

SERVICING INFORMATION



**MODEL 3011A
3011B**

FUNCTION GENERATOR

PARTS LIST

| SCHEMATIC SYMBOL | DESCRIPTION | B&K-PRECISION PART NUMBER |
|------------------|-------------|---------------------------|
|------------------|-------------|---------------------------|

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 | 100 Ω $\pm 1\%$, 1/2 W Metal Film | 015-124-1-000 |
| R520 | 499 Ω $\pm 1\%$, 1/2 W Metal Film | 015-124-4-990 |
| R521 | 56.2 Ω $\pm 1\%$, 1/2 W Metal Film | 015-124-5-628 |
| VR201 | 4.7 k Ω Trimmer Potentiometer | 010-026-9-003 |

COMPOSITE 499-394-9-001B

| SCHEMATIC SYMBOL | DESCRIPTION | B&K-PRECISION PART NUMBER |
|------------------------------|---|---------------------------|
| RESISTORS (Continued) | | |
| R202 | 5 kΩ Potentiometer (FREQ Control, 3011A) | 008-845-9-001 |
| R202 | 5 kΩ Potentiometer (COARSE Control, 3011B) | 008-908-9-001 |
| R203 | 470 Ω Trimmer Potentiometer | 010-026-9-006 |
| R204/ S301 | 50 kΩ Potentiometer w/Switch (DUTY/INV) | 008-845-9-003 |
| R205 | Dual 500 Ω Potentiometer (FINE Control)(3011B only) | 008-908-9-002 |
| R301 | 1 kΩ Trimmer Potentiometer | 010-026-9-002 |
| R302/ S302 | 1 kΩ Potentiometer w/Switch (TTL/CMOS Control) | 008-845-9-002 |
| R303 | 220 Ω Trimmer Potentiometer | 010-026-9-001 |
| R401 | 100 Ω Trimmer Potentiometer | 010-025-9-001 |
| R402 | 1 kΩ Trimmer Potentiometer | 010-026-9-002 |
| R403 | 100 kΩ Trimmer Potentiometer | 010-026-9-005 |
| R404 | 1 kΩ Trimmer Potentiometer | 101-026-9-002 |
| R501 | 10 kΩ Trimmer Potentiometer | 010-026-9-004 |
| R502/ S503 | 1 kΩ Potentiometer w/Switch (AMPLitude Control) | 008-845-9-002 |
| R503/ S502 | 50 kΩ Potentiometer w/Switch (OFFSET Control) | 008-845-9-003 |

| SCHEMATIC SYMBOL | DESCRIPTION | B&K-PRECISION PART NUMBER |
|-------------------|---|---------------------------|
| CAPACITORS | | |
| C101-102 | 1000 μF, 35 V Electrolytic | 022-335-9-004 |
| C103 - 105 | 47 μF, 25 V Electrolytic | 022-328-9-001 |
| C106 | 10 μF, 25 V Electrolytic | 022-335-9-003 |
| C107 | 47 μF, 25 V Electrolytic | 022-328-9-001 |
| C108 | 4700 μF, 16 V Electrolytic | 022-335-9-001 |
| C109 | 100 μF, 16 V Electrolytic | 022-335-9-002 |
| C110 | 0.1 μF, 12 V Disc | 020-385-9-001 |
| C201, 202 | 0.047 μF, 25 V Disc | 020-385-9-003 |
| C203 | 90 pF ±5%, 50 V NPO Disc | 031-069-9-004 |
| C204 | 0.001 μF ±1%, 100 V Metalized Polyester | 025-250-9-001 |
| C205 | 0.01 μF ±1%, 100 V Metalized Polyester | 025-250-9-002 |
| C206 | 0.1 μF ±1%, 100 V Metalized Polyester | 025-250-9-003 |
| C207 | 1.0 μF ±1%, 100 V Metalized Polyester | 025-250-9-004 |
| C208, 209 | 0.01 μF, 12 V Disc | 020-385-9-002 |
| C301 | 10 μF, 25 V Electrolytic | 022-335-9-003 |
| C302 | 10 pF ±1/2 pF 50 V NPO Disc | 031-068-9-002 |
| C303, 304 | 10 μF, 25 V Electrolytic | 022-335-9-003 |
| C305 | 0.1 μF, 12 V Disc | 020-385-9-001 |
| C306 | 0.047 μF, 25 V Disc | 020-385-9-003 |
| C309, 310 | 0.1 μF, 12 V Disc | 020-385-9-001 |
| C401, 402 | 0.047 μF, 25 V Disc | 020-385-9-003 |
| C501 | 2 pF ±1/2 pF 50 V NPO Disc | 031-068-9-001 |
| C502, 503 | 22 μF, 50 V Electrolytic | 022-335-9-005 |
| C504 | 300 pF ±%, 50 V Disc | 020-386-9-001 |
| C505, 506 | 0.047 μF, 25 V Disc | 020-385-9-003 |
| C601, 602 | 22 pF ±5%, 50 V NPO Disc | 031-068-9-003 |
| C603 - 605 | 0.1 μF, 12 V Disc | 020-385-9-001 |
| C201, 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 | 2SA1015G R PNP Silicon Transistor | 177-057-9-001 |
| Q504, 505 | 2SC1815G 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 ±5%, 1/2 W Zener Diode | 152-072-9-001 |
| BD101, 102 | Bridge Rectifier Assembly 1 A | 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, 623 | LED (Red) | 158-114-9-001 |
| DS601 - 604 | 7-Segment LED Display (4 required) | 283-034-9-001 |

| SCHEMATIC SYMBOL | DESCRIPTION | B&K-PRECISION PART NUMBER |
|----------------------------|--|---------------------------|
| 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 | 065-214-9-001 |
| S101/ S201 | 8-Station Pushbutton Switch Assembly (Power/Range) | 206 259 002 |
| S501 | 3-Station Pushbutton Switch Assembly (Function) | 088-151-9-002 |
| MISCELLANEOUS | | |
| F101 | Fuse, 1/2 A, 250 V 3 AG (110/120 V operation) | 191-251-3-102 |
| | 0.3 A, 250 V 3 AG (220/240 V operation) | 191-010-9-001 |
| X601 | 3.58 MHz Crystal | 132-041-9-001 |
| | Bracket, Transformer Mounting | 250-208-9-001 |

5 x 20mm, Slow Blow

Window, red plastic 380-649-9-001

198-300-0-300

063 004

198-300-0-500

| SCHEMATIC SYMBOL | DESCRIPTION | B&K-PRECISION PART NUMBER |
|----------------------------------|--|----------------------------|
| MISCELLANEOUS (Continued) | | 209 |
| | PC Fuse Clip (2 required) | 741-184-9-001 |
| | 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 ² |
| | 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, 3x60 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 | 384-135-9-001 003 |
| | Switch Button, Gray | 384-115-9-002 001 |
| | Switch Button, Red | 384-079-9-003 002 |
| | BNC-to-Insulated Clips Test Cable | 534-241-0-000 |
| | Instruction Manual (3011A) | 480-639-9-001 |
| | Instruction Manual (3011B) | 480-653-9-001 |

384-144

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



