Communications Electronics, Inc. and Watkins-Johnson Equipment Guide 06/22/03

This is an ongoing project. I'm always looking for more information, particularly on the variants denoted by the $-x$ suffixes. Copyright 2003 by Terry O'Laughlin.

All units are rack mount 3.5" high unless noted.

Receivers:

| Model | Coverage | Bandwidths | Notes |
| :---: | :---: | :---: | :---: |
| 112 | $\begin{aligned} & 1-18 \mathrm{gHz} \\ & \text { TH-series } \\ & \text { drop-in } \\ & \text { tuners } \end{aligned}$ | $\begin{aligned} & 100 \mathrm{kHz} / 2 / 4 / 10 / \\ & 20 \mathrm{mHz} \end{aligned}$ | receiver, AM/FM/pulse, filmstrip dial, AFC, DAFC, "aural enhancement", dual conversion, IFs: 160 \& 21.4 mHz , center tune and signal strength meters, solid-state, 23lbs |
| 112-1 | $1-18 \mathrm{gHz}$ | $\begin{aligned} & 100 / 500 \mathrm{kHz} / 1 / \\ & 10 / 20 \mathrm{mHz} \end{aligned}$ | same as 112 except for BW |
| 112 R | $1-18 \mathrm{gHz}$ |  | EMC version of 112 |
| 205 | $\begin{aligned} & 2-1000 \mathrm{mHz} \\ & \mathrm{HH}-, \mathrm{VH}- \\ & \text { or UH- } \\ & \text { series } \\ & \text { tuners } \end{aligned}$ | $\begin{aligned} & 10 / 50 / 300 \mathrm{khz} / \\ & 1 \mathrm{mHz} \end{aligned}$ | Pan-Man receiver, filmstrip dials, AM/FM/pulse, scans pan (full band) or sector (adjustable width centered on tuner frequency), center tune and signal strength meters, 21.4 mHz IF, solidstate, 19lbs |
| 205-2 |  |  | similar to 205 except with additional scan mode of pan/sector (alternates traces), and remote tune |
| 205-3 |  | $300 \mathrm{kHz} / 1 / 3 / 5 \mathrm{mHz}$ | otherwise similar to 205-2 |
| 205-28 |  | $50 / 300 \mathrm{kHz} / 1 / 2 \mathrm{mHz}$ | otherwise similar to 205-2 |
| 205-46 |  | $300 \mathrm{kHz} / 1 / 2 / 3 \mathrm{mHz}$ | otherwise similar to 205-2 |
| 215 |  |  | similar to 205-2 except w/ TTL digital remote interface |
| 232-1 | $2-32 \mathrm{mHz}$ | 6 kHz | tunable filter, basically a triple conversion rcvr w/o demod, IFs $=65 \mathrm{mHz} / 10 \mathrm{mHz}$ |

and $15 \mathrm{kHz}, 6 \mathrm{kHz}$ BW filter, COR, DAFC input (from DRO-307-1), 1/2 rack width

| 232-2 | $2-32 \mathrm{mHz}$ | 6 kHz | same as 232-1 except with 25 kHz final IF |
| :---: | :---: | :---: | :---: |
| 301A | $3-30 \mathrm{kHz}$ | 200 Hz | round dial, AM/CW, three band 3-6/6-14/14-30kHz, 45 kHz IF, AGC, solid-state, 14lbs, cost $\$ 1000$ (1967) |
| 301A-1 | $3-30 \mathrm{kHz}$ | 200 Hz | ```same as 301A but w/optional internal rechargeable batt, cost $1200 (1967)``` |
| 302 | $30-300 \mathrm{kHz}$ | 2 kHz | round dial, AM/CW, three band 30-60/60-140/140-300 $\mathrm{kHz}, 455 \mathrm{kHz}$ IF, AGC, solidstate, 13.5 lbs, cost $\$ 1000$ (1967) |
| 340A | $1-900 \mathrm{kHz}$ | $1 / 6 / 20 / 50 \mathrm{kHz}$ | 5 digit LED counter, AM/FM/ CW, DAFC, ant attn, 50/600 ohm ant, remote control, solid-state (have manual) |
| 340A-4 | $1-900 \mathrm{kHz}$ | $0.15 / 1 / 3 / 30 \mathrm{kHz}$ | same as 340A except for BW |
| 340A-6 | $1-900 \mathrm{kHz}$ | $0.15 / 1 / 20 / 75 \mathrm{kHz}$ | same as 340A except for BW |
| 340A-7 | $1-900 \mathrm{kHz}$ | $0.4 / 1 / 2 / 5 / 10 \mathrm{kHz}$ | same as 340A except for BW |
| 340A-8 | $1-900 \mathrm{kHz}$ | $0.3 / 1 / 3 / 20 / 50 \mathrm{kHz}$ | same as 340A except for BW |
| 351 | $1-600 \mathrm{kHz}$ | $0.15 / 1 / 3 / 6 \mathrm{kHz}$ | 4 digit Nixie counter, decimal shift, DAFC, AM/ SSB/CW/FSK,BFO w/zero/ variable/1kHz/USB/LSB, ant attn, audio BW filters, solid-state, 201bs, cost $\$ 4000$ (1967) |
| 351-1 | $1-600 \mathrm{kHz}$ | $1 / 6 / 20 / 50 \mathrm{kHz}$ | $\begin{aligned} & \text { AM/FM/USB/LSB/CW/Pulse, } \\ & \text { filmstrip dial, solid- } \\ & \text { state, ant. atten., BFO } \\ & \text { w/var/5.5kHz/USB/LSB } \end{aligned}$ |
| 354 | $1-600 \mathrm{kHz}$ | $0.15 / 1 / 3 / 6 \mathrm{kHz}$ | filmstrip dial, AM/SSB/CW/ FSK, BFO w/zero/variable/ $5.5 \mathrm{kHz} / \mathrm{USB} / \mathrm{LSB}$, ant attn, audio BW filters, solid- |


|  |  |  | state, 20lbs, cost $\$ 2500$ (1967) |
| :---: | :---: | :---: | :---: |
| 355 | $1-600 \mathrm{kHz}$ | $1 / 6 / 20 / 50 \mathrm{kHz}$ | filmstrip dial, AM/SSB/CW/ FSK, BFO w/zero/variable/ $5.5 \mathrm{kHz} / \mathrm{USB} / \mathrm{LSB}$, ant attn, audio BW filter, solidstate, 201bs, cost $\$ 3000$ (1967) |
| 355-1 | $1-600 \mathrm{kHz}$ | 1/6/20/50kHz | same as 355 w/addition of $X-Y$ outputs to driver <br> plotter, cost \$3200 (1967) |
| 355-2 | $1-600 \mathrm{kHz}$ | 1/6/20/50kHz | ```same as 355 w/addition of internal rechargeable batteries, cost $3700 (1967)``` |
| 357 | $1-600 \mathrm{kHz}$ | $0.15 / 1 / 3 / 6 \mathrm{kHz}$ | 4 digit Nixie counter, decimal shift, DAFC, AM/ SSB/CW/FSK, BFO w/zero/ variable/5.5kHz/USB/LSB, noise limiter, audio BW filter, 2 mHz IF, solidstate, (have manual) (mil versions: R-1401 and R-1490A/G), 201bs, cost \$4200 (1967) |
| 371A | $0.5-10 \mathrm{mHz}$ | $6 / 20 / 100 / 400 \mathrm{kHz}$ | AM/FM/CW, filmstrip dial, dual conversion on $6 \& 20 \mathrm{kHz}$ IF BWs ( $21.4 \mathrm{mHz} \& 455 \mathrm{kHz}$ ), LO out, SM out ( 21.4 mHz ), designed for RFI detection, solid-state, 251 bs , cost \$3000 (1968) |
| 372A | $0.5-30 \mathrm{mHz}$ | $6 / 20 / 100 / 400 \mathrm{kHz}$ | AM/FM/CW, filmstrip dial, designed for RFI detection, solid-state |
| 372A-2 | $0.5-30 \mathrm{mHz}$ | $6 / 20 / 100 / 400 \mathrm{kHz}$ | same as 372A except has X-Y outputs for recording spectral analysis(have manual) |
| 373A | $0.5-30 \mathrm{mHz}$ | $6 / 20 / 100 / 400 \mathrm{kHz}$ | AM/FM/CW, filmstrip dial, dual tuner version of 371A, 25lbs, cost $\$ 3500$ (1968) |
| 373A-2 | $0.5-30 \mathrm{mHz}$ | $6 / 20 / 100 / 400 \mathrm{kHz}$ | same as 373A except has X-Y outputs for recording spectral analysis |


| 373A-6 | $0.5-30 \mathrm{mHz}$ | $0.15 / 1 / 20 / 75 \mathrm{kHz}$ | same as 373A except for BW |
| :---: | :---: | :---: | :---: |
| 373A-10 | $0.5-30 \mathrm{MHz}$ | 2/20/100/400kHz | same as 373A except for BW |
| 377A | $0.5-10 \mathrm{mHz}$ | $6 / 20 / 100 / 400 \mathrm{kHz}$ | AM/FM/CW, 6 digit Nixie counter display, DAFC, dual conversion on $6 \& 20 \mathrm{kHz}$ IF BWs, SM output, solidstate, 25lbs, cost $\$ 4500$ (1967) |
| 402-1 | $20-40 \mathrm{mHz}$ | 10 kHz | 1 chan xtal controlled, AM/CW, 21.4 mHz IF, $1 / 5$ rack width, 5.25" high, 4.5lbs, cost \$995 (1965) |
| 402-2 | $40-60 \mathrm{mHz}$ | 10 kHz | same as 402-1 |
| 402-3 | $60-90 \mathrm{mHz}$ | 10 kHz | same as 402-1 |
| 410 | $20-80 \mathrm{mHz}$ | 10 kHz | plug-in receiver, AM/FM, activity operated relay (AOR), DAFC input, mounts in EF-158 as part of RS-158 |
| 410-2 | $20-80 \mathrm{mHz}$ | 20 kHz | same as 410 |
| 410-3 | $20-80 \mathrm{mHz}$ | 50 mHz | same as 410 |
| 415-1 | $60-90 \mathrm{mHz}$ | $50 \mathrm{kHz} \quad(100 \mathrm{kHz}$ <br> - special order) | 4 chan xtal controlled, AM only, 21.4 mHz IF, $1 / 4$ rack width, $3.75 "$ wide, 6.75" high, 6.5lbs, cost $\$ 995$ (1966) |
| 415-2 | $75-110 \mathrm{mHz}$ | 50 kHz | same as 415-1 |
| 415-3 | $90-130 \mathrm{mHz}$ | 50 kHz | same as 415-1 |
| 415-4 | $110-150 \mathrm{mHz}$ | 50 kHz | same as 415-1 |
| 416-1 | $30-90 \mathrm{mHz}$ | 2 mHz | 4 chan xtal controlled, pulse only, other specs like 415 |
| 416-2 | $75-110 \mathrm{mHz}$ | 2 mHz | 4 chan xtal controlled, pulse only, other specs like 415 |
| 416-3 | $90-130 \mathrm{mHz}$ | 2 mHz | 4 chan xtal controlled, pulse only, other specs like 415 |


| 416-4 | $110-150 \mathrm{mHz}$ | 2 mHz | ```4 chan xtal controlled, pulse only, other specs like 415``` |
| :---: | :---: | :---: | :---: |
| 416-6 | $30-90 \mathrm{mHz}$ | unknown | 4 chan xtal controlled, other specs unknown |
| 416-12 | $60-260 \mathrm{mHz}$ | unknown | same as 416-6 |
| 440-1 | $30-48 \mathrm{mHz}$ | $\begin{aligned} & 20 / 50 / 75 \text { or } 100 \\ & \mathrm{kHz} \end{aligned}$ | xtal control rcvr, AM only, 1/6 rack width, second suffix denotes bandwidth $\begin{array}{ll} -1=50 \mathrm{kHz}, & -2=20 \mathrm{kHz}, \\ -3=75 \mathrm{kHz} & -4=100 \mathrm{kHz} \end{array}$ |
| 440-2 | $45-72 \mathrm{mHz}$ |  | other specs same as 440-1 |
| 440-3 | $70-105 \mathrm{mHz}$ |  | other specs same as 440-1 |
| 440-4 | $100-160 \mathrm{mHz}$ |  | other specs same as 440-1 |
| 440-5 | $150-220 \mathrm{mHz}$ |  | other specs same as 440-1 |
| 440-6 | $210-260 \mathrm{mHz}$ |  | other specs same as 440-1 |
| 441-1 | $30-48 \mathrm{mHz}$ | $\begin{aligned} & 20 / 50 / 75 \text { or } 100 \\ & \mathrm{kHz} \end{aligned}$ | ```xtal control rcvr, FM only, 1/6 rack width, second suffix denotes bandwidth -1 = 50kHz, -2 = 20kHz, -3 =75kHz -4 =100kHz fit EF-506B rack``` |
| 441-2 | $45-72 \mathrm{mHz}$ |  | other specs same as 440-1 |
| 441-3 | $70-105 \mathrm{mHz}$ |  | other specs same as 440-1 |
| 441-4 | $100-160 \mathrm{mHz}$ |  | other specs same as 440-1 |
| 441-5 | $150-220 \mathrm{mHz}$ |  | other specs same as 440-1 |
| 441-6 | $210-260 \mathrm{mHz}$ |  | Other specs same as 440-1 |
| 461-1 | $300-450 \mathrm{mHz}$ | see descrip | single xtal channel, AM/FM, BWs noted by 2 nd suffix: $\begin{array}{ll} -1=50 \mathrm{kHz}, & -2=20 \mathrm{kHz}, \\ -3=75 \mathrm{kHz} & -4=100 \mathrm{kHz} \end{array}$ <br> 1/6 rack width, fit EF-506 rack |
| 461-2 | $450-550 \mathrm{mHz}$ |  | same as 461-1 |
| 480 ser |  |  | these tuners are listed under components as they |


|  |  |  | require the supply in the EF-180A or EF-182A rack |
| :---: | :---: | :---: | :---: |
| 501 | $54-260 \mathrm{mHz}$ | $10 / 300 \mathrm{kHz}$ | round dial, AM/FM/CW, video BW filters, built-in speaker, center tune and signal strength meters, 21.4 mHz IF, solid-state, nuvistors \& 7077 |
| 501A | $54-260 \mathrm{mHz}$ | $10 / 300 \mathrm{kHz}$ | filmstrip dial, AM/FM/CW, video BW filters, built-in speaker, center tune and signal strength meters, 21.4 mHz IF, solid-state, 15lbs, cost $\$ 1600$ (1967) |
| 501A-1 | $54-260 \mathrm{mHz}$ | $10 / 300 \mathrm{kHz}$ | same as 501A except w/AFC |
| 504A | $54-260 \mathrm{mHz}$ | $10 / 300 \mathrm{kHz}$ | ```same as 501A w/addition of 1 & 5mHz marker generator, cost $1750 (1967)``` |
| 519 | $20-70 \mathrm{mHz}$ | $10 / 50 / 300 \mathrm{kHz}$ | filmstrip dial, AM/FM/CW, squelch, built-in SDU, dual conversion, $10 \mathrm{mHz} \& 455 \mathrm{kHz}$ IFs, DAFC input (for DRO-290A), solid-state, 18lbs, cost $\$ 3100$ (1967) (have manual) |
| 521A | $20-70 \mathrm{mHz}$ | $4 / 10 / 50 \mathrm{kHz}$ | filmstrip dial, AM/FM/CW, COR, built-in SDU, dual conversion, $10 \mathrm{mHz} \& 455 \mathrm{kHz}$ IFs, DAFC input (for DRO-209A), solid-state, 181bs, cost \$3200 (1967) |
| 521A-1 | $20-80 \mathrm{mHz}$ | $4 / 10 / 50 \mathrm{kHz}$ | other specs same as 521A |
| 555 | $90-180 \mathrm{mHz}$ | $10 / 20 / 50 \mathrm{kHz}$ | other specs similar to 521A |
| 555-1 | $90-180 \mathrm{mHz}$ | $4 / 10 / 50 \mathrm{kHz}$ | other specs similar to 521A |
| 565 | $\begin{aligned} & 20-1000 \mathrm{mHz} \\ & \text { (VH- \& UH- } \\ & \text { plug-in } \\ & \text { tuners) } \end{aligned}$ | $\begin{aligned} & 10 / 50 / 100 \mathrm{kHz} / \\ & 3 \mathrm{mHz} \end{aligned}$ | AM/FM/CW/pulse, built-in SDU, DAFC input |
| 565A | $20-1000 \mathrm{mHz}$ | opt w/ WJ-9930 modules | same as 565 except uses drop-in IF/BW/demod units |
| 595 | $220-440 \mathrm{mHz}$ | 10/20/50kHz | other specs similar to 521A |


| 601A | $54-260 \mathrm{mHz}$ | $50 / 100 \mathrm{kHz}$ | round dial, AM/CW, squelch, dual conversion, 21.4 mHz \& 2.5 mHz IFs, two separate IF strips, $50 \& 100 \mathrm{kHz}$ BWs avail. simultaneously, solid-state \& nuvistor, 12lbs, (1964) |
| :---: | :---: | :---: | :---: |
| 701 | 235-1000mHz | $300 \mathrm{kHz} / 2 \mathrm{mHz}$ | round dials, AM/FM/CW, two tuners: 235-500/4901000 mHz , COR, dual conv., $60 \mathrm{mHz} \& 21.4 \mathrm{mHz}$ IFs, two separate IF strips, 300 kHz \& 2 mHz BWs avail. simult., solid-state, nuvistor, 7077 s \& 7486, 211bs |
| 701A | $235-1000 \mathrm{mHz}$ | $300 \mathrm{kHz} / 2 \mathrm{mHz}$ | ```same as 701 except 7077s & 7486 replaced by nuvistors, cost $3000 (1965)``` |
| 702 | $235-1000 \mathrm{mHz}$ | $50 / 300 \mathrm{kHz} / 2 \mathrm{mHz}$ | same as 701 except $w / 50 \mathrm{kHz}$ bandwidth |
| 702A | $235-1000 \mathrm{mHz}$ | $50 / 300 \mathrm{kHz} / 2 \mathrm{mHz}$ | ```same as 702 except 7077s & 7486 replaced by nuvistors, cost $3500 (1965)``` |
| 770 | $235-1000 \mathrm{mHz}$ | $100 / 500 \mathrm{kHz} / 4 \mathrm{mHz}$ | ```round dials, AM/FM/CW/ pulse, two tuners: 235-500/ 490-1000mHz, IFs: 60, 21.4mHz (all BWs), 2.5mHz (100kHz only), nuvistors, several 7077s & 7486, solid-state (have manual)``` |
| 770A | $235-1000 \mathrm{mHz}$ | $100 / 500 \mathrm{kHz} / 4 \mathrm{mHz}$ | same as 770 except 7077 s and 7486 replaced by nuvistors |
| 775 | $235-1000 \mathrm{mHz}$ | $100 / 500 \mathrm{kHz} / 4 \mathrm{mHz}$ | same as 770A except w/COR (have manual) |
| 775-3 | $235-1000 \mathrm{mHz}$ | $100 / 500 \mathrm{kHz} / 4 \mathrm{mHz}$ | same as 775 except w/115/ 230VAC supply, cost $\$ 3700$ <br> (1967) (have manual) |
| 775-9 | $235-1000 \mathrm{mHz}$ | $100 / 500 \mathrm{kHz} / 4 \mathrm{mHz}$ | difference unknown |
| 901B | $30-300 \mathrm{mHz}$ | $20 / 300 \mathrm{kHz}$ | ```filmstrip dials, AM/FM/CW, two tuners: 30-90/60-300 mHz, nuvistor and solid-``` |


|  |  |  | state, 18lbs, cost \$1925 (1966) |
| :---: | :---: | :---: | :---: |
| 901-5 | $30-300 \mathrm{mHz}$ | $20 / 30 / 300 \mathrm{kHz}$ | same specs as 905A except for additional IF BW |
| 903B | $30-300 \mathrm{mHz}$ | $50 / 300 \mathrm{kHz}$ | round dial, AM/FM/CW, ANL, COR, two tuners: 30-60/60$300 \mathrm{mHz}, 21.4 \mathrm{mHz}$ IF, nuvistors (8058, 7587 \& 6CW4) \& solid-state, 20lbs, cost $\$ 2400$ (have partial schematic) |
| 904 A | $30-300 \mathrm{mHz}$ | $20 / 300 \mathrm{kHz}$ | ```same as 901B except with 1mHz & 5mHz xtal marker osc, cost $2075 (1966)``` |
| 905A | $30-300 \mathrm{mHz}$ | $20 / 300 \mathrm{kHz}$ | ```same as 901B except with COR, cost $2025 (1966) (mil R-1420/URR) (Fair has manual)``` |
| 906 A | $30-300 \mathrm{mHz}$ | $20 / 300 \mathrm{kHz}$ | same as 901B except with $1 \mathrm{mHz} \& 5 \mathrm{mHz}$ xtal marker osc and COR, cost \$2175 (1966) (have manual) |
| 906A-4 | $30-300 \mathrm{mHz}$ | $20 / 300 \mathrm{kHz}$ | same as 906A except with narrow band FM demod |
| 907 | $30-300 \mathrm{mHz}$ | $20 / 300 \mathrm{kHz}$ | round dial, AM/FM/CW, two tuners: 30-100/60-300 mHz , special DC outputs from detectors, 21.4 mHz IF, nuvistor \& solid-state, 15lbs, cost \$1975 (1965) |
| 952 | $30-300 \mathrm{mHz}$ | $50 / 300 \mathrm{kHz}$ | filmstrip dial, AM/FM/CW, two tuners: 30-90/60-300 mHz or six xtal controlled chan between $100-150 \mathrm{mHz}$, COR, 21.4 mHz IF, 181bs, cost $\$ 2400$ (1967) |
| 960 | $30-300 \mathrm{mHz}$ | $20 / 200 \mathrm{kHz}$ | round dials, AM/FM/CW, <br> two tuners: 30-90/60-300 <br> $\mathrm{mHz}, 21.4 \mathrm{mHz}$ IF, nuvistors, 7077 \& solid-state, 161bs |
| 960 B | $30-300 \mathrm{mHz}$ | $20 / 200 \mathrm{kHz}$ | ```same as 960 except 7077s replaced by nuvistors, cost $2550 (1966)``` |


| 960B-2 | $30-300 \mathrm{mHz}$ | $20 / 300 \mathrm{kHz}$ | same as 906B except with wider IF BW |
| :---: | :---: | :---: | :---: |
| 965 | $10-90 \mathrm{mHz}$ | $10 / 50 / 200 \mathrm{kHz}$ | ```round dials, AM/FM/CW, two tuners: 30-90/10-30mHz, 21.4mHz IF, 17lbs, cost $2900``` |
| 970A | $30-300 \mathrm{mHz}$ | $60 / 300 \mathrm{kHz} / 3 \mathrm{mHz}$ | round dials, FM/AM/CW/ pulse, special AGC for pulse, dual conversion $(60 \mathrm{kHz}$ BW only) 21.4 mHz \& 2.5 mHz IFs, cost $\$ 2700$ (1965) |
| 975 | $30-300 \mathrm{mHz}$ | $60 / 300 \mathrm{kHz} / 3 \mathrm{mHz}$ | same as 970A except with COR, cost $\$ 2800$ (1965) |
| 975-2 | $30-300 \mathrm{mHz}$ | $60 / 300 \mathrm{kHz} / 3 \mathrm{mHz}$ | newer version of 975, cost $\$ 2700$ (1967) |
| 977 | $30-300 \mathrm{mHz}$ | $60 / 300 \mathrm{khz} / 3 \mathrm{mHz}$ | ```filmstrip dials, AM/FM/CW/ pulse, solid-state, DAFC w/DRO-300A or DRO-302A-2, cost $2700 (1968)``` |
| 977-1 | $30-300 \mathrm{mHz}$ | $10 / 300 \mathrm{kHz} / 3 \mathrm{mHz}$ | other specs same as 977 |
| CT-4080 | $4-8 \mathrm{gHz}$ | 8 mHz minimum | tuner, one 160 mHz output, two 21.4 mHz output, 18 dB max noise figure, AGC \& DAFC inputs, 25lbs, used in RS-125, cost $\$ 6250$ (1968) |
| CV-1750 | $235-1000 \mathrm{mHz}$ | 2 mHz minimum | military version of FE-25-1 |
| FE-1-2A | $0.95-2.05 \mathrm{gHz}$ | 8 mHz minimum | converter, filmstrip dial, 160 mHz IF out, 18 dB max noise figure, four section YIG preselector, LO out, 201bs, cost $\$ 4000$ (1965) |
| FE-1-2B | $0.99-2.0 \mathrm{gHz}$ | 8 mHz minimum | ```same as FE-1-2A except DAFC in, AGC in, slightly wider frequency range, 25lbs, cost $4000 (1967)``` |
| FE-1-4.5 | $0.95-4.5 \mathrm{gHz}$ | 8 mHz minimum | converter, consists of the tuner sections of $\mathrm{FE}-1-2 \mathrm{~B}$ and $\mathrm{FE}-2-4.5$ in one box, cost $\$ 8500$ (1967) |
| FE-2-4 | $2.0-4.0 \mathrm{gHz}$ | 8 mHz minimum | converter, round dial, |


|  |  |  | 160 mHz IF out, 18 dB max noise figure, tunable YIG preselector, AGC in, rack mount 5.25" high, 201bs, cost $\$ 4000$ (1965) |
| :---: | :---: | :---: | :---: |
| FE-2-4.5 | $1.95-4.5 \mathrm{gHz}$ | 8 mHz minimum | same specs as $\mathrm{FE}-1-2 \mathrm{~B}$ except freq coverage |
| FE-4-8 | $4-8 \mathrm{gHz}$ | 8 mHz minimum | converter, filmstrip dial, 160 mHz IF out, 18 dB max noise figure, four section YIG preselector, DAFC in, AGC in, LO out, 25lbs, cost \$6500 (1967) |
| FE-8-12 | $8-12 \mathrm{gHz}$ | 8 mHz minimum | converter, filmstrip dial, 160 mHz IF out, 18 dB max noise figure, four section YIG preselector, DAFC in, AGC in, LO out, 25lbs, cost \$6500 (1967) |
| FE-25-1 | $235-1000 \mathrm{mHz}$ | 2 mHz minimum | ```converter, round dials, two tuners: 235-500/490- 1000mHz, 60 mHz IF out, 10 dB noise figure, 7077s, 7486 & nuvistors, 18lbs, cost $1400 (1967) (mil version: CV-1750)``` |
| FE-26 | $235-1000 \mathrm{mHz}$ |  | other specs unknown |
| FE-103 | $10-30 \mathrm{mHz}$ | 2 mHz minimum | converter, 60 mHz IF out, filmstrip dial, 6dB max noise figure, solid-state, 12lbs, cost $\$ 1000$ (1965) (mil version available, number unknown) |
| FE-3442 | $3.7-4.2 \mathrm{gHz}$ | 20 mHz | converter, 160 mHz IF out, $20 \mathrm{mHz} \mathrm{BW}, 15 \mathrm{~dB}$ noise figure compnent of TDS-100 system |
| HF-1000 | $0.005-30 \mathrm{mHz}$ | 58 digital filters | AM/FM/CW/USB/LSB/ISB/ synchronous AM, fully synthesized, green LED digital readouts, 3 scanning modes, notch filter, bandpass tuning, RS-232 or CSMA remote control, rack mount 5.5" high, 97-253VAC, |


|  |  |  | $47-440 \mathrm{~Hz}$, current issue commercial version of WJ-8711 |
| :---: | :---: | :---: | :---: |
| HT-10 | $0.5-10 \mathrm{mHz}$ | 400 kHz | converter, 21.4 mHz out, 7 dB noise figure, input attn, 15lbs, cost $\$ 2000$ (1967) used in RS-125 |
| LT-1-2 | $1.0-2.0 \mathrm{gHz}$ | 8 mHz minimum | converter, round dial, 21.4 mHz IF out, 18 dB max noise figure, four section YIG preselector, solidstate except for ceramic triode LO, rack mount 5.25" high, 20lbs, cost $\$ 4500$ (1965) |
| LT-1020A | $0.95-2.05 \mathrm{gHz}$ | 8 mHz minimum | converter, 21.4 mHz out, filmstrip dial, 18 dB max noise figure, four section YIG preselector, dual conversion, 160 mHz and 21.4 mHz IFs, DAFC in, AGC in, 25lbs, cost $\$ 4200$ (1967) |
| MT-112 | $1-18 \mathrm{gHz}$ * |  | microwave tuner frame, uses <br> up to four TH- series <br> tuning heads, 160 mHz IF <br> out, rack mount 5.25" high |
| R-1279 | $30-300 \mathrm{mHz}$ | $20 / 300 \mathrm{kHz}$ | round dials, nuvistor \& solid-state (mil) |
| R-1401 |  |  | military version of 357 |
| R-1420 |  |  | military version of 905A |
| R-1490A/G |  |  | military version of 357 |
| RS-111-1B | $30-1000 \mathrm{mHz}$ | $\begin{aligned} & 20 / 75 / 300 \mathrm{kHz} / \\ & 2 \mathrm{mHz} \end{aligned}$ | round dials, AM/FM/CW, four tuners: 30-60/60-300/ 235-500/490-1000mHz, built-in SDU, separate 2 mHz IF w/AM and FM continuously available, seperate antenna inputs for VHF and UHF, nuvistors, $7077 \mathrm{~s}, 7486$ and solid-state, rack mount 5.25" high, 35lbs, cost $\$ 6250$ (1967) (have manual) (mil URR-52B) |



| ST-2045 | $1.95-4.5 \mathrm{gHz}$ | 8 mHz minimum | ```same specs as ST-1045 except with one tuner, cost $4200 (1967)``` |
| :---: | :---: | :---: | :---: |
| SUT-1000 | $235-1000 \mathrm{mHz}$ | 6 mHz minimum | same specs as UT-1000 except with motorized automatic tuning, 25lbs, cost $\$ 3250$ (1967) |
| SVT-10 | 10-90mHz | 2 mHz minimum | ```same specs as VT-10 except with motorized automatic tuning, 22lbs, cost $2550 (1967)``` |
| SVT-11 | $10-30 \mathrm{mHz}$ | 2 mHz minimum | ```same specs as VT-11 except with motorized automatic tuning, 20lbs, cost $1500 (1967)``` |
| SVT-30 | $30-260 \mathrm{mHz}$ | 3 mHz minimum | ```same specs as VT-30 except with motorized automatic tuning, 21.5lbs, cost $2750 (1967)``` |
| SXT-8012 | $8-12 \mathrm{mHz}$ |  | scanning version of XT-8012 |
| URR-52B |  |  | military version of RS-111 |
| URR-74 |  |  | military version of WJ-8718 |
| UT-1000 | $235-1000 \mathrm{mHz}$ | 6 mHz minimum | converter, 21.4 mHz out, round dials, two tuners: 235-500/490-1000mHz, 14 dB max noise figure, LO out, AGC in, 18.5lbs, cost \$2500 (1967) |
| VT-10 | $10-90 \mathrm{mHz}$ | 2 mHz minimum | converter, 21.4 mHz out, filmstrip dials, two tuners: 10-30/30-90mHz, 7 dB max noise figure, 16lbs, cost $\$ 1800$ (1967) |
| VT-11 | $10-30 \mathrm{mHz}$ | 2 mHz minimum | $\begin{aligned} & \text { same specs as VT-10 except } \\ & \text { single tuner, 15lbs, cost } \\ & \$ 1000 \text {, (1967) } \end{aligned}$ |
| VT-30 | $30-260 \mathrm{mHz}$ | 3 mHz minimum | converter, 21.4 mHz out, round dials, two tuners; $30-60 / 54-260 \mathrm{mHz}, 6.5 \mathrm{~dB}$ max noise figure, LO out, AGC in, 7077s \& nuvistors, 15lbs, cost $\$ 2000$ (1967) |


| WJ-1033-1 | $500-100 \mathrm{mHz}$ | 20 mHz | tuner, 160 mHz IF output, 18 dB noise figure |
| :---: | :---: | :---: | :---: |
| WJ-1034 | $1-2 \mathrm{gHz}$ | 30 mHz | tuner, 160 mHz IF output, 15 dB noise figure |
| WJ-1035 | $2-4 \mathrm{gHz}$ | 30 mHz | tuner, 160 mHz IF, 15 db NF |
| WJ-1036 | $4-8 \mathrm{gHz}$ | 35 mHz | tuner, 160 mHz IF, 20 db NF |
| WJ-1037 | $8-12 \mathrm{gHz}$ | 25 mHz | tuner, $160 \mathrm{mHz} \mathrm{IF}$,20 db NF |
| WJ-1038 | $12-18 \mathrm{gHz}$ | 30 mHz | tuner, $160 \mathrm{mHz} \mathrm{IF}$,20 db NF |
| WJ-1091 | $30-50 \mathrm{mHz}$ | 300 kHz | tuner, 21.4 mHz IF output, 6 dB noise figure |
| WJ-1092 | $50-100 \mathrm{mHz}$ | 300 kHz | tuner, 21.4 mHz IF, 7 dB NF |
| WJ-1093 | 100-170mHz | 300 kHz | tuner, 21.4 mHz IF, 7.5 dB NF |
| WJ-1094 | $170-250 \mathrm{mHz}$ | 300 kHz | tuner, 21.4 mHz IF, 9 dB NF |
| WJ-1095 | $250-500 \mathrm{mHz}$ | 300 kHz | tuner, 21.4 mHz IF, 10 dB NF |
| WJ-1096 | $500-1000 \mathrm{mHz}$ | 300 kHz | tuner, 60 mHz IF, 12 dB NF |
| WJ-8604 | $20-512 \mathrm{mHz}$ |  | same specs as WJ-8607 <br> except smaller package and quick disconnect connector |
| WJ-8607 | $20-512 \mathrm{mHz}$ | $\begin{aligned} & 10 / 20 / 50 / 250 \mathrm{kHz} / \\ & 4 \mathrm{mHz} \text { standard } \\ & (6.4 \mathrm{kHz}-8 \mathrm{mHz} \\ & \text { available) } \end{aligned}$ | miniceptor, AM/FM/CW/Pulse (SSB opt), microprocessor control, 100 Hz resolution, HPIL/RS-232 remote <br> interface, scan, step, can be used with WJ-9902 and WJ-9908 equip frames or WJ-9605 and WJ-9607 front panels, 1.5 h h x 6.5 "w x 10.5d, 5lbs |
| WJ-8607fe | $2-2000 \mathrm{mHz}$ |  | same specs as WJ-8607 |
| WJ-8609A | $20-512 \mathrm{mHz}$ | $0.25-40 \mathrm{mHz}$ avail | same specs as WJ-8607 except AM/FM/Pulse only |
| WJ-8609A-1 | $0.235-18 \mathrm{gHz}$ | 5 from 0.2540 mHz (SAW fils) | wideband version of WJ-8609A, uses WJ-9290 block downconverter, AM/FM/ Pulse, RF preselection, 100 Hz resolution, scan, step, remote control: |


|  |  |  | HPIL, RS-232 or RS-422 |
| :---: | :---: | :---: | :---: |
| WJ-8615D | $20-500 \mathrm{mHz}$ | $\begin{aligned} & 10 / 20 / 50 / 100 / \\ & 300 \mathrm{kHz} \end{aligned}$ | AM/FM/CW/USB/LSB/pulse, synthesized, microprocessor controlled w/100Hz steps, LED readout, COR, IEEE-488 interface, $1 / 2$ rack width 3.25 h h, opts: coverage to 4.5 gHz , IF BWs from 3.2 kHz to 4 mHz |
| WJ-8615P | $20-500 \mathrm{mHz}$ | 3 std from 3.2 kHz <br> -8 mHz (5 as opt) | AM/FM/CW/Pulse, SSB opt, microprocessor control, step, scan, lockout, clock, calendar, integral battery backup, logs signal acquisition w/ date \& time to RS-232, printer or audio interface, options include tracking preselector, selected audio, wideband outputs, 3.5 "h x 8.25 "w x 20"d, 25lbs |
| WJ-8616 | $20-500 \mathrm{mHz}$ |  | synthesized, 7 digit LED readout |
| WJ-8617 | $\begin{aligned} & 20-500 \mathrm{mHz} \\ & (0.5-1100 \\ & \mathrm{mHz} \text { opt, } \\ & \text { down to } \\ & 10 \mathrm{kHz} \text { on } \\ & \text { special } \\ & \text { request) } \end{aligned}$ | $\begin{aligned} & 10 / 20 / 100 / 500 \mathrm{khz} \\ & 2 \mathrm{mHz} \end{aligned}$ | AM/FM/CW/SSB/pulse, synthesized, microprocessor controlled w/100Hz steps, 7 digit LED readout, 48 programmable search bands, 96 memory channels, search/scan for user-defined processing or signal acquisition, built-in SDU, master/slave operation of up to 29 receivers, rack mount 5.25" high, 50 lbs Wide variety of options (see 8618 configuration list and 8617/8618 option list) |
| WJ-8618 |  |  | EMI hardened version on 8617 Wide variety of options (see 8618 configuration list and 8617/8618 option list) |
| WJ-8619 | $20-500 \mathrm{mHz}$ | 5 BWs, 11 avail from $10 \mathrm{kHz}-4 \mathrm{mHz}$ | AM/FM/CW/Pulse std, SSB \& var BFO opt, digital remote controlled by IEEE-488 bus or |


|  |  |  | WJ8617B receiver, 100 Hz steps, COR, scan module w/X-Y-Z display out |
| :---: | :---: | :---: | :---: |
| WJ-8619fe 20 | $20-1100 \mathrm{mHz}$ | as above | same as WJ-8619 except for expanded frequency range |
| WJ-8625-1 | $0.2-1.5 \mathrm{mHz}$ |  | AM/FM/CW/USB/LSB, LCD display |
| WJ-8626A-1 |  |  | same as A-4 but no front panel, controlled from A-4 |
| WJ-8626A-4 | $5 \mathrm{kHz}-30 \mathrm{mHz}$ | $\begin{aligned} & \text { any } 3 \text { from } 0.2 / \\ & 0.5 / 1 / 2 / 3 / 4 / 6 / 8 / \\ & 12 / 16 \mathrm{kHz} \end{aligned}$ | AM/FM/CW/USB/LSB, synthesized, microprocessor controlled, LCD display, $1 / 2$ rack width 5.25" high |
| WJ-8628A-1 |  |  | same as A-4 but no front panel, controlled from A-4 |
| WJ-8628A-4 | $20-512 \mathrm{mHz}$ | four from range of 10 khz to 4 mHz | AM/FM/CW/SSB/pulse, synthesized, microprocessor controlled w/100Hz steps, LCD display, tuned preselection, synth. BFO, 10 mS tuning speed, opt: coverage to $1.4 \mathrm{gHz}, 1 / 2$ rack width 5.25" high |
| WJ-8640-1 | $\begin{aligned} & \text { plug-in } \\ & 0.5-500 \mathrm{mHz} \end{aligned}$ | $10 / 50 / 200 \mathrm{kHz}$ <br> $5 / 20 \mathrm{kHz}$ optional | AM/FM/CW/USB/LSB, portable manpack, LED counter w/DAFC, 10 D cell or BA4386 detachable battery pack or vehicular supply, 4.2"h X 11.4"w X 11.7"d, 18lbs, (mil AN/GRR-8V) |
| WJ-8650 10 | $105-175 \mathrm{mHz}$ | $5 / 15 \mathrm{kHz}$ | ```minature receiver, AM/FM, 10 chan, scan, step, tracking preselector, 10-14VDC, 4W, 4.25"dia x 0.6"high, 10oz``` |
| WJ-8650-1 20 | 200-270mHz | 15 kHz | same specs as $W J-8650$ except 0.8" high |
| WJ-8652 21 | $210-350 \mathrm{mHz}$ | $100 \mathrm{kHz} / 1 / 2 \mathrm{mHz}$ | ```minature receiver, AM/FM, 5 chan, scan, step, tracking preselector, 10-14VDC, 2.5W, 0.75"h x 3.25"w x 7.12"d, 1lb``` |


| WJ-8653A | $\begin{aligned} & 400-500 \mathrm{mHz} \\ & \text { or } 0.8-1.0 \mathrm{gH} \end{aligned}$ | $25 \mathrm{kHz}$ | ```minature receiver, FM, scan, step, 10-14VDC, 5W, 0.8"h x 3.5"w x 8.75"d, 1lb``` |
| :---: | :---: | :---: | :---: |
| WJ-8654 | $20-1000 \mathrm{mHz}$ | $6.4-100 \mathrm{kHz}$ | ```miniceptor, AM/FM/SSB/CW, 100 chan, scan, step, tracking preselector, HPIL &RS-232 remote interface, 9-16VDC, 5W, 1.65"h x 3.0"w x 7.75" d, 2.5lbs``` |
| WJ-8700 | $0.5-32 \mathrm{mHz}$ |  | dual receiver, AM/FM/CW/ USB/LSB, microprocessor control, 8 line by 40 char LCD display, scan, step, lockout, 100 memory channels, suboctave preselector, many options, $3.5 " \mathrm{~h}$ x 8.25 m x 20 m , 181bs |
| WJ-8709 | $5 \mathrm{kHz}-30 \mathrm{mHz}$ | $0.3 / 1 / 3.2 / 6 / 16 \mathrm{kHz}$ | AM/FM/CW/MCW/USB/LSB, 7 digit yellow LED display, synthesized: 10 Hz steps, 1/2 rack width 5.25" h |
| WJ-8711 | $0.005-30 \mathrm{mHz}$ | 58 digital filters | AM/FM/CW/USB/LSB/ISB/ synchronous AM, fully synthesized, green LED digital readouts, 3 scanning modes, notch filter, bandpass tuning, RS-232 or CSMA remote control, rack mount 5.5" high, 97-253VAC, $47-440 \mathrm{~Hz}$, current issue, |
| WJ-8712 | $5 \mathrm{kHz}-30 \mathrm{mHz}$ | 58 digital <br> filters | remote control version of WJ-8711, half rack 3.5" high, blank front panel, RS-232 or CSMA control |
| WJ-8718A | $5 \mathrm{kHz}-30 \mathrm{mHz}$ | $0.3 / 1 / 3.2 / 6 / 16 \mathrm{kHz}$ | AM/FM/CW/ISB/USB/LSB, synthesized, microprocessor controlled w/10Hz steps, 7 digit LED readout (yellow), synthesized BFO, many options notably including /MFP - microprocessor front panel which allows front panel control |


|  |  |  | of scanning and memory, rack mount 5.25" high, 35lbs |
| :---: | :---: | :---: | :---: |
| $\begin{gathered} \mathrm{WJ}-8718 \mathrm{~A} \\ -15 \end{gathered}$ |  |  | Special E-Systems unit with green front panel, other differences unknown |
| $\begin{aligned} & W J-8718 \mathrm{~A} \\ & -19 / F E \end{aligned}$ | $5 \mathrm{kHz}-100 \mathrm{mHz}$ | $0.3 / 1 / 3.2 / 6 / 50 \mathrm{kHz}$ | AM/FM/CW/ISB/USB/LSB, synthesized, microprocessor controlled w/10Hz steps, MFP - microprocessor front panel which allows front panel control of scanning and memory, built-in remote control, 7 digit LED readout (yellow), synthesized BFO, special DF mode with IF optimized for DF work, many options available, rack mount 5.25" high, 35 lbs (have manual) |
| WJ-8721 | $5 \mathrm{kHz}-30 \mathrm{mHz}$ | digital | VXI card version of WJ-8711, 1/12 rack width, BITE, 5lbs |
| WJ-8730A | $\begin{aligned} & \text { plug-in } \\ & 20-1000 \mathrm{mHz} \\ & \text { (WJ-9060 } \\ & \text { series) } \end{aligned}$ | $\begin{aligned} & \text { plug-in } \\ & 10 \mathrm{kHz}-3 \mathrm{mHz} \\ & \text { (WJ-9930 } \\ & \text { series) } \end{aligned}$ | uses two WJ9060 tuning heads (filmstrip dial), solid-state, built-in SDU |
| WJ-8731A |  |  | same specs as WJ8730A except with tuning meter instead of SDU |
| WJ-8732A |  |  | same specs as WJ8730A except only one WJ9060 tuning head |
| WJ-8733A |  |  | same specs as WJ8730A except only one WJ9060 tuning head and tuning meter instead of SDU |
| WJ-8770 | $5 \mathrm{kHz}-20 \mathrm{mHz}$ | $1 / 4 / 8 / 16 \mathrm{kHz}$ std, $0.5 / 2 / 6 / 12 \mathrm{kHz}$ opt | AM/FM/CW/LSB/USB, synthesized: 10 Hz steps, red LED display, ruggidized, military vehicular radio $22-32 \mathrm{VDC}$, internal AC or battery packs opt |
| WJ-8809 | $0.1-18.5 \mathrm{gHz}$ | 5 from 0.5-40mHz | consists of two units, WJ-8809/RX receiver and |


|  |  |  | WJ-8809/MC microwave converter, AM/FM/Pulse, 100 Hz resolution, RF preselection, |
| :---: | :---: | :---: | :---: |
| WJ-8880 | $0.5-30 \mathrm{mHz}$ | six, opt config | AM/FM/CW/USB/LSB/ISB, <br> synthesized, micropro- <br> cessor control, rack mount <br> 5.25" high |
| WJ-8888A | $0.5-30 \mathrm{mHz}$ | six, opt config | AM/FM/CW/ISB/LSB/USB, synthesized, 10 Hz steps, digitally remote controlable, rack mount 5.25" high |
| WJ-8888B | $0.5-30 \mathrm{mHz}$ | six, opt config | ```same as WJ-8888A except improved circuit board design``` |
| WJ-8922 | $1 \mathrm{kHz}-3 \mathrm{gHz}$ |  | AM/FM/CW/SSB, scans pan/ sector or manual, compact unit fits in a suitcase |
| WJ-8969 | $0.5-18 \mathrm{gHz}$ |  | 70 mHz IF, synthesized, 1 kHz steps |
| WJ-8972 | $20-500 \mathrm{mHz}$ |  | receiver/DF controller, part of WJ8990 system |
| WJ-9080 | $30-1000 \mathrm{mHz}$ | $\mathrm{n} / \mathrm{a}$ | converter, tunes all in one band |
| XT-8012 | $8-12 \mathrm{gHz}$ | 8 mHz minimum | converter, one 160 mHz IF output, two 21.4 mHz <br> outputs, 18 dB max noise <br> figure, four section YIG <br> preselector, DAFC in, AGC <br> in, LO out, 25lbs, cost $\$ 6500 \quad(1968)$ |
| Spectrum | Display Units | (SDU) : |  |
| Model | IF | Bandwidths | Notes |
| 605 | 21.4 mHz | variable | solid-state, 1"x3" CRT |
| IP-751 |  |  | military version of SM-9310A |
| IP-1059 | 21.4 mHz | $\begin{aligned} & 30 / 100 / 500 \mathrm{kHz} / \\ & 3 \mathrm{mHz} \end{aligned}$ | ```solid-state, 8cm x 10cm CRT, linear/log, full rack width 5.25" high, military version of SM-7301``` |


| IP-1355 | 10 mHz | $0-1 \mathrm{mHz}$ | 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 | 160 mHz | 1 mHz | solid-state, $8 \mathrm{~cm} \times 10 \mathrm{~cm} \mathrm{CRT}$, component of RS-112, half rack 5.25" high, mount in EF-602 |
| SM-1622 | 160 mHz | 20 mHz max | ```nuvistors or solid-state, 1"x3" CRT, 200kHz resolution, 1/2 rack width``` |
| SM-1622-1 | 160 mHz | 20 mHz max | same as SM-1622 except with 1 mHz resolution |
| SM-1662 | 160 mHz | 20 mHz | ```solid-state, 1"x3" CRT, 250kHz resolution, half rack width 3.5" high, 11lbs``` |
| SM-1662-1 | 160 mHz | 20 mHz | same as SM-1662 except with 1 mHz resolution |
| SM-4300 | 21.4 mHz | 3 mHz | solid-state, 1 "x3" CRT, 21.4 mHz marker, $1 / 3 \mathrm{rack}$ width, 5" high |
| SM-4301A | 21.4 mHz | 3 mHz | solid-state, 1"x3" CRT, 21.4 mHz marker, $1 / 4$ rack width, 6.75" high, 7.5lbs, cost $\$ 850$ (1967) |
| SM-6108 | 84 kHz | 44 kHz | solid-state, 1 "x3" CRT, designed for displaying $64-108 \mathrm{kHz}$ subcarriers, $1 / 2$ rack width, $3.5 "$ high |
| SM-7301 | 21.4 mHz | $\begin{aligned} & 30 / 100 / 500 \mathrm{kHz} / \\ & 3 \mathrm{mHz} \end{aligned}$ | solid-state, $8 \mathrm{~cm} x 10 \mathrm{~cm}$ 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 | 2 mHz | $3 / 15 / 50 \mathrm{kHz}$ | solid-state, 1" x 3" CRT, marker generator, sweep |


|  |  |  | disable, $H \& V$ outputs, (internally converts 2 mHz to 455 mHz ), for use with VLF receivers like the 354, 355 and 357, 12lbs, cost $\$ 2500$ (1968) |
| :---: | :---: | :---: | :---: |
| SM-8510 | 500 kHz | 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 | 500 kHz | 5/20/50/200kHz | ```same specs as SM-8510 except wider sweep width, cost $1600 (1967)``` |
| SM-8512 | 455 kHz | 5/20/50kHz | same specs as $S M-8510$ except for IF input freq, cost $\$ 1400$ (1967) mod kit for pairing with R-390 or R-390A was included |
| SM-8513 | 455 kHz | 5/20/50kHz | two SM-8512 units in 5.25" high side by side rack mount, cost $\$ 2900$ (1967) |
| SM-9188 | 455 kHz | 5/15/30 kHz | for use with 8718 series |
| SM-9205 | 21.4 mHz | variable to 5 mHz | 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-9206 | 21.4mHz | $\begin{aligned} & 0.1 / 0.2 / 0.4 / 1 / 2 / \\ & 5 \mathrm{mHz} \end{aligned}$ | simplified 9205, single trace, 3 selectable inputs, CRT display, $1 / 2$ rack width 3.5" high. |
| SM-9301 | 21.4mHz | 3 mHz | solid-state, 1"x3" CRT, <br> 21.4 mHz marker, 81 bs, cost \$850 (1967) |
| SM-9302 | 21.4mHz | 3 mHz | half rack version of SM-9301, 7lbs, cost $\$ 800$ (1967) |


| SM-9303A | 21.4mHz | 3 mHz | solid-state, 1"x3" CRT, input bandpass filtering, MOS FET first mixer, 21.4 mHz marker, 11lbs, cost \$1000 (1967) |
| :---: | :---: | :---: | :---: |
| SM-9304A | 21.4 mHz | 3 mHz | half rack version of $\mathrm{SM}-9303$, 10lbs, cost $\$ 950$ (1967) |
| SM-9310A | 21.4 mHz | variable <br> 3 mHz max | nuvistors, 1"x3" CRT (mil IP-751) |
| SM-9310-1 | 21.4 mHz | variable <br> 3 mHz max | nuvistors, 1"x3" CRT, coaxial switch added for mult sources |
| SM-9401B | 21.4 mHz | 4 mHz | solid-state, 1"x3" CRT, 21.4 mHz marker, 8lbs |
| SM-9402A | 21.4 mHz | 4 mHz | half rack version of SM-9401B, 7lbs |
| SM-9403A | 21.4 mHz | 4 mHz | same specs as SM-9303A except wider sweep width |
| SM-9404A | 21.4 mHz | 4 mHz | half rack version of SM-9403A |
| SM-9801 | 21.4 mHz | 8 mHz | $\begin{aligned} & \text { same specs as } S M-9301, \text { cost } \\ & \$ 950(1967) \end{aligned}$ |
| SM-9802A | 21.4 mHz | 8 mHz | half rack version of SM-9801A, cost \$900 (1967) |
| SM-9803A | 21.4 mHz | 8 mHz | same specs as $S M-9303 A$ except wider sweep width |
| SM-9804A | 21.4 mHz | 8 mHz | half rack version of SM-9803A |
| SM-9805A | 21.4mHz | 8 mHz | solid-state, 2.625 " x 4.625" CRT, avail with P1 or P7 phosphor |
| SM-9831 | 30 mHz | 8 mHz | ```solid-state, 1"x3" CRT, 30mHz marker, 8lbs, cost $950 (1967)``` |
| SM-9832 | 30 mHz | 8 mHz | half rack version of SM-9831 |
| SPD-214 | 21.4 mHz | 3 mHz max | nuvistors, $1 / 2$ rack width |
| WJ-9180-1 | 10 mHz | $0-1 \mathrm{mHz}$ | $5-25 \mathrm{~Hz}$ sweep rate, $10 u \mathrm{~V}$ input sensitivity, battery powered (10 D-cell or magnesium BA-4386 pack) or 24 VDC vehicular supply, designed |


|  |  |  | to accompany WJ8640-1 receiver (mil IP-1355/GRR-8V) |
| :---: | :---: | :---: | :---: |
| WJ-9188A 4 | 455 kHz | $5 / 30 \mathrm{kHz}$ | solid-state, 1'x3" CRT, marker, half rack width |
| WJ-9188A-18 | 8455 kHz | $5 / 15 / 30 \mathrm{kHz}$ | ```2.5" x 3" CRT, used with WJ-8888B or WJ-8718 w/ SMO option, full rack width``` |
| WJ-9205 | 21.4 mHz | $5 \mathrm{kHz}-5 \mathrm{mHz}$ | 4" CRT, displays 3 <br> simultaneous traces, auto <br> sweep and centering, IEEE-488 <br> interface, 3.5 "h x 8.5 "w x 22"d, 18lbs |
| WJ-9206 | 21.4 mHz | $0-5 \mathrm{mHz}$ | $\begin{aligned} & \text { 4" CRT, single trace, } 3.5 " \mathrm{~h} \\ & \mathrm{x} 8.5 " \mathrm{w} \text { x } 22 \text { "d, 17lbs } \end{aligned}$ |
| 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 | 455 kHz | $5 / 15 / 30 \mathrm{kHz}$ | combination SDU and speaker unit, $2.5^{\prime \prime} \mathrm{x}$ 3" CRT, five input selector for speaker, half rack width 5.25" high |
| Components and Accessories: |  |  |  |
| Model D | Description |  |  |
| 481A $\quad \mathrm{p}$ | plug-in receiver, $30-60 \mathrm{mHz}$, $\mathrm{AM} / \mathrm{FM}$ (CW opt), requires ext power from EF-180A or EF-182A equipment frame, component of RS-180 receiving system |  |  |
| 482A S | same as 481A except $60-120 \mathrm{mHz}$ |  |  |
| 483A S | same as 481A except $100-180 \mathrm{mHz}$ |  |  |
| 484A S | same as 481A except $180-300 \mathrm{mHz}$ |  |  |
| 485A S | same as 481A except $30-90 \mathrm{mHz}$ |  |  |
| 486A S | same as 481A except $80-250 \mathrm{mHz}$ |  |  |
| 487A S | same as 481A except $20-80 \mathrm{mHz}$ |  |  |
| 488A S | same as 48 | 1 A except 22 |  |


| 489A | same as 481A except $250-500 \mathrm{mHz}$ |
| :---: | :---: |
| 490A | same as 481A except $500-1000 \mathrm{mHz}$ |
| AGC-BC | Box car AGC unit, plugs into DM-4 |
| AGC-PS | Pulse stretching AGC, plugs into DM-4 |
| ANT-101 | antenna, $3.7-4.2 \mathrm{gHz}, 12 \mathrm{~dB}$ gain, 25 degree beamwidth, component of TDS-100 system |
| APR-101 | antenna/preamplifier, ANT-101 and PR-101 in single unit |
| AR7-15 | antenna, log-periodic, $1-12.4 \mathrm{gHz}, 8 \mathrm{~dB}$ gain, 15 dB F-to-B |
| AR7-17 | antenna, log-periodic, $0.5-12.4 \mathrm{gHz}, 8 \mathrm{~dB}$ gain, $15 \mathrm{~dB} \mathrm{~F}-\mathrm{to-B}$ |
| AR12-18 | antenna, log-periodic, $30-1100 \mathrm{mHz}$, 8 dB gain, 20 dB F-to-B |
| AR12-19 | antenna, log-periodic, $90-1100 \mathrm{mHz}, 8 \mathrm{~dB}$ gain, 20 dB F-to-B |
| AR12-20 | antenna, log-periodic, $250-1100 \mathrm{mHz}, 8 \mathrm{~dB}$ gain, 20 dB F-to-B |
| AR12-22 | antenna, log-periodic, $30-160 \mathrm{mHz}, 8 \mathrm{~dB}$ gain, 20 dB F-to-B |
| AR12-25 | antenna, log-periodic, $30-76 \mathrm{mHz}, 8 \mathrm{~dB}$ gain, $20 \mathrm{~dB} \mathrm{~F}-\mathrm{to}-\mathrm{B}$ |
| AR12-29 | antenna, log-periodic, $30-300 \mathrm{mHz}, 8 \mathrm{~dB}$ gain, 20 dB F-to-B |
| AR19-5 | antenna, omnidirectional conical spiral, $1-11 \mathrm{gHz}$, no gain, 5w power handling |
| AR19-6 | antenna, omnidirectional conical spiral, $7-11 \mathrm{gHz}$, no gain, $5 w$ power handling |
| AR19-8 | antenna, omnidirectional conical spiral, $150 \mathrm{mHz}-2 \mathrm{gHz}$, no gain, 5w power handling |
| AR19-9 | antenna, omnidirectional conical spiral, $0.2-1.4 \mathrm{gHz}$, no gain, 5w power handling |
| AR19-10 | antenna, omnidirectional conical spiral, $0.25-1.1 \mathrm{gHz}$, no gain, 5w power handling |
| AR19-11 | antenna, omnidirectional conical spiral, $0.3-1.3 \mathrm{gHz}$, no gain, 5w power handling |
| AR23-4 | antenna, loop, $2-30 \mathrm{mHz}$, bi-directional figure eight |
| AR72-4 | antenna, loop, $30-160 \mathrm{mHz}$, bi-directional figure eight |
| AR122-1 | antenna, compacted log-periodic, $150 \mathrm{mHz}-1 \mathrm{gHz}, 4.3 \mathrm{~dB}$ gain, 10w power handling |


| AR132-1 | antenna, compacted log-periodic, $20-300 \mathrm{mHz}, 5 \mathrm{~dB}$ gain, 1kw power handling |
| :---: | :---: |
| AR272-1 | antenna, dual polarization log-periodic, $1-4 \mathrm{gHz}, 8 \mathrm{~dB}$ gain, 20 dB F-to-B, 10 w power handling |
| AR274-1 | antenna, dual polarization log-periodic, $30 \mathrm{mHz}-1 \mathrm{gHz}, 8 \mathrm{~dB}$ gain, 20 dB F-to-B, 25 w power handling |
| AR274-2 | antenna, dual polarization log-periodic, $30-300 \mathrm{mHz}$, 8 dB gain, 20 dB F-to-B, 25 w power handling |
| AR2 $74-3$ | antenna, dual polarization log-periodic, $250 \mathrm{mHz}-1 \mathrm{gHz}, 8 \mathrm{~dB}$ gain, 20 dB F-to-B, 25 w power handling |
| CSU-160 | ```tuner switching unit, works with 205, 205-2 or 215 Pan-Man receivers, manual or sequential scan of tuners, holds up to 7 tuners, part of RS-160, see RS-160 for details``` |
| DA-1 | video distribution amplifier, $910 h m s$ or high impedance, 1.5 vrms out, 6 video, 1 oscilloscope \& 2 audio out, 91 bs , cost $\$ 1200$ (1964) |
| DA-5 | audio distribution amplifier, 10 kohm in, $150 / 600$ ohm out, $150 \mathrm{~Hz}-10 \mathrm{kHz}$ response, five outputs, cost $\$ 595$ (1966) |
| DM-4 | demodulator, 21.4 mHz input, accepts 4 plug-ins, 6 mHz bandwidth, BFO, squelch, tuning and signal strength meters, 3 audio outputs: 100 mw into 600 hm , built-in speaker, 3 video outputs: analysis, recorder \& tracking |
| DM-22A | demodulator, 21.4 mHz input, AM only, $\mathrm{BW}=1.5 \mathrm{mHz}$ |
| DM-112 | ```demodulator, 160mHz input, 100kHz/2/4/10/20mHz BWs, AM/FM/ pulse, built in SDU, AFC and AGC outputs (to tuner), carrier and center-tune meters, typically paired with MT-112``` |
| DM-160 | demodulator, 160 mHz input, $\mathrm{AM} / \mathrm{FM} / \mathrm{pulse}, \mathrm{BW}=0.35 / 1.5 / 4 \mathrm{mHz}$ |
| DM-161 | demodulator, 160 mHz input, $\mathrm{AM} / \mathrm{FM} / \mathrm{pulse}, \mathrm{BW}=1 / 5 / 10 / 20 \mathrm{mHz}$ |
| DM-212 | demodulator, 160 mHz input, $\mathrm{AM} / \mathrm{FM} / \mathrm{pulse}, \mathrm{BW}=10 / 20 \mathrm{mHz}$ |
| DM-235 | demodulator, 160 mHz input, $\mathrm{BW}=30 / 50 \mathrm{mHz}$ |
| DMS-105 | tunable demodulator, $1-1600 \mathrm{kHz}, 5$ digit Nixie readout, AM/FM/SSB/CW/MCW/FSK, IF BWs in two ranges: SSB - 2.4/ $3.5 / 4 / 8 \mathrm{kHz}$; other modes - 0.15/1/5/7/8/16kHz, DAFC, rack mount 5.25" high |
| DMS-105A | same as DMS-105 except $\operatorname{SSB}$ BWs $=2.4 / 4 / 8 \mathrm{kHz}$ and has translated IF predetection outputs at $15 / 50 / 100 \mathrm{kHz}$ |


| DMS-105R | EMC version of DMS-105A, also has predetection IF outputs of $10 / 50 / 100 \mathrm{kHz}$ |
| :---: | :---: |
| DMS-107 | ```tunable demodulator, 0.1-10mHz, filmstrip dial, IF BWs: 20/50/100/300/500kHz/1/2/3mHz, DAFC w/DRO-302 or DRO-320, carrier and center tune meters``` |
| DMS-107-1 | same as DMS-107 except $\mathrm{BW}=20 / 50 / 100 / 300 / 500 \mathrm{kHz} / 1 / 3 / 5.5 \mathrm{mHz}$ |
| DMS-109 | tunable demodulator, $5 \mathrm{kHz}-1 \mathrm{mHz}, 5$ digit Nixie display, USB/LSB, BW=2.8kHz, DAFC |
| DMS-201 | tunable demodulator, $0.5-10 \mathrm{mHz}, \mathrm{CW} / \mathrm{FSK}, \mathrm{BW}=1 / 3 \mathrm{kHz}$ |
| DRO-50 | digital frequency display, $0.54-54 \mathrm{mHz}$, for use with 455 kHz IF receivers, 6 digit Nixie display, included kit for modifying $S P-600$, cost $\$ 2500$ (1967) (variants were available for $500 \mathrm{kHz}, 3.9 \mathrm{mHz}$ and 21.4 mHz IFs) |
| DRO-270 | digital frequncy display, $20-80 \mathrm{mHz}$, for use with 10 mHz IF receivers, 5 digit Nixie readout, DAFC for up to twelve receivers, part of $R S-158$ receiving system, rack mount 1.75" high |
| DRO-280A | digital frequency display, $20-1000 \mathrm{mHz}, 6$ digit LED display, DAFC, provides control of 12 receivers in 15 msec intervals, 12 position switch for selecting receiver whose frequency is to displayed, part of $R S-180$ receiving system |
| DRO-290 | ```digital frequency display, 20-90mHz, for use with 10mHz IF receivers like CEI }519\mathrm{ and 521A, DAFC, }6\mathrm{ digit Nixie display, rack mount 1.75" high, 10lbs, cost $3100 (1967)``` |
| DRO-290B | similar to DRO-290 except with LED display |
| DRO-300 | digital frequency display, $30-300 \mathrm{mHz}$, for use with 21.4 mHz IF receivers, 6 digit Nixie display, variants avail for $455 / 500 \mathrm{kHz}$ and 3.9 mHz IFs, cost $\$ 2800$ (1967) |
| DRO-302A | digital frequency display, $30-300 \mathrm{mHz}$, for use with <br> 21.4 mHz IF receivers, 6 digit Nixie display, DAFC output, <br> 1/2 rack width, cost $\$ 3200$ (1968) |
| DRO-302A-2 | digital frequency counter, same specs as DRO-302A except with BCD outputs |
| DRO-302B | digital frequency display, $0.1-500 \mathrm{mHz}, 6$ digit LED readout, $21.4 \& 60 \mathrm{mHz}$ IF presets (modifiable to any IF preset in increments of 0.1 mHz , solid-state, DAFC, half rack width (have manual) |


| DRO-307 | ```digital frequency display, 30-300mHz, 6 digit Nixie readout, 21.4mHz IF preset, DAFC control of four rcvrs w/ last two digits independently selectable for each rcvr, BCD outputs for all four receivers``` |
| :---: | :---: |
| DRO-307-1 | digital frequency display, $0.5-30 \mathrm{mHz}, 65 \mathrm{mHz}$ IF preset, otherwise similar to DRO-307, used w/232 tunable filters |
| DRO-308 | ```digital frequency display, 2-300mHz, 21.4mHz offset, digit Nixie display, DAFC, component of RS-160 Pan-Man receiving system, mounts in SM-7301 frame 5.25" high``` |
| DRO-309A | digital frequency display, $0.1-1060 \mathrm{mHz}$, same specs as DRO-302B (have manual) |
| DRO-309B | same specs as 309A, newer IC counter circuitry |
| DRO-310 | digital frequency display, $0.1-300 \mathrm{mHz}(4 \mathrm{gHz} \mathrm{w} / \mathrm{plug}-i n$ mixers), 6 digit, 21.4 mHz presets, multiple inputs, (mil CP-943/GLA-21), has accessory slot for mixers, SDU, ACL tuning heads. |
| DRO-311 | digital frequency display, $20-500 \mathrm{mHz}$, automatic IF offset when used with 565 or WJ- 8730 series, time-shares control of four receivers, drives up to four RD-105 remote displays |
| DRO-312 | digital frequency display, $0.01-1000 \mathrm{mHz}$ |
| DRO-315 | digital frequency display, $0.1-500 \mathrm{mHz}$, identical to DRO-302B except full rack width, 1-3/4" high (have manual) |
| DRO-333 | digital frequency display, $0.1-1060 \mathrm{mHz}$, identical to DRO-309A except full rack width, 1-3/4" high (have manual) |
| DRO-333A | same as DRO-333 except with ICs instead of discrete components in the counter section |
| DRX-308 | frequency extender for $\mathrm{DRO}-308,300-1000 \mathrm{mHz}$, rack mount 1.75" high |
| DRX-1000 | frequency extender for DRO-300 and DRO-302 counters, $235-1000 \mathrm{mHz}$, also extends DAFC operation, half rack width |
| DTF-101 | test module for DM-4 demodulator, test DM-4 by plugging into any of the four module slots, cost $\$ 225$ (1965) |
| EC-101 | extender cable for $D M-4$ module, allows for testing of IFD units outside of DM-4, cost $\$ 150$ (1965) |
| EF-101 | equipment frame, single unit rack mount for $1 / 2$ rack width units with front panels 3.25 "h X 8.0"w |
| 8 | 158 |


|  | RF multicoupler for 12 receivers w/ 50 ohm and 5 dB max <br> noise figure and an RF test signal generator |
| :--- | :--- |
| EF-160 | cabinet for RS-160 Pan-Man receiving system |


| FT-207 | wideband IF to tape converter, 21.4 mHz input, 2.15 mHz center output, 300 kHz or 4 mHz BW output to recorder |
| :---: | :---: |
| FT-210 | IF-tape converter, 21.4 mHz input, 1.075 mHz output, data bandwidth of $150 \mathrm{kHz}-2 \mathrm{mHz}$, half rack width |
| FT-210E | same as FT-210 except has equalizer for min group delay |
| FT-222 | narrowband IF to tape converter, 21.4 mHz input, 20 or 200 kHz center frequency output, 500 kHz BW |
| FT-4557 | frequency translator, 455 kHz input, staggers the IF outputs of up to six receivers between 580 Khz and $1330 \mathrm{kHz}, 50 \mathrm{kHz}$ BW, cost $\$ 2900$ (1965) |
| HFM-8 | ```antenna multicoupler, 2-30mHz, 750hm impedance, 8 outputs, 10dB maximum noise figure, 8dB gain, quick change connector outputs on rear (like RCA video patch bays), 8lbs, cost $400 (1964)``` |
| HFM-8-1 | same specs as HFM-8 except connectors on front panel |
| HFM-8-2 | same specs as HFM-8 except BNC on front panel |
| HFM-8-3 | same specs as HFM-8 except BNC on rear panel |
| HH-11 | tuning head, $2-30 \mathrm{mHz}$, for use with 205 series and 215 Pan-Man receivers, low intermod design, dual conversion, 67.8 and 21.4 mHz IFs, max noise figure 15 dB |
| HH-11-1 | tuning head, $0.9-30 \mathrm{mHz}$, otherwise identical to $\mathrm{HH}-11$ |
| HPF-2 | high pass filter accessory for HPM-8 series, attenuates below 2 mHz |
| IFC-162 | frequency converter, 160 mHz IF input, 21.4 mHz output |
| IFD 4-300 | dual wideband 21.4 mHz IF demodulators |
| IFD-5 | demodulator plug-in for $\mathrm{DM}-4, \mathrm{AM} / \mathrm{FM} / \mathrm{CW}, 5 \mathrm{kHz}$ bandwidth |
| IFD-15 | demodulator plug-in for DM -4, AM/FM/CW, 15 kHz bandwidth |
| IFD-50 | demodulator plug-in for $\mathrm{DM}-4, \mathrm{AM} / \mathrm{FM} / \mathrm{CW}, 50 \mathrm{kHz}$ bandwidth |
| IFD-100 | demodulator plug-in for DM-4, AM/FM/CW, 100 kHz bandwidth |
| IFD-103 | demodulator, 21.4 mHz input, $\mathrm{BW}=10 / 50 / 100 / 300 \mathrm{mHz}$, provides AM and FM output and predetection IF output for recording |
| IFD-200 | demodulator plug-in for DM-4, AM/FM/CW, 200 kHz bandwidth |
| IFD-201 | demodulator, 21.4 mHz input, $\mathrm{BW}=10 / 50 / 300 / 1000 \mathrm{kHz}$, provides |

AM and FM output and predetection $I F$ output for recording, half rack width

| IFD-210 | demodulator, 160 mHz input, $\mathrm{FM}, \mathrm{BW}=10 / 22 \mathrm{mHz}(8.5 \mathrm{mHz}$ video), component of TDS-100 system |
| :---: | :---: |
| IFD-500 | demodulator plug-in for DM-4, AM/FM/CW, 500 kHz bandwidth |
| IFD-1000 | demodulator plug-in for $\mathrm{DM}-4, \mathrm{AM} / \mathrm{FM} / \mathrm{CW}, 1 \mathrm{mHz}$ bandwidth |
| IFD-2000 | demodulator plug-in for DM-4, AM/FM/CW, 2 mHz bandwidth |
| IFD-4000 | demodulator plug-in for $\mathrm{DM}-4, \mathrm{AM} / \mathrm{FM} / \mathrm{CW}, 4 \mathrm{mHz}$ bandwidth |
| IFD-8000 | demodulator plug-in for $\mathrm{DM}-4, \mathrm{AM} / \mathrm{FM} / \mathrm{CW}, 8 \mathrm{mHz}$ bandwidth |
| LIF-107 | Log IF demodulator, component of RS-112 receiving system |
| MC-103 | master control, component of RS-112 receiving system |
| MD-50 | autoscan motor tuning drive, adapts single tuner units to automatic tuning |
| MD-100 | same specs as MD-50 except designed for dual tuner units |
| MD-104 | same specs as MD-50 except designed for four tuner RS-111 |
| MTF-100A | microwave tuner frame, accepts two $T H-$ series tuning heads, 160 and 21.4 mHz outputs, AFC, AGC and DAFC inputs |
| MTF-101 | microwave tuner frame, slave to MTF-100A, adds space for two additional TH- series tuning heads |
| MTF-102A | microwave tuner frame, accepts one $T H-$ series tuning head, 160 and 21.4 mHz outputs, AFC, AGC and DAFC inputs |
| MP-101 | carrier level meter panel, read peak or average, 21.4 mHz IF input, contains IF strip and AM detector |
| MP-102 | deviation and tuning meter panel, 21.4 mHz IF input, contains IF strip and FM detector |
| MPP-101 | microwave pan preselector, contains four YIG preselectors for each of $1-2 / 2-4 / 8 / 8-12 \mathrm{gHz}$, requires $\mathrm{PS}-103$, component of $\mathrm{RS}-112$ receiving system |
| NS-101 | noise silencer demodulator plug-in for $D M-4, A M / C W, 2 m H z$ pre-ANL BW, 15 kHz overall BW, 2.75 lbs, cost $\$ 800$ (1965) |
| PEC-401 | portable equipment case, holds one 440 or 441 receiver, battery operation w/ built-in nicad charger, built-in speaker and whip antenna |


| PR-101 | preamplifier, 23 dB gain, 4.5 dB noise figure, component of TDS-100 system |
| :---: | :---: |
| PS-103 | power supply, component of RS-112 receiving system |
| PTM-101 | pan tuner module, contains mixers, LO and IF preamps, component of RS-112 receiving system |
| RD-105 | remote frequency display, for use with DRO-311 |
| S-9203A | speaker panel, half rack version of S-9903D |
| S-9901A | speaker panel, $2.5 " x 10 "$ speaker, 600 ohm, headphone jack, cost $\$ 75$ (1965) |
| S-9902A | same as S-9901A except with 7 input selector switch cost \$100 (1965) |
| S-9903D | ```amplified speaker panel, 2.5"x10" speaker, 5 watt audio amp, 10k input impedance, 7 input selector switch, headphone jack, cost $160 (1965)``` |
| S-9908B | same specs as $S-9903$ D except with eighth input position for microphone and BNC monitor output, cost $\$ 225$ (1965) |
| SFM-1 | standard frequency multiplier, 1 mHz standard input, $50 / 100 / 500 / 1000 \mathrm{mHz}$ output, 1vrms output |
| SOR-1A | signal operated relay, controls up to two devices with contact closure on voice, positive-going or negativegoing DC, self-contained 6"w X 3.5"h X 7.75"d |
| SP-101 | storage panel for modules used with DM-4, cost \$125 (1965) |
| SWP-101 | RF/IF switch panel, 3 inputs, 4 outputs, used in RS-125 |
| SWP-104 | RF/IF switch panel, 4 inputs, 4 outputs, used in RS-125 |
| SWP-602 | IF switch panel, 6 position, used with SDU to monitor several receivers, $1 / 2$ rack width unit |
| TDM-101 | demodulator, $60-108 \mathrm{kHz}$, SSB , twelve outputs $300-3500 \mathrm{~Hz}$, component of TDS-100 |
| TDM-102 | demodulator, $12-60 \mathrm{kHz}$, SSB, twelve outputs $300-3500 \mathrm{~Hz}$, component of TDS-100 |
| TDM-110 | demodulator, ten $60-108 \mathrm{kHz}$ inputs, SSB , ten outputs $300-$ 3500 Hz , component of TDS-100 |
| TF-101 | Tape to IF converter, converts tape recorder output centered at 750 kHz into standard 21.4 mHz |
| TF-102 | similar to TF-101 except with adjustable output freq |


| TF-103 | tape to $I F$ converter, converts video signals in 40 kHz to 4 mHz range to 21.4 mHz IF output, companion to IFD-103 |
| :---: | :---: |
| TF-201 | half rack unit of TF-101 |
| TF-202 | half rack version of TF-102 |
| TF-210 | tape to IF converter, 1.075 mHz input center frequency, 21.4 mHz output, digital thumbwheel frequency control |
| TFC-101 | converter, $60 \mathrm{kHz}-4 \mathrm{mHz}$ input, twelve outputs in $312-552 \mathrm{kHz}$ range (CCITT supergroups 1-10), component of TDS-100 system |
| TFC-105 | ```converter, 2548-4028kHz input, six outputs in 312-552kHz range (CCITT supergroups 11-16), component of TDS-100 system``` |
| TFC-212 | converter, $312-552 \mathrm{kHz}$ input, five $60-108 \mathrm{kHz}$ outputs, component of TDS-100 system |
| TH-120 | $1-2 g H z$ drop-in tuner for 112 receiver and MTF-series microwave tuning frames, filmstrip dial, 11 dB max noise figure, four section YIG preselector, 160 mHz IF out, $B W=22 \mathrm{mHz}$ @ $-3 \mathrm{~dB}, 3.15 \mathrm{~h} \mathrm{~h}$ x 7.75 m w x 14.9 d , 81bs |
| TH-120R-5 | wideband version of $\mathrm{TH}-120,50 \mathrm{mHz}$ @ -3 dB , otherwise same |
| TH-145R | $1-4.5 \mathrm{gHz}$, 16 dB noise figure, 4 digit LED readout, electronically tuned, otherwise same as TH-120 |
| TH-240 | $2-4 \mathrm{gHz}, 18 \mathrm{~dB}$ max noise figure, otherwise same as $\mathrm{TH}-120$ |
| TH-245 | $2-4.5 \mathrm{gHz}, 20 \mathrm{~dB}$ max noise figure, otherwise same as TH-120 |
| TH-245R-5 | wideband version of $\mathrm{TH}-245,50 \mathrm{mHz}$ @ -3 dB , otherwise same |
| TH-480 | $4-8 \mathrm{gHz}$, otherwise same as TH-240 |
| TH-480R-5 | wideband version of $\mathrm{TH}-480,50 \mathrm{mHz}$ @ -3 dB , otherwise same |
| TH-812 | $8-12 \mathrm{gHz}$, otherwise same as $\mathrm{TH}-240$ |
| TH-812R-5 | wideband version of $\mathrm{TH}-812,50 \mathrm{mHz} @-3 \mathrm{~dB}$, otherwise same |
| TH-1218R | $12-18 \mathrm{gHz}, \mathrm{BW}=50 \mathrm{mHz}$ @ -3 dB , otherwise same as $\mathrm{TH}-240$ |
| TSU-103B | tuner switching unit, works with 205, 205-2 or 215 Pan-Man receivers, manual selection of tuners, holds up to 3 tuners, part of RS-160, see RS-160 for details |
| TSU-160 | ```tuner switching unit, works with 205, 205-2 or 215 Pan-Man receivers, manual selection of tuners, holds up to 7 tuners, part of RS-160, see RS-160 for details``` |


| UH-11 | plug-in tuner, 250-500mHz, for 205, 205-2 or 215 |
| :---: | :---: |
| UH-12 | plug-in tuner, $0.5-1 \mathrm{gHz}$, for $205,205-2$ or 215 receivers |
| UH-13 | plug-in tuner, $220-440 \mathrm{mHz}$, for $205,205-2$ or 215 receivers |
| UH-101 | plug-in tuner for 565 series receivers, $235-500 \mathrm{mHz}$ |
| UH-102 | plug-in tuner for 565 series receivers, $500-1000 \mathrm{mHz}$ |
| UH-104 | plug-in tuner for 565 series receivers, $490-1000 \mathrm{mHz}$ |
| VDA-4 | ```video distribution amplifier, four outputs, up to 20dB gain, meters four each output, 750hm impedance, 1.5mHz bandwidth``` |
| VH-11 | plug-in tuner, $30-60 \mathrm{mHz}$, for $205,205-2$ or 215 receivers |
| VH-12 | plug-in tuner, $60-120 \mathrm{mHz}$, for $205,205-2$ or 215 receivers |
| VH-13 | plug-in tuner, $100-180 \mathrm{mHz}$, for $205,205-2$ or 215 receivers |
| VH-14 | plug-in tuner, $180-300 \mathrm{mHz}$, for $205,205-2$ or 215 receivers |
| VH-15 | plug-in tuner, $20-40 \mathrm{mHz}$, for $205,205-2$ or 215 receivers |
| VH-16 | plug-in tuner, $40-80 \mathrm{mHz}$, for $205,205-2$ or 215 receivers |
| VH-17 | plug-in tuner, $50-100 \mathrm{mHz}$, for $205,205-2$ or 215 receivers |
| VH-101 | plug-in tuner for 565 series receivers, $20-90 \mathrm{mHz}$ |
| VH-103 | plug-in tuner for 565 series receivers, $90-260 \mathrm{mHz}$ |
| VH-105 | plug-in tuner for 565 series receivers, $200-425 \mathrm{mHz}$ |
| VH-107 | plug-in tuner for 565 series receivers, $100-400 \mathrm{mHz}$ |
| VOR-1A | voice operated relay, single channel unit, half rack |
| VOR-2 | voice operated relay, twelve channel unit, audio or COR detection, recorder interface for end of tape indication, rack mount 5.25" high, modular |
| VOR-6 | voice operated relay, 6 channel unit, individual delay and threshold controls, 20lbs, cost $\$ 815$ (1964) |
| WJ-1234 | System interface unit, multi-functional, microprocessorbased operator/receiver interface, flexible command structure, 48 programmable scan strategies, 3000 emitter mode library file, 500 mHz instantaneous bandwidth display. |
| WJ-8610A | Multiple receiver system control hub, up to 14 receivers |

and a variety of survelliance equipment, software programmable, can be remote controlled by computer

WJ-8971A DF processor, interfaces with 21.4 mHz wideband IF output, usable with receivers from 20 mHz to 1 gHz , pseudo-doppler operation using synchronised antenna commutation and signal handling circuitry, LED compass rosette and three digit LED bearing readout, IEEE-488 controllable, 3 degree accuracy, selectable integration times, requires special antenna: WJ-9872A, WJ-9880(-1), WJ-9871A or WJ-9873, rack mount 5.25" high

WJ-8971A mobile DF antenna for use with WJ-8971A or WJ-8975A, $20-235 \mathrm{mHz}$ and $150-1000 \mathrm{mHz}$

WJ-8971A-5 DF processor, same as WJ-8971A except with multiple IF BWs, bearing offset correction and remote control of IF BWs and integration times

WJ-8971A-6 DF processor, same as WJ-8971A-5 except all functions are remote controllable through an IEEE-488 interface

WJ-8971A-7 DF processor, same as WJ-8971A except with IEEE-488 remote control interface

WJ-8971/AS DF antenna simulator, for alignment of WJ-8971A system
WJ-8972A fixed site DF antenna for use with WJ-8971A or WJ-8975A, $20-150 \mathrm{mHz}$ and $150-1000 \mathrm{mHz}$

WJ-8973 ruggidized DF antenna for use with WJ-8971A or WJ-8975A, $20-235 \mathrm{mHz}$ and $150-1000 \mathrm{mHz}$

WJ-8975A manpack DF processor, line of bearing information for signals in the $20-500 \mathrm{mHz}$ range, LED compass rosette and three digit LED bearing readout, battery powered (internal 10 D cell or magnesium BA-4386 pack) or vehicular supply, used with WJ8640-1 receiver, (mil C-11495/PRD-11)

WJ-8986/AU-3 DF antenna system, consists of 3,4 or 5 vertically polarized 15' monopoles spaced $14^{\prime}$ apart, $2-30 \mathrm{mHz}$, can be used with WJ-8986 with WJ-8986/AAU-1 option

WJ-8986/AU-5 triple interferometer DF antenna bay, $20-1200 \mathrm{mHz}$, ruggedized, 12.7'h, 75lbs

WJ-8992 UHF psuedo doppler DF antenna, $500-1000 \mathrm{mHz}$, used w/WJ-8990
WJ-9061 tuning head, drop-in, $20-90 \mathrm{mHz}$, used in $W J-8730$ series
WJ-9062 tuning head, drop-in, $90-300 \mathrm{mHz}$, used in $W J-8730$ series
WJ-9063 tuning head, drop-in, $200-425 \mathrm{mHz}$, used in WJ-8730 series

| WJ-9064 | tuning head, drop-in, $250-500 \mathrm{mHz}$, used in WJ-8730 se |
| :---: | :---: |
| WJ-9066 | tuning head, drop-in, $30-90 \mathrm{mHz}$, used in WJ-8730 series |
| WJ-9068 | tuning head, drop-in, $490-1000 \mathrm{mHz}$, used in WJ-8730 series |
| WJ-9150 | tuner series, five units covering $1-18 \mathrm{gHz}$, for use with the WJ-9450 demodulator/control unit |
| WJ-9203A | speaker panel, 7 audio inputs, high-Z in, 5 W output, half rack 3.5" high |
| WJ-9222 | 1.75" high version of FT-210 |
| WJ-9222E | 1.75" high version of FT-210E |
| WJ-9230 | upconverter/demodulator for $W J-8640$ (GRR-8), converts 0.5-30 MHz to $100.5-130 \mathrm{MHz}$, built into extra tall cover for the receiver |
| WJ-9240 | 1.75" high version of IFC-162 |
| WJ-9290 | ```microwave block downconverter, extends WJ-8609A-1 miniceptor to microwave range, tailored to specific communication bands, 10-14VDC, 4W, 0.75"h x 3.5"w x 6.0"d, 15oz``` |
| WJ-9310 | antenna multicoupler, twelve outputs, $20-1000 \mathrm{mHz}, 2 \mathrm{~dB}$ gain, noise figure: $6.5 \mathrm{~dB}(20-300 \mathrm{mHz}$; $8.5 \mathrm{~dB}(300-1000 \mathrm{mHz})$, used in RS-180 system |
| WJ-9311 | antenna multicoupler, twelve outputs, $0.5-30 \mathrm{mHz}, 2 \mathrm{~dB}$ gain, max noise figure 7 dB |
| WJ-9314 | antenna multicoupler, four outputs, $20-1100 \mathrm{mHz}$ |
| WJ-9315 | antenna multicoupler, twelve outputs, $20-1100 \mathrm{mHz}$, multiple antenna inputs |
| WJ-9395 | tunable demod, $1-900 \mathrm{kHz}, \mathrm{AM} / \mathrm{FM} / \mathrm{SSB}$, five digit LED readout, DAFC, BWs: $2 / 4 / 8 / 16 \mathrm{kHz}$ (AM/FM); $1 / 2 / 4 / 6 \mathrm{kHz}$ (USB/LSB), portable packaging 10"w x 12"d x 4"h |
| WJ-9424 | ```voice grade channel demodulator, up to 30 demods in single half rack case, demodulates VFT, modem & FAX voice grade signals, upgradeable through firmware, 3.5"h x 8.25"w x 22"d, 20lbs``` |
| WJ-9450 | ```demodulator/control unit, 160mHz IF input, AM/FM/pulse, 5 digit LED frequency display, 3 independent IFDs w/ 6 BWs per IFD, AFC, works with WJ-9150 series tuners``` |
| WJ-9470 | FSK/OOK demod system, handoff version of WJ-9472 |

WJ-9471 VFT FSK demodulator system, up to 24 independent demods, $200 \mathrm{~Hz}-9.999 \mathrm{kHz}$, phase-locked-loop demodulation, built-in diversity operation

WJ-9472 two channel FSK demodulator system, FSK or OOK, digital control to 1 Hz of mark and space frequencies from 200-9999 kHz , multipole matched baud rate filters for $10-4000$ baud

WJ-9477 precision tunable demodulator, AM/FM/SSB, 0.001-30mHz, 10 Hz steps, provision for 9 BW filters ( 3 kHz to 5 Mhz ), microprocessor controlled

WJ-9477G tunable demodulator, AM/FM (SSB opt), $0-31 \mathrm{mHz}, 10 \mathrm{~Hz}$ steps, provision for 9 BW filters ( $3.2 \mathrm{kHz}-6 \mathrm{mHz}$ ), microprocessor controlled, $3.5 " \mathrm{~h}$ x 8.5 "w x 21 ld , 201bs

WJ-9480 tunable demodulator system, consists of 2 units; tuner/IF amp and demod, $0.1-30 \mathrm{mHz}, 100 \mathrm{~Hz}$ steps, simultaneous AM/FM/PM detection, 13 IF BWs ( $3 \mathrm{kHz}-20 \mathrm{mHz}$ ), IEEE-488 remote, $21.4 \& 160 \mathrm{mHz}$ inputs, $21.4 / 70 / 160 \mathrm{mHz}$ outputs, each section is $5.25 " \mathrm{~h}$ x 19 "w x 22 "d, tuner: 44lbs, demod: 54lbs

WJ-9497 tunable demodulator, $0-90 \mathrm{mHz}$ or 160 mHz IF, 1 Hz steps, AM/FM/SSB, programmable bandwidth from $100 \mathrm{~Hz}-20 \mathrm{mHz}$, BITE, $3.5 " \mathrm{~h}$ x 8.5 "w x 21 m , 201bs

WJ-9518A FDM demodulator, six independent SSB demodulators tunable from $0-15 \mathrm{mHz}$, local or IEEE-488 control, preprogrammed tuning for standard CCITT 960 or 2700 channels, scanning available in increments of 1 kHz to 1 mHz or discrete frequency tuning. Single control and readout for all six tuners. Rack mount 3 U high (5-1/4")

WJ-9518AE same as $W J-9518 A$ except with delay equalized demodulators

WJ-9518B FDM demodulator, six independent SSB demodulators tunable from $0-15 \mathrm{mHz}$, local or IEEE-488 control, preprogrammed tuning for standard CCITT 960 or 2700 channels, scanning available in increments of 1 kHz to 1 mHz or discrete frequency tuning. Individual control and readout for each tuner. Rack mount 2 U high (3-1/2")

WJ-9525 FDM demodulator, consists of four /DU demodulator units, one /CU control unit and one /CRF controller rack frame

WJ-9548 digital FDM demultiplexer, up to 24 tunable FDM channel demods in a single half rack case, channels tune $0-20 \mathrm{mHz}$ in 1 Hz steps, 4 analog baseband inputs, 8 line by 40 char LCD display, 3.5"h x 8.25"w x 20"d, 20lbs

WJ-9605 receiver front panel, provides local control for 1 or 2 WJ-8607 miniceptors, or remote control of $W J-8700$ receiver,
3.5 "h x 8.3 "w x 3.14 d , 2.21bs

WJ-9607 multi-receiver front panel, provides for local control of up to 29 HPIL interfaced WJ-8607s, WJ-8609s or WJ-8809s,


WJ-9644A receiver controller, can operate up to 32 WJ-8718 receivers through RS-232 interface

WJ-9773-1 voice operated relay, two channels, rack mount 1.75" high
WJ-9773-2 voice operated relay, four channels, rack mount 1.75" high
WJ-9880 DF antenna, manpack, for use with WJ-8971A or WJ-8975A, $20-175 \mathrm{mHz}$

WJ-9880-1 DF antenna, manpack, for use with WJ-8971A or WJ-8975A, $20-175 \mathrm{mHz}$ and $150-850 \mathrm{mHz}$

WJ-9881 DF antenna, $20-512 \mathrm{mHz}$, used w/WJ-8990 system
WJ-9886-1 DF antenna, $20-1000 \mathrm{mHz}, 2$ bays of vertically polarized elements, used w/WJ-8986 system

WJ-9886-1A DF antenna, $20-2000 \mathrm{mHz}, 3$ bays of vertically polarized elements, used w/WJ-8986 system

WJ-9886-2 DF antenna, $20-1200 \mathrm{mHz}$, similar to $W J-9886-1$ except in a smaller package, used w/WJ-8986 system

WJ-9902 equipment frame, houses 1 or 2 WJ-8706 or WJ-8609A miniceptors, intergral AC supply, optional host interface, can be fitted with WJ-9605 front panel, 3.5 "h x 8.5"w x 20 cd , 10lbs

WJ-9903E speaker panel, 7 audio inputs, high-Z in, 5W output, full rack 3.5" high

WJ-9908 equipment frame, houses up to 8 WJ-8706 or 8709A miniceptors, integral AC supply, optional host interface, 8.75"h x 19"w x 21"d, 201bs

WJ-9930-10 IF amplifier w/ 10 kHz BW and limiter discriminator, used in WJ-9028, WJ-8730 series and 565A

WJ-9930-20 same as WJ-9930-10 except 20 kHz BW
WJ-9930-50 same as WJ-9930-10 except 50 kHz BW

WJ-9930-100 same as WJ-9930-10 except 100 kHz BW
WJ-9930-200 same as WJ-9930-10 except 200 kHz BW

| WJ-9930-300 same as WJ-9930-10 except 300 kHz BW |  |
| :---: | :---: |
| WJ-9930-500 | 0 same as WJ-9930-10 except 500 kHz BW |
| WJ-9930-1M | same as WJ-9930-10 except 1mHz BW |
| WJ-9930-2M | same as WJ-9930-10 except 2 mHz BW |
| WJ-9930-3M | same as WJ-9930-10 except 3mHz BW |
| WJ-9948 b | blower module, for cooling a rack, 3,6 or 9 blowers, rack mount $1.75 "$ high |
| WJ-9949 | speaker panel, five input, 1 watt output, half rack |
| WJ-9950 | speaker panel, on/off switch, unamplified |
| WJ-9951 | equipment frame, similar to EF-201 |
| Systems: |  |
| Model | Description |
| AN / PRD-11 | VHF/UHF radio DF system, $20-512 \mathrm{mHz}$, consists of WJ8640-1 receiver, WJ8975A DF processor, WJ-9180-1 SDU and WJ9880A antenna |
| AN/TLQ-504 communications jamming system, military version of WJ-4810 |  |
| RS-112 | microwave Pan-Man receiving system, continuous four band simultaneous scanning of $1-12 \mathrm{gHz}$, components may include: MPP-101 microwave pan preselector, PTM-101 pan tuner module, PS-103 power supply, LIF-107 log IF demod, MC-103 master control, PD-602 pan display, EF-602 equipment frame, PD-102 pan display, PD-201 pan display, MT-112 microwave tuner, DM-112 demod, 112 microwave receiver, SM1622 SDU |
| RS-125 | receiving system, coverage of $10-2000 \mathrm{mHz}$ available with four demodulators provide bandwidths ranging from 5 kHz to 8 mHz , basic system consists of SM-9401A, UT-1000C, VT-30C, SWP-104, DM-4C and S-9901, versatile sytem available in many configurations with no specialized components |
| RS-158 | receiving system, allows simultaneous monitoring of up to 12 channels in $20-80 \mathrm{mHz}$ range using 410 series plug-in receivers, basic components include 410 receiver, DRO-270 counter and EF-158 equipment frame containing multicoupler and RF test signal generator |
| RS-160 | Pan-Man receiving system, allows full band or sector scanning (pan/sector and remote with 205-2 or 215 receiver), basic single band configuration consists of |


|  | 205 receiver, DRO-308 counter and SM-7301 SDU, uses HH-xx, VH-xx and UH-xx series tuning heads for $2-1000 \mathrm{gHz}$ coverage, DRX-308 frequency extender required for digital readout of UH- series tuners, TSU-160 tuner switching unit expands capacity to manual selection of up to 7 tuners, CSU-160 tuner switching unit permits sequential scanning (autostep) of up to 7 tuners, TSU-103B is similar to CSU-160 except it can only hold three tuning heads, additional options include VM-101, UM-101 and UM-160 marker generators, FS-101 $2-300 \mathrm{mHz}$ synthesizer, FS-102 $2-1000 \mathrm{mHz}$ synthesizer and EF-160 equipment cabinet, later versions of the system include $205-2$ receiver which adds pan/sector and remote scanning or 215 receiver which adds TTL digital control and the DRO-335 counter which counts to 1 gHz w/o an extender |
| :---: | :---: |
| RS-168 | EMC version of RS-180, other specs unknown |
| $R S-180$ | receiving system, AM/FM (CW opt), $30-1000 \mathrm{mHz}$ with 480 series tuners, components include DRO-280A counter, WJ-9310 multicoupler and EF-180A equipment frame for up to six 480 series rcvrs or EF-182A for up to 12 rcvrs, receivers time share the counter and DAFC functions, all receivers can monitor from a single broadband antenna |
| TDS-110 | carrier demultiplexing system, for microwave telephone signals in the $3.7-4.2 \mathrm{gHz}, 960$ channels in 16 CCITT supergroups, consists of FE-3442 tuner, IFD-210 IF-tape demod, SM-1622 SDU, TFC-101 supergourp converter, TFC-105 supergroup converter, TFC-212 basic supergroup converter, TDM-101 basic group demod, TDM-110 basic group demod, PR-101 LNA, ANT-101 antenna, APR-101 antenna/preamp |
| WJ-1007 | microwave collection system, $1-18 \mathrm{gHz}$, surveillance set for detection and categorization emission parameters, computer controlled |
| WJ-1026 | ```electronically swept receiving system, 1-18gHz, ruggidized and remote controlled (up to 550 feet) for airborne or shipboard applications``` |
| WJ-1047 | dual channel receiving system, $0.5-12 \mathrm{gHz}$, digitally tuned system designed for airborne DF and ELINT operation |
| WJ-1088 | airborne receiving system, $0.4-17.5 \mathrm{gHz}$, designed for antenna pattern analysis, all data recorded digitally |
| WJ-1140 | modular microwave receiving system, $0.5-18 \mathrm{gHz}$, extremely ruggdized compact system for ECM, ELINT, surveillance, <br> tracking and broadband communications, digitally controlled |
| WJ-1154 | frequency synthesizer, $1-12.4 \mathrm{gHz}$ in 1 mHz steps, $B C D$ controllable by appropriate WJ receiver |


| WJ-1920 | Multi-parameter distributed processing system, dual |
| :--- | :--- |
|  | reception using wide-band IFM receiver and a narrow-band |
|  | superhetrodyne receiver design creates high probability of |
|  | signal intercept, frequency-domain and time-domain |


|  | on-the-move operation, $1-1300 \mathrm{mHz}(2 \mathrm{gHz}$ opt), entire system fits into an ALICE pack, 19 "h x 22 "w x 12 "d, 50lbs |
| :---: | :---: |
| WJ-8996 | correlative vector DF, 2 or 4 channel, $1-2000 \mathrm{mHz}$, ruggidized, lower power consumption (10w) for covert/field deployment, options include RS-232 or ethernet interface and quick reaction analysis scan ( $100 \mathrm{mHz} / \mathrm{sec}$ ) |
| WJ-8999 | portable EMC/Tempest test receiver, $1 \mathrm{kHz}-1 \mathrm{gHz}$ coverage (1-12.4gHz opt), AM/FM/CW/Log, operating modes: fixed, scan/plot, scan/monitor, or remote, 18 IF BWs $100 \mathrm{~Hz}-50 \mathrm{mHz}$ (100/200mHz opt), optional built-in signal monitor, designed for EMC, wideband ambient RF surveys, signal <br>  |
| WJ-9023C | wide range receiving system, $30 \mathrm{mHz}-12.4 \mathrm{gHz}$, high resolution digital tuning, local or remote control, basic ssytem: WJ-9023C/TSU tuner sythesizer unit, WJ-9023C/IFD IF demod, WJ-9023C/DCU digital control unit and WJ-9023C/ICU interface control unit |
| WJ-9028 | receiving system, $20-1000 \mathrm{mHz}$, $\mathrm{AM} / \mathrm{FM} / \mathrm{CW} / \mathrm{pulse}$, consists of two units, WJ-9028/RU receiving unit and WJ-9028/DU display unit, RU contains four tuners, COR, AFC, DAFC and provisions for up to $3 \mathrm{WJ}-9930$ IF amp/demod modules (10 BWs), DU contains counter and SDU, complete system is rack mount 5.25" high |
| WJ-9040B | receiving system, $5 \mathrm{kHz}-23 \mathrm{gHz}$, multipurpose system for RFI/ EMI compatibility investigations, wide-band surveillance and narrow-band analysis. Composed of digital control unit (DCU), tune/synthesizer unit (TSU), IF demodulator (IFD) and auxiliary synthesizer unit (ASU), TSUs provide coverage from $5 \mathrm{kHz}-1 \mathrm{gHz}(20 \mathrm{~Hz}-23 \mathrm{gHz}$ opt), resolution 1 Hz across the range, 11 fixed-tuned and varactor-tuned preselection bandpass filters, autoranging antenna attenuator, IFDs provide bandwidths ranging from $200 \mathrm{~Hz}-50 \mathrm{mHz}$ centered on $100 \mathrm{kHz}, 21.4 \mathrm{mHz} \& 160 \mathrm{mHz}$, Operator interface consists of 32 key keyboard, tuning wheel, analog controls for audio and IF gain, 256 character LCD alphanumeric display |
| WJ-9045 | modular tactical receiving system, $5 \mathrm{kHz}-440 \mathrm{mHz}$ using a series of receivers, digital control, DF capable |
| WJ-9088 | frequency management system, signal collection, measurement, modulation identification, sorting and management of signals from 10 kHz to 1 gHz in 10 Hz steps, AM/FM/FM phase/CW/OOK/LSB/ USB and noise, tuning time of $20-250 \mathrm{mS}$, controlled by PDP-11 computer which can record, sort and edit up to 30,000 signals via color monitor and function keys. |
| WJ-9103 | multichannel digital tuner, consists of up to 8 WJ-9103/DTM digital tuner modules, tunable LOs, equalization signal source, digital controller and support circuitry, $20-500 \mathrm{mHz}$ |

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            (20-2000mHz w/ extender opt), 2mHz instantaneous bandwidth
                (4mHz opt), for precision DF, spectral analysis, antenna
                    beamforming, 5.25"h x 19"w x 22"d, 55lbs
WJ-9104 multichannel digital tuner, similar to WJ-9103 except
        20-2400mHz range for each channel, 10mHz instantaneous
        bandwidth, options include LF/HF capability (0-33mHz),
        programmable IF BWs (4kHz-10mHz), serial/fiber optic data
        output, ethernet or high-speed serial control interface,
        20mHz instantaneous BW
WJ-9195 rapid acquisition spectrum processor (RASP), digitally
        refreshed display unit, controls a specially configured
        WJ-8618B-2 or WJ-8618B-15 receiver for extremely fast
        display of radio spectrum. Will not operate properly with
        any other WJ-8618B receivers. Rack mount 8.75" high.
WJ-9195C rapid acquisition spectrum processor (RASP), broadband
        receiver and spectrum display device, 20-512mHz (expandable
        2mHz to 4gHz), 1gHz per second scan rate (!!!), 5 or 25kHz
        resolution, electroluminescent display, six programmable
        traces, manual or remote computer control, Can act as a
        system controller for up to 15 WJ904 receivers, rack mount
        8.75" high, 89lbs.
WJ-32320 ELINT/ESM system, 0.5-18gHz, tells you everything you want
        to know about every kind of emitter in the area including
        its location as determined by triangulation and GPS. Not
        for mere mortals.
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