



MADE IN USA

ELEMENT SELECTION GUIDE

| MODEL | TABLE(S) | MODEL | TABLE(S) |
|-------|--------------------------|--------------|--|
| 3128A | 1, 2, 3, 4, 6, 13, 14 | 4391A | 1, 2, 3, 4, 5, 6, 13, 14 |
| 3170B | 1, 2, 3, 4, 6, 13, 14 | 4410A, 4412A | 13 |
| 43 | 1, 2, 3, 4, 6, 13, 14 | 4431 | 1, 2, 3, 4, 6, 13, 14 |
| 43P | 1, 2, 3, 4, 5, 6, 13 | 4526 | 1, 2, 3, 4, 6, 13, 14 |
| 4314C | 1, 2, 3, 4, 5, 6, 13, 14 | 4527 | 2 MHz to 512 MHz elements in 1, 2, 6, 13, 14 |

Plug-In Elements

FOR 7/8 IN LINE SECTIONS & WATTMETERS

All Bird Plug-In Elements are calibrated in accordance with meticulous Bird calibration procedures supported by a long history of mean deviation values to assure adherence to advertised specifications of current instruments, as well as field interchangeability with equipment purchased, used and trusted in all the years since its introduction.

TABLE 1 STANDARD ELEMENTS

| POWER RANGE | FREQUENCY BANDS (MHz) | | | | | | |
|-------------|-----------------------|----------|-----------|------------|------------|------------|-------------|
| | 2 to 30 | 25 to 60 | 50 to 125 | 100 to 250 | 200 to 500 | 400 to 800 | 800 to 1000 |
| 5W | — | 5A | 5B | 5C | 5D | 5E-400 | 5E-800 |
| 10W | — | 10A | 10B | 10C | 10D | 10E-400 | 10E-800 |
| 25W | 25H | 25A | 25B | 25C | 25D | 25E-400 | 25E-800 |
| 50W | 50H | 50A | 50B | 50C | 50D | 50E-400 | 50E-800 |
| 100W | 100H | 100A | 100B | 100C | 100D | 100E-400 | 100E-800 |
| 250W | 250H | 250A | 250B | 250C | 250D | 250E-400 | 250E-800 |
| 500W | 500H | 500A | 500B | 500C | 500D | 500E-400 | 500E-800 |
| 1000W | 1000H | 1000A | 1000B | 1000C | 1000D | 1000E-400 | 1000E-800 |
| 2500W | 2500H | 2500A | 2500B | 2500C | 2500D | 2500E-400 | 2500E-800 |
| 5000W | 5000H | 5000A | 5000B | 5000C | 5000D | 5000E-400 | 5000E-800 |

TABLE 2 LOW-POWER ELEMENTS

| POWER RANGE | FREQUENCY BANDS (MHz) | | | | | | | | | | |
|-------------|-----------------------|----------|----------|----------|-----------|------------|------------|------------|------------|------------|-------------|
| | 40 to 50 | 50 to 60 | 60 to 80 | 80 to 90 | 95 to 125 | 110 to 160 | 150 to 250 | 200 to 300 | 275 to 450 | 425 to 850 | 800 to 1000 |
| 1W | 040-1 | 050-1 | 060-1 | 080-1 | 095-1 | 110-1 | 150-1 | 200-1 | 275-1 | 425-1 | 801-1 |

| POWER RANGE | FREQUENCY BANDS (MHz) | | | | | | | | | | | |
|-------------|-----------------------|----------|----------|----------|----------|----------|-----------|------------|------------|------------|------------|-------------|
| | 25 to 30 | 30 to 40 | 40 to 50 | 50 to 60 | 60 to 80 | 80 to 95 | 95 to 150 | 150 to 250 | 200 to 300 | 250 to 450 | 400 to 850 | 800 to 1000 |
| 2.5W | 025-2 | 030-2 | 040-2 | 050-2 | 060-2 | 080-2 | 095-2 | 150-2 | 200-2 | 250-2 | 400-2 | 801-2 |



ELEMENT SELECTION GUIDE

| MODEL | TABLE(S) | MODEL | TABLE(S) |
|-------|--------------------------|--------------|--|
| 3128A | 1, 2, 3, 4, 6, 13, 14 | 4391A | 1, 2, 3, 4, 5, 6, 13, 14 |
| 3170B | 1, 2, 3, 4, 6, 13, 14 | 4410A, 4412A | 13 |
| 43 | 1, 2, 3, 4, 6, 13, 14 | 4431 | 1, 2, 3, 4, 6, 13, 14 |
| 43P | 1, 2, 3, 4, 5, 6, 13 | 4526 | 1, 2, 3, 4, 6, 13, 14 |
| 4314C | 1, 2, 3, 4, 5, 6, 13, 14 | 4527 | 2 MHz to 512 MHz elements in 1, 2, 6, 13, 14 |

Directional Coupler Elements

FOR 7/8 IN LINE SECTIONS & WATTMETERS

TABLE 3 HIGH-FREQUENCY ELEMENTS, ACCURACY $\pm 8\%$ OF FULL SCALE

| POWER RANGE | FREQUENCY BANDS (MHz) | |
|-------------|-----------------------|--------------|
| | 950 to 1100 | 1100 to 1260 |
| 1 W | 1J-950 | 1J-1100 |
| 2.5 W | 2.5J-950 | 2.5J-1100 |
| 5 W | 5J-950 | 5J-1100 |
| 10 W | 10J-950 | 10J-1100 |
| 25 W | 25J-950 | 25J-1100 |
| 50 W | 50J-950 | 50J-1100 |
| 100 W | 100J-950 | 100J-1100 |
| 250 W | 250J-950 | 250J-1100 |
| 500 W | 500J-950 | 500J-1100 |
| 1000 W | 1000J-950 | 1000J-1100 |
| 2500 W | 2500J-950 | 2500J-1100 |
| 5000 W | 5000J-950 | 5000J-1100 |

TABLE 4 LOW-FREQUENCY ELEMENTS

| POWER RANGE | FREQUENCY BANDS (MHz) |
|-------------|-----------------------|
| | .45 to 2.5 |
| 1000 W | 1000P |
| 2500 W | 2500P |
| 5000 W | 5000P |
| 10000 W | 10000P |



ELEMENT SELECTION GUIDE

| MODEL | TABLE(S) | MODEL | TABLE(S) |
|-------|--------------------------|--------------|--|
| 3128A | 1, 2, 3, 4, 6, 13, 14 | 4391A | 1, 2, 3, 4, 5, 6, 13, 14 |
| 3170B | 1, 2, 3, 4, 6, 13, 14 | 4410A, 4412A | 13 |
| 43 | 1, 2, 3, 4, 6, 13, 14 | 4431 | 1, 2, 3, 4, 6, 13, 14 |
| 43P | 1, 2, 3, 4, 5, 6, 13 | 4526 | 1, 2, 3, 4, 6, 13, 14 |
| 4314C | 1, 2, 3, 4, 5, 6, 13, 14 | 4527 | 2 MHz to 512 MHz elements in 1, 2, 6, 13, 14 |

Plug-In Elements

FOR 7/8 IN LINE SECTIONS & WATTMETERS

TABLE 5 PULSE-POWER ELEMENTS, (PEAK ONLY) $\pm 8\%$ OF FULL SCALE

| POWER RANGE | FREQUENCY BANDS (MHz) | | | | | |
|-------------|-----------------------|----------|-----------|------------|------------|-------------|
| | 2 to 30 | 25 to 60 | 50 to 125 | 100 to 250 | 400 to 800 | 800 to 1000 |
| 500 W | — | — | — | — | — | — |
| 1000 W | — | — | — | — | — | — |
| 2500 W | — | 2500A | 2500B | 2500C | 2500E-400 | 2500E-800 |
| 5000 W | — | 5000A | 5000B | 5000C | 5000E-400 | 5000E-800 |
| 10000 W | 10000H | — | 10000B | — | 10000E-400 | 10000E-800 |

Refer to "Transmission Power Rating Chart" for max power ratings. Elements are capable of reading peak and average power.

TABLE 6 MILLIWATT ELEMENTS

| POWER RANGE | FREQUENCY BANDS (MHz) | | | | | | | | | |
|-------------|-----------------------|----------|------------|------------|------------|------------|------------|------------|------------|-------------|
| | 40 to 50 | 72 to 76 | 108 to 136 | 135 to 175 | 320 to 340 | 328 to 336 | 400 to 420 | 420 to 450 | 450 to 470 | 800 to 1000 |
| 100 mW | — | 430-2 | 430-57 | 430-86 | 430-205 | 430-3 | 430-7 | 430-208 | 430-8 | 430-263 |

| POWER RANGE | FREQUENCY BANDS (MHz) | | | | | | | | | |
|-------------|-----------------------|-----------|------------|------------|------------|------------|------------|------------|-------------|--|
| | 72 to 76 | 88 to 108 | 105 to 120 | 116 to 126 | 130 to 150 | 190 to 210 | 329 to 336 | 450 to 470 | 800 to 1000 | |
| 250 mW | 430-22 | 430-217 | 430-20 | 430-48 | 430-13 | 430-65 | 430-16 | 430-61 | 430-264 | |

| POWER RANGE | FREQUENCY BANDS (MHz) | | | | | | | | | | | | | |
|-------------|-----------------------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| | 72 to 76 | 88 to 108 | 105 to 120 | 120 to 136 | 136 to 150 | 240 to 290 | 290 to 340 | 329 to 336 | 348 to 360 | 350 to 400 | 400 to 450 | 450 to 500 | 600 to 800 | 800 to 1000 |
| 500 mW | 430-33 | 430-247 | 430-26 | 430-248 | 430-249 | 430-27 | 430-253 | 430-28 | 430-157 | 430-254 | 430-255 | 430-256 | 430-258 | 430-265 |

TABLE 13 NONDIRECTIONAL SAMPLER ELEMENTS FOR QC-TYPE OR 7/8 IN EIA LINE

| MODEL | FREQUENCY BAND (MHz) | NOMINAL COUPLING | MAX MAIN LINE POWER |
|----------|----------------------|--|---------------------|
| 4274-025 | 25 to 1000 | -50 dB \pm 2 dB (-66 dB @ 2 MHz) | 500 W |
| 4274-050 | 100 to 400 | -35 to -48 dB (\pm 1 dB) Adjustable | 500 W |



MADE IN
USA

ELEMENT SELECTION GUIDE

| MODEL | TABLE(S) | MODEL | TABLE(S) |
|-------|--------------------------|--------------|--|
| 3128A | 1, 2, 3, 4, 6, 13, 14 | 4391A | 1, 2, 3, 4, 5, 6, 13, 14 |
| 3170B | 1, 2, 3, 4, 6, 13, 14 | 4410A, 4412A | 13 |
| 43 | 1, 2, 3, 4, 6, 13, 14 | 4431 | 1, 2, 3, 4, 6, 13, 14 |
| 43P | 1, 2, 3, 4, 5, 6, 13 | 4526 | 1, 2, 3, 4, 6, 13, 14 |
| 4314C | 1, 2, 3, 4, 5, 6, 13, 14 | 4527 | 2 MHz to 512 MHz elements in 1, 2, 6, 13, 14 |

Directional Coupler Elements

FOR RIGID LINE SECTIONS & WATTMETERS

Coupler elements used for RF sampling. The wattmeter display does not read when these elements are installed.

TABLE 14 DIRECTIONAL COUPLER ELEMENTS FOR QC-TYPE OR 7/8 IN EIA LINE

| MODEL | FREQUENCY BAND (MHz) | NOMINAL COUPLING | MAX MAIN LINE POWER |
|---------|----------------------|------------------|---------------------|
| 400-50 | 50 to 100 | -40 dB | - |
| 400-75 | 75 to 150 | -40 dB | - |
| 400-125 | 125 to 250 | -40 dB | 1 kW |
| 400-225 | 225 to 450 | -40 dB | 1 kW |
| 400-400 | 400 to 800 | -40 dB | 1 kW |
| 400-750 | 750 to 1250 | -40 dB | 1 kW |

TABLE 15 DIRECTIONAL COUPLER ELEMENTS FOR 1 5/8 IN EIA LINE

| MODEL | FREQUENCY BAND (MHz) | NOMINAL COUPLING | MAX MAIN LINE POWER |
|---------|----------------------|------------------|---------------------|
| 501-50 | 50 to 100 | -50 dB | 10 kW |
| 501-75 | 75 to 150 | -50 dB | 10 kW |
| 501-125 | 125 to 250 | -50 dB | 10 kW |
| 501-225 | 225 to 450 | -50 dB | 10 kW |
| 501-400 | 400 to 800 | -50 dB | 5 kW |

NOTE: For use in any line section including BPME

TABLE 16 DIRECTIONAL COUPLER ELEMENTS FOR 3 1/8 IN EIA LINE

| MODEL | FREQUENCY BAND (MHz) | NOMINAL COUPLING | MAX MAIN LINE POWER |
|---------|----------------------|------------------|---------------------|
| 553-50 | 50 to 100 | -55 dB | 25 kW |
| 553-75 | 75 to 150 | -55 dB | 25 kW |
| 553-125 | 125 to 250 | -55 dB | 25 kW |
| 553-401 | 400 to 800 | -55 dB | 15 kW |

TABLE 17 DIRECTIONAL COUPLER ELEMENTS FOR 6 1/8 IN EIA LINE

| MODEL | FREQUENCY BAND (MHz) | NOMINAL COUPLING | MAX MAIN LINE POWER |
|---------|----------------------|------------------|---------------------|
| 606-50 | 50 to 100 | -60 dB | 60 kW |
| 606-400 | 400 to 870 | -60 dB | 60 kW |



ELEMENT SELECTION GUIDE

| MODEL | TABLE(S) |
|----------|-------------------------------------|
| 3127A | 1 5/8 A, 3 1/8 A, 6 1/8 A |
| 3127-040 | 1 5/8 A, 3 1/8 A, 4 1/16 A, 6 1/8 A |
| 3127-075 | 1 5/8 B |
| 6810-220 | 1 5/8 A, 3 1/8 A, 6 1/8 A |
| 6810-230 | 1 5/8 B |

Plug-In Elements

FOR RIGID LINE SECTIONS

TABLE 1 5/8 A STANDARD ELEMENTS 100 μ A

| POWER RANGE | FREQUENCY BANDS (MHz) | | |
|-------------|-----------------------|-----------|------------|
| | 2 to 30 | 50 to 125 | 100 to 250 |
| 100 W | — | 100B1 | 100C1 |
| 250 W | — | 250B1 | 250C1 |
| 500 W | — | 500B1 | 500C1 |
| 1000 W | 1000H1 | 1000B1 | 1000C1 |
| 2500 W | 2500H1 | 2500B1 | 2500C1 |
| 5000 W | 5000H1 | 5000B1 | 5000C1 |
| 10 kW | 10KH1 | 10KB1 | 10KC1 |
| 25 kW | 25KH1 | 25KB1 | — |

TABLE 1 5/8 AA STANDARD ELEMENTS 30 μ A

| POWER RANGE | FREQUENCY BANDS (MHz) | | |
|-------------|-----------------------|-----------|------------|
| | 2 to 30 | 50 to 125 | 100 to 250 |
| 100 W | — | 100B12 | 100C12 |
| 250 W | — | 250B12 | 250C12 |
| 500 W | 500H12 | 500B12 | — |
| 1000 W | 1000H12 | 1000B12 | 1000C12 |
| 2500 W | 2500H12 | 2500B12 | 2500C12 |
| 5000 W | 5000H12 | 5000B12 | — |
| 10 kW | 10KH12 | 10KB12 | — |
| 25 kW | 25KH12 | — | — |

TABLE 1 5/8 B STANDARD ELEMENTS 100 μ A

| POWER RANGE | FREQUENCY BANDS (MHz) | |
|-------------|-----------------------|-----------|
| | 2 to 30 | 50 to 125 |
| 300 W | — | 300B1 |
| 600 W | — | 600B1 |
| 1500 W | 1500H1 | 1500B1 |
| 3000 W | 3000H1 | 3000B1 |
| 6000 W | 6000H1 | 6000B1 |
| 15 kW | 15KH1 | 15KB1 |
| 50 kW | 50KH1 | — |



Plug-In Elements

FOR RIGID LINE SECTIONS

ELEMENT SELECTION GUIDE

| MODEL | TABLE(S) |
|----------|-------------------------------------|
| 3127A | 1 5/8 A, 3 1/8 A, 6 1/8 A |
| 3127-040 | 1 5/8 A, 3 1/8 A, 4 1/16 A, 6 1/8 A |
| 3127-075 | 1 5/8 B |
| 6810-220 | 1 5/8 A, 3 1/8 A, 6 1/8 A |
| 6810-230 | 1 5/8 B |

TABLE 3 1/8 A STANDARD ELEMENTS 100 μ A

| POWER RANGE | FREQUENCY BANDS (MHz) | | |
|-------------|-----------------------|-----------|------------|
| | 2 to 30 | 50 to 125 | 100 to 250 |
| 100 W | — | 100B3 | — |
| 250 W | — | 250B3 | 250C3 |
| 500 W | — | 500B3 | 500C3 |
| 1000 W | — | 1000B3 | 1000C3 |
| 2500 W | 2500H3 | 2500B3 | 2500C3 |
| 5000 W | 5000H3 | 5000B3 | 5000C3 |
| 1.5 kW | — | 1500B3 | — |
| 10 kW | 10KH3 | 10KB3 | 10KC3 |
| 15 kW | — | 15KB3 | — |
| 25 kW | 25KH3 | 25KB3 | 25KC3 |
| 50 kW | 50KH3 | 50KB3 | — |
| 100 kW | 100KH3 | — | — |

TABLE 6 1/8 A STANDARD ELEMENTS 100 μ A

| POWER RANGE | FREQUENCY BANDS (MHz) |
|-------------|-----------------------|
| | 2 to 30 |
| 10 kW | 10KH6 |
| 25 kW | 25KH6 |
| 50 kW | 50KH6 |
| 100 kW | 100KH6 |
| 250 kW | 250KH6 |