74573	Octal D-Type Latch	74373 / 74374 / 74533 / 74574 / 4042
74573	Octal D-Type Latch	74373 / 74374 / 74533 / 74574 / 4042
74574	Octal D-Type Latch	74373 / 74374 / 74533 / 74573 / 4042
74574	Octal D-Type Latch	74373 / 74374 / 74533 / 74573 / 4042
74688	8-Bit Magnitude Comparator	

CMOS Device Summary

Device	Function	Similar Devices
4001	Quad 2-Input NOR Gate	7402
4002	Dual 4-Input NOR Gate	
4007	Complementary Pair plus Inverter	
4008	4-Bit Full Adder	
4009	Hex Inverter	7404 / 7405 / 7406 / 7414 / 4049 / 4069
4011	Quad 2-Input NAND Gate	7400 / 7403 / 74132 / 4093 / 40107
4012	Dual 4-Input NAND Gate	7420
4013	Dual D-Type Flip-Flop	7474 / 74175 / 74273 / 40174
4014	8-Bit Shift Register	74161 / 74164 / 4015
4015	8-Bit Shift Register	74161 / 74164 / 4014
4016	4-Channel Analogue Multiplexor	4052
4017	Decade Counter	7490 / 74390 / 4510
4018	BCD Counter (Presettable)	4518
4019	Quad AND/OR Select Gate	
4020	14-Stage Ripple Counter	
4021	8-Stage Shift Register	4094
4022	Divide by 8 Counter	
4023	Triple 3-Input NAND Gate	7410
4024	7-Stage Ripple Counter	
4025	Triple 3-Input NOR Gate	7427
4026	7-Segment Display Decade Counter	4033
4027	Dual J-K Flip-Flop (Master / Slave)	7473 / 7476
4028	BCD to Decimal Decoder	
4029	4-Bit Binary Counter	7493 / 74161 / 74163 / 74193 / 74393
4030	Quad 2-Input XOR Gate	7486 / 74266 / 4070 / 4077
4033	7-Segment Display Decade Counter	4026
4035	4-Stage Shift register	
4040	12-Stage Binary Counter	
4042	Quad D-Type Latch (Clocked)	74373 / 74374 / 74533 / 74573 / 74574
4043	Quad 3-Stage NOR R-S Latch	
4044	Quad 3-Stage NAND R-S Latch	
4046	Phase Locked Loop	
4047	Multivibrator	4538
4049	Hex Inverter	7404 / 7405 / 7406 / 7414 / 4009 / 4069
4050	Hex Buffer	7407 / 74240 / 74241 / 74244 / 74365 / 74541 / 4503 / 40106
4051	8-Channel Analogue Multiplexor	
4052	Dual 4-Channel Analogue Multiplexor	4016
4053	Triple 2-Channel Analogue Multiplexor	
4056	BCD to 7-Segment Decoder	7447 / 7448 / 4511
4060	14-Stage Binary Counter	
4063	4-Bit Magnitude Comparator	7485 / 4585
4066	Quad Bilateral Switch	
4067	16-Channel Multiplexor	
4068	8-Input NAND Gate	7430

4069	Hex Inverter	7404 / 7405 / 7406 / 7414 / 4009 / 4049
4070	Quad 2-Input XOR Gate	7486 / 74266 / 4030 / 4077
4071	Quad 2-Input OR Gate	7432
4072	Dual 4-Input OR Gate	
4073	Triple 3-Input AND Gate	7411
4075	Triple 3-Input OR Gate	
4076	4-Bit D-Type Latch	
4077	Quad 2-Input XOR Gate	7486 / 74266 / 4030 / 4070
4078	8-Input NOR/OR	
4081	Quad 2-Input AND Gate	7408
4082	Dual 4-Input AND Gate	7421
4093	Quad 2-Input NAND Gate (Schmitt trigger)	7400 / 7403 / 74132 / 4011 / 40107
4094	8-Stage Shift Register	4021
4098	Dual Monostable Multivibrator	74121 / 74221 / 4528
4099	8-Bit Addressable Latch	74259
4503	Hex Buffer	7407 / 74240 / 74241 / 74244 / 74365 / 74541 / 4050 / 40106
4510	Decade Counter	7490 / 74390 / 4017
4511	BCD to 7-Segment Decoder	7447 / 7448 / 4056
4512	8-Channel Data Selector	
4514	4 to 16 Line Decoder	74154
4516	Binary Counter (Presetable)	4520
4518	Dual BCD Counter	4018
4520	Dual Binary Counter	4516
4528	Dual Monostable Multivibrator	74121 / 74221 / 4098
4532	8-Bit Priority Encoder	
4538	Multivibrator	4047
4541	Programmable Timer	
4541	Oscillator	
4555	Dual Binary to 1 of 4 Decoder	
4585	4-Bit Magnitude Comparator	7485 / 4063
40103	8-Stage Counter	
40106	Hex Buffer (Schmitt trigger)	7407 / 74240 / 74241 / 74244 / 74365 / 74541 / 4050 / 4503
40107	Dual 2-Input NAND Gate	7400 / 7403 / 74132 / 4011 / 4093
40110	Up/Down Decade Counter	
40174	Hex D-Type Flip-Flop	7474 / 74175 / 74273 / 4013

NAND Gates

Device	Function	Similar Devices
7400	Quad 2-Input NAND Gate	7403 / 74132 / 4011 / 4093 / 40107
7403	Quad 2-Input NAND Gate (Open collector)	7400 / 74132 / 4011 / 4093 / 40107
7410	Triple 3-Input NAND Gate	4023
7420	Dual 4-Input NAND Gate	4012
7430	8-Input NAND Gate	4068
74132	Quad 2-Input NAND Gate (Schmitt trigger)	7400 / 7403 / 4011 / 4093 / 40107
74133	13-Input NAND Gate	
4011	Quad 2-Input NAND Gate	7400 / 7403 / 74132 / 4093 / 40107
4012	Dual 4-Input NAND Gate	7420
4023	Triple 3-Input NAND Gate	7410
4068	8-Input NAND Gate	7430
4093	Quad 2-Input NAND Gate (Schmitt trigger)	7400 / 7403 / 74132 / 4011 / 40107
40107	Dual 2-Input NAND Gate	7400 / 7403 / 74132 / 4011 / 4093

NOR Gates

Device	Function	Similar Devices
7402	Quad 2-Input NOR Gate	4001
7427	Triple 3-Input NOR Gate	4025
74260	Dual 5-Input NOR Gate	
4001	Quad 2-Input NOR Gate	7402
4002	Dual 4-Input NOR Gate	
4025	Triple 3-Input NOR Gate	7427

AND Gates

Device	Function	Similar Devices
7408	Quad 2-Input AND Gate	4081
7411	Triple 3-Input AND Gate	4073
7421	Dual 4-Input AND Gate	4082
4073	Triple 3-Input AND Gate	7411
4081	Quad 2-Input AND Gate	7408
4082	Dual 4-Input AND Gate	7421

OR Gates

Device	Function	Similar Devices
7432	Quad 2-Input OR Gate	4071
4071	Quad 2-Input OR Gate	7432
4072	Dual 4-Input OR Gate	
4075	Triple 3-Input OR Gate	

XOR Gates

Device	Function	Similar Devices
7486	Quad 2-Input XOR Gate	74266 / 4030 / 4070 / 4077
74266	Quad 2-Input XOR Gate	7486 / 4030 / 4070 / 4077
4030	Quad 2-Input XOR Gate	7486 / 74266 / 4070 / 4077
4070	Quad 2-Input XOR Gate	7486 / 74266 / 4030 / 4077
4077	Quad 2-Input XOR Gate	7486 / 74266 / 4030 / 4070

Buffers

Device	Function	Similar Devices
7407	Hex Buffer	74240 / 74241 / 74244 / 74365 / 74541 / 4050 / 4503 / 40106
74365	Hex Buffer	7407 / 74240 / 74241 / 74244 / 74541 / 4050 / 4503 / 40106
4050	Hex Buffer	7407 / 74240 / 74241 / 74244 / 74365 / 74541 / 4503 / 40106
4503	Hex Buffer	7407 / 74240 / 74241 / 74244 / 74365 / 74541 / 4050 / 40106
40106	Hex Buffer (Scmitt trigger)	7407 / 74240 / 74241 / 74244 / 74365 / 74541 / 4050 / 4503

Inverters

Device	Function	Similar Devices
7404	Hex Inverter	7405 / 7406 / 7414 / 4009 / 4049 / 4069
7405	Hex Inverter (Open collector)	7404 / 7406 / 7414 / 4009 / 4049 / 4069
7406	Hex Inverter (Open collector)	7404 / 7405 / 7414 / 4009 / 4049 / 4069
7414	Hex Inverter (Schmitt trigger)	7404 / 7405 / 7406 / 4009 / 4049 / 4069
4009	Hex Inverter	7404 / 7405 / 7406 / 7414 / 4049 / 4069
4049	Hex Inverter	7404 / 7405 / 7406 / 7414 / 4009 / 4069
4069	Hex Inverter	7404 / 7405 / 7406 / 7414 / 4009 / 4049

Interface Devices

Device	Function	Similar Devices
74125	Quad Bus Buffer	
74240	Octal Buffer	7407 / 74241 / 74244 / 74365 / 74541 / 4050 / 4503 / 40106
74241	Octal Buffer	7407 / 74240 / 74244 / 74365 / 74541 / 4050 / 4503 / 40106
74244	Octal Buffer	7407 / 74240 / 74241 / 74365 / 74541 / 4050 / 4503 / 40106
74245	Octal Bus Transceiver	
74373	Octal D-Type Latch (Inverting / Tri-State)	74374 / 74533 / 74573 / 74574 / 4042
74374	Octal D-Type Latch	74373 / 74533 / 74573 / 74574 / 4042
74533	Octal D-Type Latch	74373 / 74374 / 74573 / 74574 / 4042
74541	Octal Buffer	7407 / 74240 / 74241 / 74244 / 74365 / 4050 / 4503 / 40106
74573	Octal D-Type Latch	74373 / 74374 / 74533 / 74574 / 4042
74574	Octal D-Type Latch	74373 / 74374 / 74533 / 74573 / 4042

Counters

Device	Function	Similar Devices
7490	Decade Counter	74390 / 4017 / 4510
7493	4-Bit Binary Counter	74161 / 74163 / 74193 / 74393 / 4029
74161	4-Bit Binary Counter	7493 / 74163 / 74193 / 74393 / 4029
74163	4-Bit Binary Counter	7493 / 74161 / 74193 / 74393 / 4029
74193	Dual 4-Bit Binary Counter	7493 / 74161 / 74163 / 74393 / 4029
74390	Dual Decade Counter	7490 / 4017 / 4510
74393	Dual 4-Bit Binary Counter	7493 / 74161 / 74163 / 74193 / 4029
4017	Decade Counter	7490 / 74390 / 4510
4018	BCD Counter (Presettable)	4518
4020	14-Stage Ripple Counter	
4022	Divide by 8 Counter	
4024	7-Stage Ripple Counter	
4029	4-Bit Binary Counter	7493 / 74161 / 74163 / 74193 / 74393
4040	12-Stage Binary Counter	
4060	14-Stage Binary Counter	
4510	Decade Counter	7490 / 74390 / 4017
4516	Binary Counter (Presettable)	4520
4518	Dual BCD Counter	4018
4520	Dual Binary Counter	4516
40103	8-Stage Counter	
40110	Up/Down Decade Counter	

Latches and Flip-Flops

Device	Function	Similar Devices
7473	Dual J-K Flip-Flop	7476 / 4027
7474	Dual D-Type Flip-Flop	74175 / 74273 / 4013 / 40174
7476	Dual J-K Flip-Flop	7473 / 4027
74175	Quad D-Type Flip-Flop	7474 / 74273 / 4013 / 40174
74273	Octal D-Type Flip-Flop	7474 / 74175 / 4013 / 40174
74279	Octal S-R Latch	
74373	Octal D-Type Latch (Inverting / Tri-State)	74374 / 74533 / 74573 / 74574 / 4042
74374	Octal D-Type Latch	74373 / 74533 / 74573 / 74574 / 4042
74533	Octal D-Type Latch	74373 / 74374 / 74573 / 74574 / 4042
74573	Octal D-Type Latch	74373 / 74374 / 74533 / 74574 / 4042
74574	Octal D-Type Latch	74373 / 74374 / 74533 / 74573 / 4042
4013	Dual D-Type Flip-Flop	7474 / 74175 / 74273 / 40174
4027	Dual J-K Flip-Flop (Master / Slave)	7473 / 7476
4042	Quad D-Type Latch (Clocked)	74373 / 74374 / 74533 / 74573 / 74574
4043	Quad 3-Stage NOR R-S Latch	
4044	Quad 3-Stage NAND R-S Latch	
4076	4-Bit D-Type Latch	
40174	Hex D-Type Flip-Flop	7474 / 74175 / 74273 / 4013

Decoders

Device	Function	Similar Devices
7447	BCD to 7-Segment decoder (15v)	7448 / 4056 / 4511
7448	BCD to 7-Segment decoder	7447 / 4056 / 4511
74137	3 to 8 Line Decoder	74138
74138	3 to 8 Line Decoder	74137
74139	Dual 2 to 4 Line Decoder	
74154	4 to 16 Line Decoder	4514
74259	8-Bit Addressable Latch	4099
4026	7-Segment Display Decade Counter	4033
4028	BCD to Decimal Decoder	
4033	7-Segment Display Decade Counter	4026
4056	BCD to 7-Segment Decoder	7447 / 7448 / 4511
4067	16-Channel Multiplexor	
4099	8-Bit Addressable Latch	74259
4511	BCD to 7-Segment Decoder	7447 / 7448 / 4056
4514	4 to 16 Line Decoder	74154
4555	Dual Binary to 1 of 4 Decoder	

Encoders

Device	Function	Similar Devices
74157	Quad 2 to 1 Line Select	
4512	8-Channel Data Selector	

Shift Registers

Device	Function	Similar Devices
74161	8-Bit Shift Register	74164 / 4014 / 4015
74164	8-Bit Shift Register	74161 / 4014 / 4015
4014	8-Bit Shift Register	74161 / 74164 / 4015
4015	8-Bit Shift Register	74161 / 74164 / 4014
4021	8-Stage Shift Register	4094
4035	4-Stage Shift register	
4094	8-Stage Shift Register	4021

Computational Devices

Device	Function	Similar Devices
7483	4-Bit Binary Full Adder	74283
7485	4-Bit Magnitude Comparator	4063 / 4585
74283	4-Bit Binary Full Adder	7483
74688	8-Bit Magnitude Comparator	
4008	4-Bit Full Adder	
4063	4-Bit Magnitude Comparator	7485 / 4585
4532	8-Bit Priority Encoder	
4585	4-Bit Magnitude Comparator	7485 / 4063

Monostables and Multivibrators

Device	Function	Similar Devices
74121	Monostable Multivibrator	74221 / 4098 / 4528
74123	Dual Retriggerable Monostable	
74221	Dual Monostable Multivibrator	74121 / 4098 / 4528
4047	Multivibrator	4538
4098	Dual Monostable Multivibrator	74121 / 74221 / 4528
4528	Dual Monostable Multivibrator	74121 / 74221 / 4098
4538	Multivibrator	4047
4541	Programmable Timer	
4541	Oscillator	

Analogue Switches

Device	Function	Similar Devices
4016	4-Channel Analogue Multiplexor	4052
4051	8-Channel Analogue Multiplexor	
4052	Dual 4-Channel Analogue Multiplexor	4016
4053	Triple 2-Channel Analogue Multiplexor	
4066	Quad Bilateral Switch	

Miscellaneous Functions

Device	Function	Similar Devices
4007	Complementary Pair plus Inverter	
4019	Quad AND/OR Select Gate	
4046	Phase Locked Loop	
4078	8-Input NOR/OR	