ELEMENT SELECTION GUIDE

Wattmeter Model	Select Element from Table(s)
3128A	1, 2, 3, 3A, 4, 6, 14*
3170A	1, 2, 3, 3A, 4, 6, 14*
43	1, 2, 3, 3A, 4, 6, 14*
43P	1, 2, 3, 3A, 4, 5, 6
4305A	4305A Elements (page 16), 1 5/8AA (page 39)
4314B	1, 2, 3, 3A, 4, 5, 6, 14*
4391A	1, 2, 3, 3A, 4, 5, 6, 14*
4410A, 4412	(see page 18)
4431	1, 2, 3, 3A, 4, 6, 14*
4521, 4522	1, 2, 3, 3A, 4, 6, 14*
4526	1, 2, 3, 3A, 4, 6, 14*
4527	2 MHz to 512 MHz elements in 1,2, 6,14*

*Table 14 describes coupler elements used for RF sampling. The instrument meter does not read when these elements are installed, but simply serves as a line section.

ELEMENT TABLE FREQUENCY & POWER LIMITS

ELEMENT TABLE	MIN. PWR (WATTS F.S.)	MAX. PWR (WATTS F.S.)	MIN. FREQ (MHz)	MAX. FREQ (MHz)
APM	1	1000	2	2300
1	5	5000	2	1000
2	1	2.5	25	1000
3	1	250	950	2700
3A	0.1	0.5	950	2600
4	1000	10,000	0.45	2.5
5	500	10,000	2	1260
6	0.1	0.5	45	1000
8	50	25,000	0.45	2300
9	0.01	10	30	1000
9A	0.001	1	864	970
10	0.1	100	25	2300
11	1	1000	2	1000
12	10	10,000	0.2	30
14	1000	1000	50	1250

TABLE 1 — STANDARD ELEMENTS

	Frequency Bands (MHz)					
Power Range	**2-30**	**25-60**	**50-125**	**100-250**	**200-500**	**400-1000**
5 W	—	5A	5B	5C	5D	5E
10 W	—	10A	10B	10C	10D	10E
25 W	—	25A	25B	25C	25D	25E
50 W	50H	50A	50B	50C	50D	50E
100 W	100H	100A	100B	100C	100D	100E
250 W	250H	250A	250B	250C	250D	250E
500 W	500H	500A	500B	500C	500D	500E
1000 W	1000H	1000A	1000B	1000C	1000D	1000E
2500 W	2500H	—	—	—	—	—
5000 W	5000H	—	—	—	—	—

TABLE 2 — LOW-POWER ELEMENTS

1 Watt											
Frequency (MHz)	**40-50**	**50-60**	**60-80**	**80-90**	**95-125**	**110-160**	**150-250**	**200-300**	**275-450**	**425-850**	**800-1000**
Part Number	040-1	050-1	060-1	080-1	095-1	110-1	150-1	200-1	275-1	425-1	801-1

2.5 Watt												
Frequency (MHz)	**25-30**	**30-40**	**40-50**	**50-60**	**60-80**	**80-95**	**95-150**	**150-250**	**200-300**	**250-450**	**400-850**	**800-1000**
Part Number	025-2	030-2	040-2	050-2	060-2	080-2	095-2	150-2	200-2	250-2	400-2	801-2

TABLE 3 — HIGH-FREQUENCY ELEMENTS, ENTIRE TABLE ±8% FS

	Frequency Bands (MHz)								
Power Range	**950-1260**	**1100-1800**	**1700-1990**	**1990-2200**	**2200-2300**	**2300-2400**	**2400-2500**	**2500-2600**	**2600-2700**
1 W	1J	1K	1L1	1L2	1M	431-17	431-20	431-23	431-120
2.5 W	2.5J	2.5K	2.5L1	2.5L2	2.5M	431-110	431-107	431-108	431-117
5 W	5J	5K	5L1	5L2	5M	432-15	432-28	432-2	432-12
10 W	10J	10K	10L1	10L2	10M	432-125	432-141	432-102	432-104
25 W	25J	25K	25L1	25L2	25M	433-19	433-20	433-35	433-36
50 W	50J	50K	50L1	50L2	50M	433-37	433-38	433-163	433-164
100 W	100J	—	—	—	—	—	—	—	—
250 W	250J	—	—	—	—	—	—	—	—

TABLE 3A - HIGH FREQUENCY MILLIWATT ELEMENTS

	Frequency Bands (MHz)						
Power Range	**950-1260**	**1250-1500**	**1500-1700**	**1700-2200**	**2300-2400**	**2400-2500**	**2500-2600**
100 mW	430-82	430-209	430-210	430-178	430-211	430-182	—
250 mW	—	—	—	430-1	430-239	430-240	430-241
500 mW	—	430-259	—	430-95	—	430-159	—

TABLE 4 — LOW-FREQUENCY ELEMENTS

	Frequency Band
Power Range	**.45 - 2.5 MHz**
1000 W	1000P
2500 W	2500P
5000 W	5000P
10000 W	10000P

TABLE 5 — PULSE-POWER ELEMENTS, ENTIRE TABLE ±8% OF FULL SCALE

	Frequency Bands (MHz)					
Power Range	**2-30**	**25-60**	**50-125**	**100-250**	**400-1000**	**950-1260**
500 W	—	—	—	—	—	500J
1000 W	—	—	—	—	—	1000J
2500 W	—	2500A	2500B	2500C	2500E	2500J
5000 W	—	5000A	5000B	5000C	5000E	5000J
10000 W	10000H	—	10000B	—	10000E	—

Elements 500 - 1000 Watts, 950 - 1260 MHz, are rated at 100 Watts avg.
Elements 2500 Watts and higher, 25-1000 MHz, are rated at 1000 Watts avg.
Elements are capable of reading peak and average power.

TABLE 6 — MILLIWATT ELEMENTS

100 mW													
Frequency (MHz)	45-50	72-76	108-136	135-175	320-340	400-420	420-450	450-470	600-800	800-1000			
Cat. No.	430-266	430-2	430-57	430-86	430-205	430-7	430-208	430-8	430-169	430-263			
250 mW													
Frequency (MHz)	72-76	88-108	105-120	116-126	130-150	190-210	450-470	800-1000					
Cat. No.	430-22	430-217	430-20	430-48	430-13	430-65	430-61	430-264					
500 mW													
Frequency (MHz)	72-76	88-108	105-120	120-136	136-150	240-290	290-340	340-360	350-400	400-450	450-500	600-800	800-1000
Cat. No.	430-33	430-247	430-26	430-248	430-249	430-27	430-253	430-157	430-254	430-255	430-256	430-258	430-265

NONDIRECTIONAL SAMPLER ELEMENTS FOR QC-TYPE OR 7/8" EIA LINE

Frequency Band (MHz)	Nominal Coupling	Max. Main Line Power	Model
25-1000	-50 dB ± 2 dB (-66 dB @ 2 MHz)	500 W	4274-025
100-400	-35 to -48 dB (±1 dB) Adjustable	500 W	4274-050

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

Frequency Band (MHz)	Nominal Coupling	Max. Main Line Power	Model
50-100	-40 dB	1 kW	400-50
75-150	-40 dB	1 kW	400-75
125-250	-40 dB	1 kW	400-125
225-450	-40 dB	1 kW	400-225
400-800	-40 dB	1 kW	400-400
750-1250	-40 dB	1 kW	400-750

TABLE 15 — DIRECTIONAL COUPLER ELEMENTS FOR 1 5/8" EIA LINES

Frequency Band (MHz)	Nominal Coupling	Max. Main Line Power	Model
50-100	-50 dB	10 kW	501-50
75-150	-50 dB	10 kW	501-75
125-250	-50 dB	10 kW	501-125
225-450	-50 dB	10 kW	501-225
400-800	-50 dB	5 kW	501-400

TABLE 16 — DIRECTIONAL COUPLER ELEMENTS FOR 3 1/8" EIA LINES

Frequency Band (MHz)	Nominal Coupling	Max. Main Line Power	Model
25-40	-55 dB	25 kW	553-25
50-100	-55 dB	25 kW	553-50
75-150	-55 dB	25 kW	553-75
125-250	-55 dB	25 kW	553-125
225-450	-55 dB	25 kW	553-225
400-800	-55 dB	15 kW	553-401
750-1250	-55 dB	10 kW	553-750

TABLE 17— DIRECTIONAL COUPLER ELEMENTS FOR 6 1/8" EIA LINES

Frequency Band (MHz)	Nominal Coupling	Max. Main Line Power	Model
50-100	-60 dB	60 kW	606-50
75-150	-60 dB	60 kW	606-75
125-250	-60 dB	60 kW	606-125
400-870	-60 dB	60 kW	606-400

NOTE: For use in any line section including BPM

ELEMENT SELECTION GUIDE

Wattmeter Model	Select Element from Table(s)
3126A	1 5/8 B, 3 1/8 B, 4 1/16 B, 6 1/8 B
3127A	1 5/8 A, 3 1/8 A, 6 1/8 A
3127-035	1 5/8 A, 3 1/8 A, 4 1/16 A, 6 1/8 A
3127-040	1 5/8 A, 3 1/8 A, 4 1/16 A, 6 1/8 A
3127-055	1 5/8 A, 3 1/8 A, 4 1/16 A, 6 1/8 A
3127-070	1 5/8 B, 3 1/8 B, 4 1/16 B, 6 1/8 B
3127-075	1 5/8 B, 3 1/8 B, 4 1/16 B, 6 1/8 B
3127-080	1 5/8 B, 3 1/8 B, 4 1/16 B, 6 1/8 B
3171A	1 5/8 AA, 3 1/8 AA, 4 1/16 AA, 6 1/8 AA
3171-020	1 5/8 BB, 3 1/8 BB, 4 1/16 BB, 6 1/8 BB
6810-220	1 5/8 A, 3 1/8 A, 4 1/16 A, 6 1/8 A
6810-309-7	1 5/8 A, 3 1/8 A, 4 1/16 A, 6 1/8 A
6810-230	1 5/8 B, 3 1/8 B, 4 1/16 B, 6 1/8 B
6810-307	1 5/8 B, 3 1/8 B, 4 1/16 B, 6 1/8 B
6810-265	1 5/8 B, 3 1/8 B, 4 1/16 B, 6 1/8 B

TABLE 1 5/8A — STANDARD ELEMENTS 100 µA

	Frequency Bands (MHz)			
Power Range	2-30	50-125	100-250	400-1000
100 W	—	100B1	100C1	100E1
250 W	—	250B1	250C1	250E1
500 W	—	500B1	500C1	500E1
1000 W	1000H1	1000B1	1000C1	1000E1
2500 W	2500H1	2500B1	2500C1	2500E1
5000 W	5000H1	5000B1	5000C1	5000E1
10 kW	10KH1	10KB1	10KC1	—
25 kW	25KH1	25KB1	—	—

TABLE 1 5/8AA — STANDARD ELEMENTS 30 µA

	Frequency Bands (MHz)			
Power Range	2-30	50-125	100-250	400-1000
100 W	—	100B12	100C12	100E12
250 W	—	250B12	250C12	250E12
500 W	500H12	500B12	500C12	500E12
1000 W	1000H12	1000B12	1000C12	1000E12
2500 W	2500H12	2500B12	2500C12	2500E12
5000 W	5000H12	5000B12	5000C12	5000E12
10 kW	10KH12	10KB12	—	—
25 kW	25KH12	25KB12	—	—

TABLE 1 5/8B — STANDARD ELEMENTS 100 µA

	Frequency Bands (MHz)			
Power Range	2-30	50-125	100-250	400-1000
300 W	—	300B1	300C1	300E1
600 W	—	600B1	600C1	600E1
1500 W	1500H1	1500B1	1500C1	1500E1
3000 W	3000H1	3000B1	3000C1	3000E1
6000 W	6000H1	6000B1	6000C1	6000E1
15 kW	15KH1	15KB1	—	—

TABLE 1 5/8BB — STANDARD ELEMENTS 30 µA

	Frequency Bands (MHz)			
Power Range	2-30	50-125	100-250	400-1000
300 W	300H12	300B12	300C12	300E12
600 W	600H12	600B12	600C12	600E12
1500 W	1500H12	1500B12	1500C12	1500E12
3000 W	3000H12	3000B12	3000C12	3000E12
6000 W	6000H12	6000B12	6000C12	6000E12
15 kW	15KH12	15KB12	—	—

TABLE 1 5/8C — STANDARD ELEMENTS 100 µA

	Frequency Bands (MHz)	
Power Range	50-125	100-250
8000 W	8000B1	8000C1

TABLE 3 1/8A — STANDARD ELEMENTS 100 µA

	Frequency Bands (MHz)			
Power Range	2-30	50-125	100-250	400-1000
100 W	—	100B3	100C3	100E3
250 W	—	250B3	250C3	250E3
500 W	—	500B3	500C3	500E3
1000 W	—	1000B3	1000C3	1000E3
2500 W	2500H3	2500B3	2500C3	2500E3
5000 W	5000H3	5000B3	5000C3	5000E3
10 kW	10KH3	10KB3	10KC3	10KE3
25 kW	25KH3	25KB3	25KC3	25KE3
50 kW	50KH3	50KB3	50KC3	—
100 kW	100KH3	—	—	—

TABLE 3 1/8AA — STANDARD ELEMENTS 30 µA

	Frequency Bands (MHz)			
Power Range	2-30	50-125	100-250	400-1000
100 W	—	100B32	100C32	100E32
250 W	—	250B32	250C32	250E32
500 W	500H32	500B32	500C32	500E32
1000 W	1000H32	1000B32	1000C32	1000E32
2500 W	2500H32	2500B32	2500C32	2500E32
5000 W	5000H32	5000B32	5000C32	5000E32
10 kW	10KH32	10KB32	10KC32	10KE32
25 kW	25KH32	25KB32	25KC32	25KE32
50 kW	50KH32	50KB32	50KC32	—
100 kW	100KH32	—	—	—

TABLE 3 1/8B — STANDARD ELEMENTS 100 µA

	Frequency Bands (MHz)		
Power Range	50-125	100-250	400-1000
600 W	600B3	600C3	600E3
1500 W	1500B3	1500C3	1500E3
3000 W	3000B3	3000C3	3000E3
6000 W	6000B3	6000C3	6000E3
15 kW	15KB3	15KC3	15KE3
30 kW	30KB3	30KC3	30KE3

TABLE 3 1/8BB — STANDARD ELEMENTS 30 µA

	Frequency Bands (MHz)		
Power Range	50-125	100-250	400-1000
600 W	600B32	600C32	600E32
1500 W	1500B32	1500C32	1500E32
3000 W	3000B32	3000C32	3000E32
6000 W	6000B32	6000C32	6000E32
15 kW	15KB32	15KC32	15KE32
30 kW	30KB32	30KC32	30KE32

TABLE 3 1/8C — STANDARD ELEMENTS 100 µA

	Frequency Bands (MHz)
Power Range	100-250
8000 W	8000C3

TABLE 4 1/16A — STANDARD ELEMENTS 100 µA

Power Range	Frequency Bands (MHz) 50-125	100-250	400-1000
2500 W	2500B5	2500C5	2500E5
5000 W	5000B5	5000C5	5000E5
10 kW	10KB5	10KC5	10KE5
25 kW	25KB5	25KC5	25KE5
50 kW	50KB5	50KC5	—

TABLE 4 1/16AA — STANDARD ELEMENTS 30 µA

Power Range	Frequency Bands (MHz) 50-125	100-250	400-1000
2500 W	2500B52	2500C52	2500E52
5000 W	5000B52	5000C52	5000E52
10 kW	10KB52	10KC52	10KE52
25 kW	25KB52	25KC52	25KE52

TABLE 4 1/16B — STANDARD ELEMENTS 100 µA

Power Range	Frequency Bands (MHz) 50-125	100-250	400-1000
1500 W	1500B5	1500C5	1500E5
3000 W	3000B5	3000C5	3000E5
6000 W	6000B5	6000C5	6000E5
15 kW	15KB5	15KC5	15KE5
30 kW	30KB5	30KC5	30KE5
60 kW	60KB5	60KC5	—

TABLE 4 1/16BB — STANDARD ELEMENTS 30 µA

Power Range	Frequency Bands (MHz) 50-125	100-250	400-1000
1500 W	1500B52	1500C52	1500E52
3000 W	3000B52	3000C52	3000E52
6000 W	6000B52	6000C52	6000E52
15 kW	15KB52	15KC52	15KE52
30 kW	30KB52	30KC52	30KE52
60 kW	60KB52	60KC52	—

TABLE 4 1/16C — STANDARD ELEMENTS 100 µA

Power Range	Frequency Bands (MHz) 50-125	100-250	400-1000
8000 W	8000B5	8000C5	8000E5
80 kW	80KB5	80KC5	—

TABLE 6 1/8A — STANDARD ELEMENTS 100 µA

Power Range	Frequency Bands (MHz) 2-30	50-125	100-250	400-1000
1000 W	—	1000B6	1000C6	1000E6
2500 W	—	2500B6	2500C6	2500E6
5000 W	—	—	5000C6	5000E6
10 kW	10KH6	10KB6	10KC6	10KE6
25 kW	25KH6	25KB6	25KC6	25KE6
50 kW	50KH6	50KB6	50KC6	50KE6
100 kW	100KH6	100KB6	100KC6	—
250 kW	250KH6	—	—	—

TABLE 6 1/8AA — STANDARD ELEMENTS 30 µA

Power Range	Frequency Bands (MHz) 2-30	50-125	100-250	400-1000
250 W	—	—	250C62	250E62
500 W	—	500B62	500C62	500E62
1000 W	1000H62	1000B62	1000C62	1000E62
2500 W	2500H62	2500B62	2500C62	2500E62
5000 W	—	5000B62	5000C62	5000E62
10 kW	10KH62	10KB62	10KC62	10KE62
25 kW	—	25KB62	25KC62	25KE62
50 kW	50KH62	50KB62	50KC62	50KE62
100 kW	100KH62	100KB62	100KC62	—

TABLE 6 1/8B — STANDARD ELEMENTS 100 µA

Power Range	Frequency Bands (MHz) 50-125	100-250	400-1000
3000 W	3000B6	3000C6	3000E6
6000 W	6000B6	6000C6	6000E6
15 kW	15KB6	15KC6	15KE6
30 kW	30KB6	30KC6	30KE6
60 kW	60KB6	60KC6	60KE6

TABLE 6 1/8BB — STANDARD ELEMENTS 30 µA

Power Range	Frequency Bands (MHz) 50-125	100-250	400-1000
3000 W	3000B62	3000C62	3000E62
6000 W	6000B62	6000C62	6000E62
15 kW	15KB62	15KC62	15KE62
30 kW	30KB62	30KC62	30KE62
60 kW	60KB62	60KC62	60KE62

TABLE 6 1/8C — STANDARD ELEMENTS 100 µA

Power Range	Frequency Bands (MHz) 50-125	100-250	400-1000
8000 W	8000B6	8000C6	8000E6
80 kW	80KB6	80KC6	80KE6