



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 20), 1 5/8AA (page 43)
4314B	1, 2, 3, 3A, 4, 5, 6, 14*
4391A	1, 2, 3, 3A, 4, 5, 6, 14*
4410A, 4412A	(see page 21)
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

Power Range	Frequency Bands (MHz)					
	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 $\pm 8\%$ FS

Power Range	Frequency Bands (MHz)								
	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

Power Range	Frequency Bands (MHz)					
	950-1260	1250-1500	1500-1700	1700-2200	2300-2400	2400-2500
100 mW	430-82	430-209	430-210	430-178	430-211	430-182
250 mW	—	—	—	430-1	430-239	430-240
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 $\pm 8\%$ OF FULL SCALE

Power Range	Frequency Bands (MHz)					
	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 - 5000 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	328-336	400-420	420-450	450-470	600-800	800-1000			
Cat. No.	430-266	430-2	430-57	430-86	430-205	430-3	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 $\pm$ 2 dB (-66 dB @ 2 MHz)	500 W	4274-025
100-400	-35 to -48 dB ($\pm$ 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 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 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 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 BPME