

# 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

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

			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

			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 P2 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

WJ-9207

x 8.5"w x 22"d, 17lbs

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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**Edited by Terry C Laughlin, WB9GVB**

**Additions, corrections, suggestions to:**  
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