



## CROSS-REFERENCE

## ANALOG SYSTEMS

## EXACT

## FAIRCHILD

## DIRECT REPLACEMENT FOR SONIC IMPROVEMENT

## NOTES

uA301ATC	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
uA307TC	MA-333-CP	MA-332-CP	MA-362-CP	
uA348PC	MA-374-CP			
uA741TC	MA-333-CP	MA-332-CP	MA-362-CP	[4]
uA748TC	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
uA771TC	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
uA771ATC	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
uA771BTC	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
uA771LTC	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
uA772TC	MA-336-CP	MA-372-CP		[6]
uA772ATC	MA-336-CP	MA-372-CP		[6]
uA772BTC	MA-336-CP	MA-372-CP		[6]
uA774LPC	MA-374-CP			
uA798TC	MA-336-CP	MA-372-CP		[1] [3]
uA1458TC	MA-336-CP	MA-372-CP		
uA1458CTC	MA-336-CP	MA-372-CP		
uA2902PC	MA-374-CP			[7]
uA3303PC	MA-374-CP			
uA3403PC	MA-374-CP			

## HARRIS

HA3-2605-5	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4] [5]
HA3-4156-5	MA-374-CP			
HA1-4600-5	MA-374-CP			
HA1-4605-5	MA-374-CP			
HA3-4741-5	MA-374-CP			
HA3-5062-5	MA-336-CP	MA-372-CP		[6]
HA3-5064-5	MA-374-CP			
HA3-5082-5	MA-336-CP	MA-372-CP		[6]
HA3-5084-5	MA-374-CP			
HA3-5102-5	MA-336-CP	MA-372-CP		
HA3-5104-5	MA-374-CP			
HA3-5112-5	MA-372-CP			
HA3-5170-5	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]

## MCI/SONY

2003P	MA-332-CP	MA-362-CP		
2004P	MA-372-CP			

## MOTOROLA

LM11CN	MA-333-CP	MA-332-CP	MA-362-CP	[2] [5]
LM11CLN	MA-333-CP	MA-332-CP	MA-362-CP	[2] [5]
LM301AN	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
LM307N	MA-333-CP	MA-332-CP	MA-362-CP	
LM324N	MA-374-CP			[7]
LF347N	MA-374-CP			
LM348N	MA-374-CP			
LF351N	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
LF353N	MA-336-CP	MA-372-CP		[6]
LF356N	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4] [5]
LF356BN	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4] [5]
LM358N	MA-336-CP	MA-372-CP		
MC1456P1	MA-333-CP	MA-332-CP	MA-362-CP	[4]
MC1456CP1	MA-333-CP	MA-332-CP	MA-362-CP	[4]
MC1458P1	MA-336-CP	MA-372-CP		
MC1458CP1	MA-336-CP	MA-372-CP		
MC1458NP1	MA-336-CP	MA-372-CP		
MC1458SP1	MA-336-CP	MA-372-CP		
MC1741CP1	MA-333-CP	MA-332-CP	MA-362-CP	[4]
MC1741NCP1	MA-333-CP	MA-332-CP	MA-362-CP	[4]
MC1741SCP1	MA-333-CP	MA-332-CP	MA-362-CP	[4]
MC1748CP1	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
MC2902N	MA-374-CP			
MC3303P	MA-374-CP			
MC3358P1	MA-336-CP	MA-372-CP		
MC3403P	MA-374-CP			
MC3405P	MA-374-CP			
MC3458P1	MA-336-CP	MA-372-CP		
MC4558CP1	MA-336-CP	MA-372-CP		
MC4558ACP1	MA-336-CP	MA-372-CP		
MC4558NCP1	MA-336-CP	MA-372-CP		





**CROSS-REFERENCE**

**EXACT**

**ANALOG SYSTEMS**

<u>RAYTHEON</u>	<u>DIRECT REPLACEMENT FOR SONIC IMPROVEMENT</u>			<u>NOTES</u>
RC5532NB	MA-372-CP			
RC5532ANB	MA-336-CP	MA-372-CP		
<b><u>SIGNETICS</u></b>				
LF356N	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4] [5]
LM358N	MA-336-CP	MA-372-CP		[1] [3]
NE530N	MA-333-CP	MA-332-CP	MA-362-CP	[4]
NE531N	MA-333-CP	MA-332-CP	MA-362-CP	[4]
NE532N	MA-336-CP	MA-372-CP		
NE538N	MA-333-CP	MA-332-CP	MA-362-CP	[4]
MC1458N	MA-336-CP	MA-372-CP		
MC3403N	MA-374-CP			[7]
NE4558N	MA-336-CP	MA-372-CP		
NE5532N	MA-372-CP			
NE5532AN	MA-372-CP			
NE5534N	MA-332-CP	MA-362-CP		
NE5534AN	MA-332-CP	MA-362-CP		
NE5535	MA-336-CP	MA-372-CP		
<b><u>SGS-ATES</u></b>				
LS141CB	MA-333-CP	MA-332-CP	MA-362-CP	[4]
LS148CB	MA-333-CP	MA-332-CP	MA-362-CP	[4]
LS204CB	MA-336-CP	MA-372-CP		
LS301AB	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
LS307B	MA-333-CP	MA-332-CP	MA-362-CP	
LS404C	MA-374-CP			
<b><u>TEXAS INSTRUMENT</u></b>				
TL071CP	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
TL071ACP	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
TL071BCP	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
TL072CP	MA-336-CP	MA-372-CP		[6]
TL072ACP	MA-336-CP	MA-372-CP		[6]
TL072BCP	MA-336-CP	MA-372-CP		[6]
TL074CN	MA-374-CP			
TL074ACN	MA-374-CP			
TL074BCN	MA-374-CP			
TL081CP	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
TL081ACP	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
TL081BCP	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
TL082CP	MA-336-CP	MA-372-CP		[6]
TL082ACP	MA-336-CP	MA-372-CP		[6]
TL082BCP	MA-336-CP	MA-372-CP		[6]
TL084CN	MA-374-CP			
TL084ACN	MA-374-CP			
TL084BCN	MA-374-CP			
TL136CN	MA-374-CP			
TL291CP	MA-332-CP	MA-362-CP		[4]
TL292CP	MA-372-CP			
LM301AP	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
LM307P	MA-333-CP	MA-332-CP	MA-362-CP	
LM318P	MA-332-CP	MA-362-CP		[4]
LM348N	MA-374-CP			
LM358P	MA-336-CP	MA-372-CP		[1] [3]
MC1458P	MA-336-CP	MA-372-CP		
LM2904P	MA-336-CP	MA-372-CP		[1] [3]
MC3403N	MA-374-CP			[7]
RC4558P	MA-336-CP	MA-372-CP		
RC4559P	MA-336-CP	MA-372-CP		
NE5532P	MA-372-CP			
NE5532AP	MA-372-CP			
NE5534P	MA-332-CP	MA-362-CP		
NE5534AP	MA-332-CP	MA-362-CP		





**CROSS-REFERENCE**

**GENERIC**

<u>INDUSTRY</u>	<u>ANALOG SYSTEMS</u>			<u>NOTE</u>
01	333	332	362	[4]
LM11	333	332	362	[2] [5]
OP11	374			
27	332	362		
37	374			
071	333	332	362	[4] [5]
072	336	372		[6]
074	374			
081	333	332	362	[4] [5]
082	336	372		[6]
084	374			
136	374			
141	333	332	362	[4]
148	333	332	362	[4]
151	333	332	362	[4]
157	333	332	362	[2] [4]
159	332	362		[4]
204	336	372		
251	336	372		
258	336	372		
259	336	372		
291	332	362		[4]
292	372			
301	333	332	362	[2] [4]
307	333	332	362	
318	332	362		[4]
324	374			[7]
347	374			
348	374			
349	374			
351	333	332	362	[4] [5]
353	336	372		[6]
354	333	332	362	[2]
356	333	332	362	[2] [4] [5]
358	336	372		[1] [3]
404	374			
411	333	332	362	[4] [5]
412	336	372		[6]
451	374			[7]
458	374			
530	333	332	362	[4]
531	333	332	362	[4]
532	336	372		
538	333	332	362	[4]
741	333	332	362	[4]
748	333	332	362	[2] [4]
771	333	332	362	[4] [5]
772	336	372		[6]
774	374			
798	336	372		[1] [3]
801	333	332	362	[4] [5]
803	336	372		[6]
804	374			
833	372			
1324	374			[7]
1358	336	372		
1456	333	332	362	[4]
1458	336	372		
1558	336	372		
1741	333	332	362	[4]
1748	333	332	362	[4]
2003	332	362		
2004	372			
2041	336	372		
2043	336	372		





CROSS-REFERENCE

EXACT

ANALOG SYSTEMS

MOTOROLA	DIRECT REPLACEMENT FOR SONIC IMPROVEMENT			NOTES
MC4741CP	MA-374-CP			[7]
MC33074P	MA-374-CP			[7]
MC33074AP	MA-374-CP			[7]
MC33084P	MA-374-CP			[7]
MC33084AP	MA-374-CP			[7]
MC34001P	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
MC34001AP	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
MC34001BP	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
MC34002P	MA-336-CP	MA-372-CP		[6]
MC34002AP	MA-336-CP	MA-372-CP		[6]
MC34002BP	MA-336-CP	MA-372-CP		[6]
MC34004P	MA-374-CP			[7]
MC34004BP	MA-374-CP			[7]
MC34074P	MA-374-CP			[7]
MC34074AP	MA-374-CP			[7]
OP27GP	MA-332-CP	MA-362-CP		[7]
OP37GP	MA-362-CP			[7]
TL071CP	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
TL072CP	MA-336-CP	MA-372-CP		[6]
TL074CP	MA-374-CP			[6]
TL081CP	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
TL082CP	MA-336-CP	MA-372-CP		[6]
TL084CP	MA-374-CP			[6]
<b>NATIONAL</b>				
LM11CN	MA-333-CP	MA-332-CP	MA-362-CP	[2] [5]
LM11CLN	MA-333-CP	MA-332-CP	MA-362-CP	[2] [5]
LM301AN	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
LM307N	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
LM318N	MA-332-CP	MA-362-CP		[4]
LM324N	MA-374-CP			[7]
LM324AN	MA-374-CP			[7]
LF347N	MA-374-CP			[7]
LF347BN	MA-374-CP			[7]
LM348N	MA-374-CP			[7]
LM349N	MA-374-CP			[7]
LF351N	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
LF353N	MA-336-CP	MA-372-CP		[6]
LF356N	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4] [5]
LM358N	MA-336-CP	MA-372-CP		[6]
LM358AN	MA-336-CP	MA-372-CP		[6]
LF411CN	MA-333-CP	MA-332-CP	MA-362-CP	[1] [3]
LF411ACN	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
LF412CN	MA-336-CP	MA-372-CP		[4] [5]
LF412ACN	MA-336-CP	MA-372-CP		[6]
LM741CN	MA-333-CP	MA-332-CP	MA-362-CP	[6]
LM741EN	MA-333-CP	MA-332-CP	MA-362-CP	[4]
LM748CN	MA-333-CP	MA-332-CP	MA-362-CP	[4]
LM833N	MA-372-CP			[4]
LM1458N	MA-336-CP	MA-372-CP		[2] [4]
LM2902N	MA-374-CP			[7]
LM2904N	MA-336-CP	MA-372-CP		[1] [3]
<b>N.E.C.</b>				
uPC151C	MA-333-CP	MA-332-CP	MA-362-CP	[4]
uPC157C	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
uPC159D	MA-332-CP	MA-362-CP		[4]
uPC251C	MA-336-CP	MA-372-CP		[4]
uPC258C	MA-336-CP	MA-372-CP		[4]
uPC259C	MA-336-CP	MA-372-CP		[4]
uPC301AC	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
uPC324C	MA-374-CP			[7]
uPC354D	MA-333-CP	MA-332-CP	MA-362-CP	[7]
uPC451C	MA-374-CP			[2]
uPC458C	MA-374-CP			[7]
uPC741C	MA-333-CP	MA-332-CP	MA-362-CP	[4]
uPC801C	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
uPC803C	MA-336-CP	MA-372-CP		[6]
uPC804C	MA-374-CP			[6]
uPC1458C	MA-336-CP	MA-372-CP		[6]
uPC4081C	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
uPC4082C	MA-336-CP	MA-372-CP		[6]





**CROSS-REFERENCE**

**ANALOG SYSTEMS**

**EXACT**

<u>N.E.C.</u>	<u>DIRECT REPLACEMENT FOR SONIC IMPROVEMENT</u>			<u>NOTES</u>
uPC4084C	MA-374-CP			
uPC4556C	MA-336-CP	MA-372-CP		
uPC4557C	MA-336-CP	MA-372-CP		
uPC4558C	MA-336-CP	MA-372-CP		
uPC4559C	MA-336-CP	MA-372-CP		
uPC4560C	MA-336-CP	MA-372-CP		
uPC4741C	MA-374-CP			
<b>PANASONIC</b>				
AN1324	MA-374-CP			[7]
AN1358	MA-336-CP	MA-372-CP		
AN1458	MA-336-CP	MA-372-CP		
AN1741	MA-333-CP	MA-332-CP	MA-362-CP	[4]
AN4558	MA-336-CP	MA-372-CP		
AN6552	MA-336-CP	MA-372-CP		
AN6554	MA-374-CP			
AN6556	MA-336-CP	MA-372-CP		
AN6558	MA-336-CP	MA-372-CP		
AN6562	MA-336-CP	MA-372-CP		
AN6564	MA-374-CP			[7]
AN6570	MA-333-CP	MA-332-CP	MA-362-CP	[4]
AN6572	MA-336-CP	MA-372-CP		
<b>PRECISION MONOLITHICS</b>				
OP01CP	MA-333-CP	MA-332-CP	MA-362-CP	[4]
OP01HP	MA-333-CP	MA-332-CP	MA-362-CP	[4]
OP11FP	MA-374-CP			
OP11GP	MA-374-CP			
OP27GP	MA-332-CP	MA-362-CP		
OP37GP	MA-362-CP			
<b>R.C.A.</b>				
CA081E	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
CA081AE	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
CA081BE	MA-333-CP	MA-332-CP	MA-362-CP	[4] [5]
CA082E	MA-336-CP	MA-372-CP		[6]
CA082AE	MA-336-CP	MA-372-CP		[6]
CA082BE	MA-336-CP	MA-372-CP		[6]
CA084E	MA-374-CP			
CA084AE	MA-374-CP			
CA084BE	MA-374-CP			
CA301AE	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
CA358E	MA-336-CP	MA-372-CP		[1] [3]
CA741E	MA-333-CP	MA-332-CP	MA-362-CP	[4]
CA741CE	MA-333-CP	MA-332-CP	MA-362-CP	[4]
CA748E	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
CA748CE	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
CA1458E	MA-336-CP	MA-372-CP		
CA1558E	MA-336-CP	MA-372-CP		
CA2904E	MA-336-CP	MA-372-CP		[1] [3]
CA3100E	MA-333-CP	MA-332-CP	MA-362-CP	[4]
CA3193E	MA-333-CP	MA-332-CP	MA-362-CP	[4]
CA3493E	MA-333-CP	MA-332-CP	MA-362-CP	[2]
<b>RAYTHEON</b>				
LM301AN	MA-333-CP	MA-332-CP	MA-362-CP	[2] [4]
LM324N	MA-374-CP			[7]
LM348N	MA-374-CP			
LM358N	MA-336-CP	MA-372-CP		[1] [3]
RC741NB	MA-333-CP	MA-332-CP	MA-362-CP	[4]
RC2041NB	MA-336-CP	MA-372-CP		
RC2043NB	MA-336-CP	MA-372-CP		
RC2902N	MA-374-CP			[7]
RC3403ADB	MA-374-CP			
RC4131NB	MA-333-CP	MA-332-CP	MA-362-CP	[4]
RC4156DB	MA-374-CP			
RC4531NB	MA-333-CP	MA-332-CP	MA-362-CP	[4]
RC4556NB	MA-336-CP	MA-372-CP		
RC4558NB	MA-336-CP	MA-372-CP		
RC4559NB	MA-336-CP	MA-372-CP		
RC4560NB	MA-336-CP	MA-372-CP		
RC4562NB	MA-336-CP	MA-372-CP		

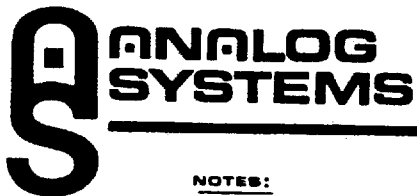




**CROSS-REFERENCE**  
**GENERIC**

<u>INDUSTRY</u>	<u>ANALOG SYSTEMS</u>	<u>NOTES</u>
2605	333 332 362	[2] [4] [5]
2902	374	[7]
2904	336 372	[1] [3]
3100	333 332 362	[4]
3193	333 332 362	[4]
3303	374	[7]
3358	336 372	
3403	374	[7]
3405	374	
3458	336 372	
3493	333 332 362	[2]
4081	333 332 362	[4] [5]
4082	336 372	[6]
4084	374	
4131	333 332 362	[4]
4156	374	
4531	333 332 362	[4]
4556	336 372	
4557	336 372	
4558	336 372	
4559	336 372	
4560	336 372	
4562	336 372	
4600	374	
4605	374	
4741	374	
5062	336 372	[6]
5064	374	
5082	336 372	[6]
5084	374	
5102	336 372	
5104	374	
5112	372	
5170	333 332 362	[4] [5]
5532	372	
5534	332 362	
5535	336 372	
6552	336 372	
6554	374	
6556	336 372	
6558	336 372	
6562	336 372	
6564	374	[7]
6570	333 332 362	[4]
6572	336 372	
33074	374	[7]
33084	374	
34001	333 332 362	[4] [5]
34002	336 372	[6]
34004	374	
34074	374	[7]





## CROSS-REFERENCE

### NOTES

NOTES:

- [1] - MA-336-CP input common mode voltage range does not include the -VS level. Check common mode voltages in actual circuit.
- [2] - MA-333-CP offset pins 1 and 5 require a different offset adjustment circuit and should be disconnected.
- [3] - MA-372-CP input common mode voltage range does not include the -VS level. Check common mode voltages in actual circuit.
- [4] - MA-332-CP and MA-362-CP pins 1, 5 and 8 require a different offset adjustment circuit and should be disconnected.
- [5] - MA-332-CP and MA-362-CP require larger bias currents. Actual effect in circuit should be determined.
- [6] - MA-372-CP requires larger bias currents. Actual effect in circuit should be determined.
- [7] - MA-374-CP input common mode voltage range does not include the -VS level. Check common mode voltages in actual circuit.

