

SERVICING INFORMATION



**MODEL 3011A
3011B**

FUNCTION GENERATOR

PARTS LIST

SCHEMATIC SYMBOL	DESCRIPTION	B+K PRECISION PART NUMBER
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RESISTORS

Unlisted resistors are $\pm 5\%$, 1/4 W. See Schematic for value.

R101, 102	10 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-002
R104	820 Ω $\pm$ 5%, 1/2 W, Carbon	002-102-5-821
R105	1.8 k Ω $\pm$ 5%, 1/2 W, Carbon	002-102-5-182
R205	2.61 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-2-611
R206	2.21 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-2-211
R207	4.99 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-4-991
R208	2.49 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-2-491
R209	4.99 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-4-991
R210	3.65 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-3-651
R210A	100 Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-000
R211	7.32 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-7-321
R211A	174 Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-740
R212	37.4 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-3-742
R213	75 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-7-502
R214	374 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-3-743
R215	750 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-7-503
R301	14.3 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-432
R302	1 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-001
R303	14.3 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-432
R304	1 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-001
R306-307	221 Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-2-210
R308	1.74 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-741
R401, 402	10 Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-008
R403	1.91 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-911
R404	340 Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-3-400
R405-407	1 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-001
R408	750 Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-7-500
R409	270 Ω $\pm$ 1%, 1/4 W, Metal Film	013-010-9-014
R410	100 Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-003
R411	511 Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-5-110
R412	1 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-001
R413	1.21 k Ω $\pm$ 1%, 1/4 W, Metal Film	015-144-1-211
R512, 513	2 k Ω $\pm$ 5%, 1/2 W, Carbon	002-102-5-202
R514, 515	47 Ω $\pm$ 5%, 2 W, Carbon	002-002-5-470
R518, 519	96.2 Ω $\pm$ 1%, 1/2 W, Metal Film	013-174-9-004

COMPOSITE 499-394-9-001D

**SCHEMATIC
SYMBOL**
DESCRIPTION
**B+K PRECISION
PART NUMBER**
RESISTORS (Continued)

R520	475 $\Omega \pm 1\%$, 1/2 W, Metal Film	015-124-4-750
R521	52.5 $\Omega \pm 1\%$, 1/2 W, Metal Film	013-174-9-003
VR201	4.7 k Ω Trimmer Potentiometer	010-026-9-003
VR202	5 k Ω Potentiometer (FREQ Control, 3011A)	008-845-9-001
VR202	5 k Ω Potentiometer (COARSE Control, 3011B)	008-908-9-001
VR203	470 Ω Trimmer Potentiometer	010-026-9-006
VR204/S301	50 k Ω Potentiometer w/Switch (DUTY/INV)	008-845-9-003
VR205	Dual 500 Ω Potentiometer (FINE control)(3011B only)	008-908-9-002
VR301	1 k Ω Trimmer Potentiometer	010-026-9-002
VR302/S302	1 k Ω Potentiometer w/Switch (TTL/CMOS Control)	008-845-9-002
VR303	220 Ω Trimmer Potentiometer	010-026-9-001
VR401	100 Ω Trimmer Potentiometer	010-025-9-001
VR402	1 k Ω Trimmer Potentiometer	010-026-9-002
VR403	100 k Ω Trimmer Potentiometer	010-026-9-005
VR404	1 k Ω Trimmer Potentiometer	101-026-9-002
VR501	10 k Ω Trimmer Potentiometer	010-026-9-004
VR502/S503	1 k Ω Potentiometer w/Switch (AMPLitude Control)	008-845-9-002
VR503/S502	50 k Ω Potentiometer w/Switch (OFFSET Control)	008-845-9-003

CAPACITORS

C101-102	1000 μ F, 35 V, Electrolytic	022-335-9-004
C103-105	47 μ F, 25 V, Electrolytic	022-328-9-001
C106	10 μ F, 25 V, Electrolytic	022-335-9-003
C107	47 μ F, 25 V, Electrolytic	022-328-9-001
C108	4700 μ F, 16 V, Electrolytic	022-335-9-001
C109	100 μ F, 16 V, Electrolytic	022-335-9-002
C110	0.1 μ F, 12 V, Disc	020-385-9-001
C201, 202	0.047 μ F, 25 V, Disc	020-385-9-003
C203	90 pF $\pm 5\%$, 50 V, NPO Disc	031-069-9-004
C204	0.001 μ F $\pm 1\%$, 100 V, Metalized Polyester	025-250-9-001
C205	0.01 μ F $\pm 1\%$, 100 V, Metalized Polyester	025-250-9-002
C206	0.1 μ F $\pm 1\%$, 100 V, Metalized Polyester	025-250-9-003
C207	1.0 μ F $\pm 1\%$, 100 V, Metalized Polyester	025-250-9-004
C208, 209	0.01 μ F, 12 V, Disc	020-385-9-002
C301	10 μ F, 25 V, Electrolytic	022-335-9-003
C302	10 pF $\pm 1/2$ pF 50 V, NPO Disc	031-068-9-002
C303, 304	10 μ F, 25 V, Electrolytic	022-335-9-003
C305	0.1 μ F, 12 V, Disc	020-385-9-001
C306	0.047 μ F, 25 V, Disc	020-385-9-003
C309, 310	0.1 μ F, 12 V, Disc	020-385-9-001
C401, 402	0.047 μ F, 25 V, Disc	020-385-9-003
C501	2 pF $\pm 1/2$ pF 50 V, NPO Disc	031-068-9-001
C502, 503	22 μ F, 50 V, Electrolytic	022-335-9-005
C504	300 pF $\pm 5\%$, 50 V, Disc	020-386-9-001
C505, 506	0.047 μ F, 25 V, Disc	020-385-9-003
C601, 602	22 pF $\pm 5\%$, 50 V, NPO Disc	031-068-9-003
C603 - 605	0.1 μ F, 12 V, Disc	020-385-9-001
VC201, 501	5-16 pF Variable Capacitor	028-093-9-001

SCHEMATIC
SYMBOL

DESCRIPTION

B+K PRECISION
PART NUMBER

TRANSISTORS & DIODES

Q101, 102	TIP32C PNP Silicon Transistor	172-080-9-001
Q201	2N5485 N-Channel Field-Effect Transistor	182-067-9-001
Q202	2SA1015G R PNP Silicon Transistor	177-057-9-001
Q203	2SC1815G R NPN Silicon Transistor	176-095-9-001
Q204, 205	2N5485 N-Channel Field-Effect Transistor	182-067-9-001
Q206-209	2SC1815G R NPN Silicon Transistor	176-095-9-001
Q301	2SC1815G R NPN Silicon Transistor	176-095-9-001
Q501, 502	2SC1815G R NPN Silicon Transistor	176-095-9-001
Q503	2SC1015G R PNP Silicon Transistor	177-057-9-001
Q504, 505	2SC1518G R NPN Silicon Transistor	176-095-9-001
Q506	2N2219A NPN Silicon Transistor	172-014-9-001
Q507	2N2905A PNP Silicon Transistor	173-005-9-001
Q601-607	2SC1815G R NPN Silicon Transistor	176-095-9-001
D101	1 A, 600 V, Silicon Diode	151-050-9-001
D102	5.6 V $\pm$ 5%, 1/2 W, Zener Diode	152-072-9-001
BD101, 102	Bridge Rectifier Assembly 1A	157-038-9-001
D201, 202	1N4148 Silicon Diode	151-038-9-001
D501, 502	1N4148 Silicon Diode	151-038-9-001
D601-614	1N4148 Silicon Diode	151-038-9-001
D615	LED (Red)	158-114-9-001
D622, 6123	LED (Red)	158-114-9-001
DS601-604	7-Segment LED Display (4 required)	283-063-9-001

INTEGRATED CIRCUITS

U101	7815	307-081-9-001
U102	741CP	307-016-9-001
U103, 104	7805M	307-080-9-001
U201	741CP	307-016-9-001
U203-205	741CP	307-016-9-001
U301	75107N	307-127-9-001
U302	74504	307-208-9-001
U303	4081BN	308-117-9-001
U401	CA3086 (CA3046)	307-087-9-001
U601	MM5369	308-370-9-002
U602	74LS92AN	307-422-9-001
U603	4518BE	308-146-9-001
U604	4011BE	308-114-9-001
U605	14023BCP	308-370-9-001
U606	4011BE	308-114-9-001
U607	4017BCN	308-116-9-001
U608	74C926N	308-370-9-003
U609	4518BE	308-146-9-001
TS-101	Power Transformer (100, 120, 220, 240 V)	065-259-9-002
S101/S201	8-Station Pushbutton Switch Assembly (Power/Range) ..	088-206-9-007
S501	3-Station Pushbutton Switch Assembly (Function)	088-206-9-002

MISCELLANEOUS

F101	Fuse, 1/2 A, 250 V, 5 x 20 mm (100/120 V operation) ...	198-300-0-500
	0.3 A, 250 V, 5 x 20 mm (220/240 V operation)	
F501	Fuse, 200 mA, 250 V, Slow Blow Axial Lead Type	199-300-0-200
X601	3.58 MHz Crystal	132-041-9-001
	Bracket, Transformer Mounting	250-208-9-001

MISCELLANEOUS (Continued)

PC Fuse Clip (2 Required) (5 x 20 mm)	741-209-9-001
Power Receptacle	770-031-9-001
AC Line Cord	420-039-9-001
Handle Inlay (2 required)	746-092-9-001
BNC Connector, Female	772-024-9-001
Front Panel (3011A)	255-275-9-001
Front Panel (3011B)	255-277-9-001
Bottom Case	271-483-9-001
Top Case	271-482-9-001
Handle	746-091-9-001
Rubber Foot.	381-188-9-001
Bottom Screw, 3 x 60 mm	634-256-9-001
Knob (FREQ, 3011A) (FREQ COARSE, 3011B)	751-368-9-001
Knob (DUTY, AMPLitude, etc.)	751-314-9-002
Switch Button, Black.	384-144-9-001
Switch Button, Gray	384-144-9-003
Switch Button, Red	384-144-9-002
BNC-to-Insulated Clips Test Cable.	534-241-0-000
Instruction Manual (3011A)	480-639-9-001
Instruction Manual (3011B)	480-653-9-001

U.S.A. PARTS ORDERING INFORMATION

There is a minimum charge for each invoice. Orders will be shipped C.O.D. unless previous open account arrangements have been made or remittance accompanies order. Advance remittance must cover handling, postage, or express charges. Specify model and serial number when ordering replacement parts.

ORDER REPLACEMENT PARTS FROM:

B+K Precision, Factory Service Operations
Maxtec International Corporation
6470 West Cortland Street
Chicago, Illinois 60635
Tel (312) 889-1448

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PRODUCTION CHANGES

This schematic diagram and parts list reflects Model 3011B, Serial No. 147-27253 and higher. For Model 3011A and 3011B with lower serial number, some or all of the following circuit differences may be noted. In many cases, replacement parts are not interchangeable. Replace with the original type part.

F501	not in earlier units.	
R516, 517	was $10\Omega \pm 5\%$, 1/4 W	
R518, 519	was $100\Omega \pm 1\%$, 1/2 W, Metal Film	015-124-1-000
R520	was $499\Omega \pm 1\%$, 1/2 W, Metal Film	015-124-4-990
R521	was $56.2\Omega \pm 1\%$, 1/2 W, Metal Film	015-124-5-628
F101	was 3AG Type, 0.5A, 250 V, Normal Blow	191-251-3-102
Fuse Clip	was 3AG Type	741-184-9-001
TS101	was 120/220/240 V	065-214-9-001
S201	was	088-194-9-001
S501	was	088-151-9-002
Black Pushbutton	was	384-135-9-001
Gray Pushbutton	was	384-115-9-002
Red Pushbutton	was	384-079-9-003
DS601-604	were	238-034-9-001

SCHEMATIC DIAGRAMS





