# Communications Electronics, Inc.
# and Watkins Johnson
# Spectrum Display Units Guide

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This is an ongoing project. I'm always looking for more information, particularly on the variants denoted by the -x suffixes.



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All units are rack mount 3.5" high unless noted.

| Model | IF | Bandwidths | Notes |
|---|---|---|---|
| 605 | 21.4 MHz | variable | solid-state, 1"x3" CRT |
| IP-751 | | | military version of SM-9310A |
| IP-1059 | 21.4MHz | 30/100/500kHz/ 3MHz | solid-state, 8cm x 10cm CRT, linear/log, full rack width 5.25" high, military version of SM-7301 |
| IP-1355 | 10MHz | 0-1MHz | military version of WJ-9180-1 |
| PD-102 | | | remote SDU for RS-112 microwave Pan-Man receiving system |
| PD-201 | | | remote SDU same as PD-102 except 1/2 rack width |
| PD-602 | 160MHz | 1MHz | solid-state, 8cm x 10cm CRT, component of RS-112, half rack 5.25" high, mount in EF-602 |
| SM-1622 | 160 MHz | 20MHz max | nuvistors or solid-state, 1"x3" CRT, 200kHz resolution, 1/2 rack width |
| SM-1622-1 | 160MHz | 20MHz max | same as SM-1622 except with 1MHz resolution |

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| SM-1662 | 160MHz | 20MHz | solid-state, 1"x3" CRT, 250kHz resolution, half rack width 3.5" high, 11lbs |
| SM-1662-1 | 160MHz | 20MHz | same as SM-1662 except with 1MHz resolution |
| SM-4300 | 21.4MHz | 3MHz | solid-state, 1"x3" CRT, 21.4MHz marker, 1/3 rack width, 5" high |
| SM-4301A | 21.4MHz | 3MHz | solid-state, 1"x3" CRT, 21.4MHz marker, 1/4 rack width, 6.75" high, 7.5lbs, cost $850 (1967) |
| SM-6108 | 84kHz | 44kHz | solid-state, 1"x3" CRT, designed for displaying 64-108kHz subcarriers, 1/2 rack width, 3.5" high |
| SM-7301 | 21.4MHz | 30/100/500kHz/ 3MHz | solid-state, 8cm x 10cm CRT, linear/log, part of RS-160 receiving system, full rack width 5.25" high, SM-7301 occupies half of rack w/ provisions for DRO-308 in the other half |
| SM-8421 | 2MHz | 3/15/50kHz | solid-state, 1" x 3" CRT, marker generator, sweep disable, H&V outputs, (internally converts 2MHz to 455MHz), for use with VLF receivers like the 354, 355 and 357, 12lbs, cost $2500 (1968) |
| SM-8510 | 500kHz | 5/20/50kHz | nuvistors & solid-state, 1"x3" CRT, lin/log display, 15lbs, cost $1400 (1967) mod kit for pairing w/ Collins 51J-4 or 51S-1 was included |
| SM-8511 | 500kHz | 5/20/50/200kHz | same specs as SM-8510 except wider sweep width, cost $1600 (1967) |
| SM-8512 | 455kHz | 5/20/50kHz | same specs as SM-8510 except for IF input freq, cost $1400 (1967) mod kit for pairing with R-390 or R-390A was |

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| | | | included |
| SM-8513 | 455kHz | 5/20/50kHz | two SM-8512 units in 5.25" high side by side rack mount, cost $2900 (1967) |
| SM-9188 | 455kHz | 5/15/30 kHz | for use with 8718 series |
| SM-9205 | 21.4MHz | variable to 5MHz | SDU for use w/up to three receivers, displays three traces simultaneously, digitally refreshed LCD display, common adjustments like sweep rate and centering are automatic, all three traces can be adjusted independently via manual or IEEE-488 remote control, 1/2 rack width 3.5" high. |
| SM-9205-1 | 21.4MHz | variable to 5MHz | same as SM-9205 except 28 VDC |
| SM-9206 | 21.4MHz | 0.1/0.2/0.4/1/2/ 5MHz | simplified 9205, single trace, 3 selectable inputs, CRT display, 1/2 rack width 3.5" high. |
| SM-9301 | 21.4MHz | 3MHz | solid-state, 1"x3" CRT, 21.4MHz marker, 8lbs, cost $850 (1967) |
| SM-9302 | 21.4MHz | 3MHz | half rack version of SM-9301, 7lbs, cost $800 (1967) |
| SM-9303A | 21.4MHz | 3MHz | solid-state, 1"x3" CRT, input bandpass filtering, MOS FET first mixer, 21.4MHz marker, 11lbs, cost $1000 (1967) |
| SM-9304A | 21.4MHz | 3MHz | half rack version of SM-9303, 10lbs, cost $950 (1967) |
| SM-9310A | 21.4 MHz | variable 3MHz max | nuvistors, 1"x3" CRT (mil IP-751) |
| SM-9310-1 | 21.4 MHz | variable 3MHz max | nuvistors, 1"x3" CRT, coaxial switch added for mult sources |
| SM-9401B | 21.4MHz | 4MHz | solid-state, 1"x3" CRT, 21.4MHz marker, 8lbs |
| SM-9402A | 21.4MHz | 4MHz | half rack version of |

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| | | | SM-9401B, 7lbs |
| SM-9403A | 21.4MHz | 4MHz | same specs as SM-9303A except wider sweep width |
| SM-9404A | 21.4MHz | 4MHz | half rack version of SM-9403A |
| SM-9801 | 21.4MHz | 8MHz | same specs as SM-9301, cost $950 (1967) |
| SM-9802A | 21.4MHz | 8MHz | half rack version of SM-9801A, cost $900 (1967) |
| SM-9803A | 21.4MHz | 8MHz | same specs as SM-9303A except wider sweep width |
| SM-9804A | 21.4MHz | 8MHz | half rack version of SM-9803A |
| SM-9805A | 21.4MHz | 8MHz | solid-state, 2.625" x 4.625" CRT, avail with P1 or P7 phosphor |
| SM-9831 | 30MHz | 8MHz | solid-state, 1"x3" CRT, 30MHz marker, 8lbs, cost $950 (1967) |
| SM-9832 | 30MHz | 8MHz | half rack version of SM-9831 |
| SPD-214 | 21.4MHz | 3MHz max | nuvistors, 1/2 rack width |
| WJ-9180-1 | 10MHz | 0-1MHz | 5-25Hz sweep rate, 10uV input sensitivity, battery powered (10 D-cell or magnesium BA-4386 pack) or 24VDC vehicular supply, designed to accompany WJ8640-1 receiver (mil IP-1355/GRR-8V) |
| WJ-9188A | 455kHz | 5/30kHz | solid-state, 1'x3" CRT, marker, half rack width |
| WJ-9188A-18 | 455kHz | 5/15/30kHz | 2.5" x 3" CRT, used with WJ-8888B or WJ-8718 w/ SMO option, full rack width |
| WJ-9205 | 21.4MHz | 5kHz-5MHz | 4" CRT, displays 3 simultaneous traces, auto sweep and centering, IEEE-488 interface, 3.5"h x 8.5"w x 22"d, 18lbs |
| WJ-9205-1 | 21.4MHz | 5kHz-5MHz | same as WJ-9205 except 28 VDC |
| WJ-9206 | 21.4MHz | 0-5MHz | 4" CRT, single trace, 3.5"h |

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| | | | x 8.5"w x 22"d, 17lbs |
| WJ-9207 | | | RF panoramic display unit, digitally refreshed EL flat panel display, display 4 simultaneous scans, companion to WJ-8607 miniceptors (req WJ-8607/DSO option), 5.25"h x 8.75"w x 22"d, 13lbs |
| WJ-9209 | 455kHz | 5/15/30kHz | combination SDU and speaker unit, 2.5" x 3" CRT, five input selector for speaker, half rack width 5.25" high |

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**Additions, corrections, suggestions to:**
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