# Communications Electronics, Inc. <br> and Watkins Johnson <br> Receivers and Tuners Guide 

08/03/05
This is an ongoing project. I'm always looking for more information, particularly on the variants denoted by the $-x$ suffixes. Copyright 2005 by Terry O'Laughlin.
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All units are rack mount 3.5" high unless noted.

| 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 |
| 112-5 | 4-8GHz | 1/2/4/10/20MHz | same as 112 except for BW and coverage |
| 112R | 1-18GHz |  | EMC version of 112 |
| 205 | ```2-1000MHz HH-, VH- or UH- series tuners``` | $\begin{aligned} & 10 / 50 / 300 \mathrm{khz} / \\ & 1 \mathrm{MHz} \end{aligned}$ | 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, 191bs |
| 205-2 | $2-1000 \mathrm{MHz}$ | $\begin{aligned} & 10 / 50 / 300 \mathrm{khz} / \\ & 1 \mathrm{MHz} \end{aligned}$ | ```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 | $2-1000 \mathrm{MHz}$ | $\begin{aligned} & 10 / 50 / 300 \mathrm{khz} / \\ & 1 \mathrm{MHz} \end{aligned}$ | similar to 205-2 except w/ TTL digital remote |


|  |  |  | interface |
| :---: | :---: | :---: | :---: |
| 215-4 |  | $50 / 300 \mathrm{kHz} / 1 / 5 \mathrm{MHz}$ | Otherwise similar to 215 |
| 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 | 2-32MHz | 6 kHz | same as 232-1 except with 25 kHz final IF |
| 301A | $3-30 \mathrm{kHz}$ | 200 Hz | round dial, $A M / C W$, 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, $A M / C W$, three band 30-60/60-140/140-300 kHz, 455 kHz IF, AGC, solidstate, 13.51 bs, 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 |
| 340A-4 | 1-900kHz | $0.15 / 1 / 3 / 30 \mathrm{kHz}$ | 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 | 1-900kHz | $0.4 / 1 / 2 / 5 / 10 \mathrm{kHz}$ | same as 340A except for BW |
| 340A-8 | 1-900kHz | $0.3 / 1 / 3 / 20 / 50 \mathrm{kHz}$ | 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 | $1-600 \mathrm{kHz}$ | 1/6/20/50kHz | AM/FM/USB/LSB/CW/Pulse, filmstrip dial, solidstate, ant. atten., BFO w/var/5. $5 \mathrm{kHz} / \mathrm{USB} / \mathrm{LSB}$ |
| 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, solidstate, 20lbs, cost $\$ 2500$ (1967) |
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| 355 | $1-600 \mathrm{kHz}$ | 1/6/20/50kHz | 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 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. $5 \mathrm{kHz} / \mathrm{USB} / \mathrm{LSB}$, noise limiter, audio BW filter, 2 MHz IF, solidstate, (have manual) (mil versions: R-1401 and R-1490A/G), 201bs, cost $\$ 4200$ (1967) |
| 371A | 0.5-10MHz | 6/20/100/400kHz | AM/FM/CW, filmstrip dial, dual conversion on $6 \& 20 \mathrm{kHz}$ IF BWs ( 21.4 MHz \& 455 kHz ), LO out, SM out ( 21.4 MHz ), designed for RFI detection, solid-state, 251 lbs, cost \$3000 (1968) |
| 372A | 0.5-30MHz | 6/20/100/400kHz | AM/FM/CW, filmstrip dial, designed for RFI detection, solid-state |
| 372A-2 | 0.5-30MHz | 6/20/100/400kHz | same as 372A except has X-Y outputs for recording spectral |
| 373A | 0.5-30MHz | 6/20/100/400kHz | AM/FM/CW, filmstrip dial, dual tuner version of 371A, 25lbs, cost $\$ 3500$ (1968) |
| 373A-2 | 0.5-30MHz | 6/20/100/400kHz | same as 373A except has $\mathrm{X}-\mathrm{Y}$ outputs for recording spectral analysis |
| 373A-6 | 0.5-30MHz | $0.15 / 1 / 20 / 75 \mathrm{kHz}$ | same as 373A except for BW |


| 373A-10 | 0.5-30MHz | 2/20/100/400kHz | same as 373A except for BW |
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| 377A | 0.5-10MHz | 6/20/100/400kHz | 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 | 20-40MHz | 10 kHz | 1 chan xtal controlled, $\mathrm{AM} / \mathrm{CW}, 21.4 \mathrm{MHz}$ IF, $1 / 5$ rack width, 5.25" high, 4.5lbs, cost \$995 (1965) |
| 402-2 | 40-60MHz | 10 kHz | same as 402-1 |
| 402-3 | 60-90MHz | 10 kHz | same as 402-1 |
| 410 | 20-80MHz | 10 kHz | plug-in receiver, AM/FM, activity operated relay (AOR), DAFC input, mounts in EF-158 as part of RS-158 |
| 410-2 | 20-80MHz | 20 kHz | same as 410 |
| 410-3 | 20-80MHz | 50 MHz | same as 410 |
| 415-1 | 60-90MHz | $50 \mathrm{kHz} \quad(100 \mathrm{kHz}$ <br> - special order) | 4 chan xtal controlled, AM only, 21.4 MHz IF, $1 / 4$ rack width, $3.75 "$ wide, 6.75" high, 6.51bs, cost \$995 (1966) |
| 415-2 | 75-110MHz | 50 kHz | same as 415-1 |
| 415-3 | 90-130MHz | 50 kHz | same as 415-1 |
| 415-4 | 110-150MHz | 50 kHz | same as 415-1 |
| 416-1 | 30-90MHz | 2 MHz | 4 chan xtal controlled, pulse only, other specs like 415 |
| 416-2 | 75-110MHz | 2 MHz | 4 chan xtal controlled, pulse only, other specs like 415 |
| 416-3 | 90-130MHz | 2 MHz | 4 chan xtal controlled, pulse only, other specs like 415 |
| 416-4 | 110-150MHz | 2 MHz | 4 chan xtal controlled, pulse only, other specs like 415 |
| 416-6 | 30-90MHz | unknown | 4 chan xtal controlled, other specs unknown |


| 416-12 | 60-260MHz | unknown | same as 416-6 |
| :---: | :---: | :---: | :---: |
| 440-1 | 30-48MHz | $\begin{aligned} & 20 / 50 / 75 \text { or } 100 \\ & \mathrm{kHz} \end{aligned}$ | 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 | 45-72MHz |  | Other specs same as 440-1 |
| 440-3 | 70-105MHz |  | Other specs same as 440-1 |
| 440-4 | 100-160MHz |  | Other specs same as 440-1 |
| 440-5 | 150-220MHz |  | other specs same as 440-1 |
| 440-6 | 210-260MHz |  | Other specs same as 440-1 |
| 441-1 | 30-48MHz | $\begin{aligned} & 20 / 50 / 75 \text { or } 100 \\ & \mathrm{kHz} \end{aligned}$ | xtal control revr, FM only 1/6 rack width, second suffix denotes bandwidth $\begin{aligned} & -1=50 \mathrm{kHz}, \quad-2=20 \mathrm{kHz}, \\ & -3=75 \mathrm{kHz} \quad-4=100 \mathrm{kHz} \end{aligned}$ <br> fit EF-506B rack |
| 441-2 | 45-72MHz |  | Other specs same as 440-1 |
| 441-3 | 70-105MHz |  | Other specs same as 440-1 |
| 441-4 | 100-160MHz |  | other specs same as 440-1 |
| 441-5 | 150-220MHz |  | other specs same as 440-1 |
| 441-6 | 210-260MHz |  | 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: $\begin{aligned} & -1=50 \mathrm{kHz}, \quad-2=20 \mathrm{kHz} \\ & -3=75 \mathrm{kHz} \quad-4=100 \mathrm{kHz} \end{aligned}$ <br> 1/6 rack width, fit EF-506 rack |
| 461-2 | 450-550MHz |  | same as 461-1 |
| 480 series |  |  | these tuners are listed under components as they require the supply in the EF-180A or EF-182A rack |
| 501 | 54-260MHz | $10 / 300 \mathrm{kHz}$ | 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 | 54-260MHz | $10 / 300 \mathrm{kHz}$ | filmstrip dial, AM/FM/CW, |


|  |  |  | video BW filters, built-in speaker, center tune and signal strength meters, 21.4MHz IF, solid-state, 15lbs, cost $\$ 1600$ (1967) |
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| 501A-1 | $54-260 \mathrm{MHz}$ | $10 / 300 \mathrm{kHz}$ | same as 501A except w/AFC |
| 504A | 54-260MHz | $10 / 300 \mathrm{kHz}$ | same as 501A w/addition of $1 \& 5 \mathrm{MHz}$ marker generator, cost $\$ 1750$ (1967) |
| 519 | 20-70MHz | 10/50/300kHz | 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, 181bs, cost \$3100 (1967) (have manual) |
| 521A | 20-70MHz | $4 / 10 / 50 \mathrm{kHz}$ | 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, 18lbs, cost $\$ 3200$ (1967) |
| 521A-1 | 20-80MHz | $4 / 10 / 50 \mathrm{kHz}$ | other specs same as 521A |
| 555 | 90-180MHz | $10 / 20 / 50 \mathrm{kHz}$ | other specs similar to 521A |
| 555-1 | 90-180MHz | $4 / 10 / 50 \mathrm{kHz}$ | 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 | 20-1000MHz | opt w/ WJ-9930 modules | same as 565 except uses drop-in IF/BW/demod units |
| 595 | 220-440MHz | $10 / 20 / 50 \mathrm{kHz}$ | other specs similar to 521A |
| 601 A | $54-260 \mathrm{MHz}$ | $50 / 100 \mathrm{kHz}$ | round dial, $A M / C W, ~ s q u e l c h$, dual conversion, 21.4 MHz \& 2.5MHz 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, $\mathrm{AM} / \mathrm{FM} / \mathrm{CW}$, 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, |



|  |  |  | (mil R-1420/URR) |
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| 906A | $30-300 \mathrm{MHz}$ | $20 / 300 \mathrm{kHz}$ | same as 901B except with $1 \mathrm{MHz} \& 5 \mathrm{MHz}$ xtal marker osc and COR, cost \$2175 (1966) |
| 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, <br> two tuners: 30-100/60-300 <br> 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 100-150MHz, 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, <br> 7077 \& solid-state, 16lbs |
| 960B | $30-300 \mathrm{MHz}$ | $20 / 200 \mathrm{kHz}$ | 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 | 10-90MHz | 10/50/200kHz | ```round dials, AM/FM/CW, two tuners: 30-90/10-30MHz, 21.4MHz IF, l7lbs, 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 kHz BW only) 21.4 MHz \& 2.5MHz 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 |
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| 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 | 235-1000MHz | 2 MHz minimum | military version of FE-25-1 |
| FE-1-2A | $0.95-2.05 \mathrm{GHz}$ | 8MHz 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 | 0.99-2.0GHz | 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 FE-2-4.5 in one box, cost \$8500 (1967) |
| FE-2-4 | 2.0-4.0GHz | 8MHz minimum | converter, round dial, 160 MHz IF out, 18 dB max noise figure, tunable YIG preselector, AGC in, rack mount 5.25" high, 20lbs, cost $\$ 4000$ (1965) |
| FE-2-4.5 | 1.95-4.5GHz | 8MHz minimum | same specs as FE-1-2B 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 | 8-12GHz | 8MHz 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 | 235-1000MHz | 2 MHz minimum | converter, round dials, two tuners: 235-500/490$1000 \mathrm{MHz}, 60 \mathrm{MHz}$ IF out, 10 dB noise figure, 7077s, 7486 \& nuvistors, 18lbs, cost $\$ 1400$ (1967) (mil |


|  |  |  | version: CV-1750) |
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| FE-26 | 235-1000MHz |  | other specs unknown |
| FE-103 | 10-30MHz | 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 | 3.7-4.2GHz | 20 MHz | converter, 160 MHz IF out, $20 \mathrm{MHz} \mathrm{BW}, 15 \mathrm{~dB}$ noise figure compnent of TDS-100 system |
| HF-1000 | 0.005-30MHz | 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, 47-440Hz, current issue commercial version of WJ-8711 |
| HT-10 | 0.5-10MHz | 400 kHz | converter, 21.4 MHz out, 7 dB noise figure, input attn, 15lbs, cost $\$ 2000$ (1967) used in RS-125 |
| LT-1-2 | 1.0-2.0GHz | 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 | 0.95-2.05GHz | 8 MHz minimum | converter, 21.4 MHz out, filmstrip dial, 18dB 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 | 1-18GHz* |  | microwave tuner frame, uses up to four TH- series tuning heads, 160 MHz IF out, rack mount 5.25" high |
| R-1279 | 30-300MHz | $20 / 300 \mathrm{kHz}$ | round dials, nuvistor \& solid-state (mil) |


| R-1401 |  |  |  | military version of 357 |
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| R-1420 |  |  |  | military version of 905A |
| R-1490A/G |  |  |  | military version of 357 |
| RS-111-1B 30-1000MHz 20 |  |  | $\begin{aligned} & 20 / 75 / 300 \mathrm{kHz} / \\ & 2 \mathrm{MHz} \end{aligned}$ | round dials, AM/FM/CW, <br> four tuners: 30-60/60-300/ 235-500/490-1000MHz, <br> built-in SDU, separate 2 MHz IF w/AM and FM continuously available, seperate antenna inputs for VHF and UHF, nuvistors, 7077s, 7486 and solid-state, rack mount 5.25" high, 35lbs, cost $\$ 6250$ (1967) (have manual) (mil URR-52B) |
| RS-111-1B-7 |  | $30-1000 \mathrm{MHz}$ | $\begin{aligned} & 20 / 75 / 300 \mathrm{kHz} / \\ & 2 \mathrm{MHz} \end{aligned}$ | same specs as RS-111-1B except has single antenna input switched to all tuners internally and video output switched between AM \& FM by front panel mode control, cost $\$ 6250$ (1968) |
| RS-111-1B-12 |  | 30-1000MHz | $\begin{aligned} & 20 / 75 / 300 \mathrm{kHz} \\ & / 2 \mathrm{MHz} \end{aligned}$ | same specs as RS-111-1B except contains a 21.4 MHz marker oscillator for SDU cost \$6250 (1968) |
| RS-111-1B-12B |  | $30-1000 \mathrm{MHz}$ | $\begin{aligned} & 20 / 75 / 300 \mathrm{kHz} \\ & / 2 \mathrm{MHz} \end{aligned}$ | same specs as RS-111-1B except contains a 21.4 MHz marker oscillator for SDU and DAFC input, cost \$6250 (1969) |
| S302 | 30- | $300 \mathrm{kHz} \quad 2 \mathrm{k}$ | Hz | scanning version of 302 |
| SCT-4080 | 4-8 | 8GHz 8M | Hz minimum | $\begin{aligned} & \text { scanning version of } \\ & \text { CT-4080, 30lbs, cost } \$ 7250 \\ & (1968) \end{aligned}$ |
| SHT-10 | 0.5 | -10MHz |  | scanning version of HT-10 |
| SLT-1-2 | 1.0 | -2.0GHz 8 M | Hz minimum | scanning version of LT-1-2, 23lbs, cost $\$ 5000$ (1965) specs unknown |
| SLT-1020A | 0.9 | 5-2.05GHz 8M | Hz minimum | same as LT-1020A except w/ motorized automatic tuning, 301bs, cost \$5600 (1967) |
| SST-1045 | 0.9 | 5-4.5GHz 8 M | Hz minimum | same as ST-1045 except w/ motorized automatic tuning, 301bs, cost $\$ 10500$ (1967) |


| ST-1045 | 0.95-4.5GHz | 8MHz minimum | converter, 21.4 MHz out, filmstrip dials, two tuners: 0.95-2.05/1.95-4.5 GHz, 18dB max noise figure, four section YIG tuned preselector, dual conversion, 160 MHz \& 21.4 MHz IFs, AGC in, DAFC in, 25lbs, cost \$8700 (1967) |
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| SST-2045 | 1.95-4.5MHz | 8MHz minimum | sames specs as ST-2045 except with motorized automatic tuning, 301bs, cost $\$ 5600$ (1967) |
| ST-2045 | 1.95-4.5GHz | 8MHz minimum | same specs as ST-1045 except with one tuner, cost $\$ 4200$ (1967) |
| SUT-1000 | 235-1000MHz | 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, 201bs, 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 | 8-12MHz |  | scanning version of XT-8012 |
| URR-52B |  |  | military version of RS-111 |
| URR-74 |  |  | military version of WJ-8718 |
| UT-1000 | 235-1000MHz | 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 | 10-90MHz | 2MHz minimum | converter, 21.4 MHz out, filmstrip dials, two tuners: 10-30/30-90MHz, 7dB max noise figure, 16lbs, cost \$1800 (1967) |


| VT-11 | 10-30MHz | 2 MHz minimum | same specs as VT-10 except single tuner, 15lbs, cost \$1000, (1967) |
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| VT-30 | 30-260MHz | 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 | 500-100MHz | 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 | 2-4GHz | 30 MHz | tuner, $160 \mathrm{MHz} \mathrm{IF}, \mathrm{15db} \mathrm{NF}$ |
| WJ-1036 | 4-8GHz | 35 MHz | tuner, $160 \mathrm{MHz} \mathrm{IF}, \mathrm{20db} \mathrm{NF}$ |
| WJ-1037 | $8-12 \mathrm{GHz}$ | 25 MHz | tuner, $160 \mathrm{MHz} \mathrm{IF}, \mathrm{20db} \mathrm{NF}$ |
| WJ-1038 | 12-18GHz | 30 MHz | tuner, $160 \mathrm{MHz} \mathrm{IF}, \mathrm{20db} \mathrm{NF}$ |
| WJ-1091 | 30-50MHz | 300 kHz | tuner, 21.4 MHz IF output, 6dB noise figure |
| WJ-1092 | 50-100MHz | 300 kHz | tuner, $21.4 \mathrm{MHz} \mathrm{IF}$, |
| WJ-1093 | 100-170MHz | 300 kHz | tuner, $21.4 \mathrm{MHz} \mathrm{IF}, \mathrm{7.5dB} \mathrm{NF}$ |
| WJ-1094 | 170-250MHz | 300 kHz | tuner, $21.4 \mathrm{MHz} \mathrm{IF}, \mathrm{9dB} \mathrm{NF}$ |
| WJ-1095 | 250-500MHz | 300 kHz | tuner, $21.4 \mathrm{MHz} \mathrm{IF}, \mathrm{10dB} \mathrm{NF}$ |
| WJ-1096 | 500-1000MHz | 300 kHz | tuner, $60 \mathrm{MHz} \mathrm{IF}$, |
| WJ-8604 | 20-512MHz |  | same specs as WJ-8607 except smaller package and quick disconnect connector |
| WJ-8607 | 20-512MHz | ```10/20/50/250kHz/ 4MHz standard (6.4kHz-8MHz available)``` | miniceptor, AM/FM/CW/Pulse (SSB opt), microprocessor control, 100 Hz resolution, HPIL/RS-232 remote 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 x 6.5 "w x 10.5d, 5lbs |
| WJ-8607fe | $2-2000 \mathrm{MHz}$ |  | same specs as WJ-8607 |
| WJ-8609A | 20-512MHz | $0.25-40 \mathrm{MHz}$ avail | same specs as WJ-8607 except AM/FM/Pulse only |


| WJ-8609A-1 | $0.235-18$ | $\begin{aligned} & \mathrm{Hz} \quad 5 \text { from } 0.25- \\ & 40 \mathrm{MHz} \text { (SAW fils) } \end{aligned}$ | wideband version of WJ-8609A, uses WJ-9290 block downconverter, AM/FM/ Pulse, RF preselection, 100 Hz resolution, scan, step, remote control: <br> 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, opts: coverage to 4.5 GHz , IF BWs from 3.2 kHz to 4 MHz |
| WJ-8615P | 20-500MHz | 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 | 20-500MHz |  | synthesized, 7 digit LED readout |
| WJ-8617 | $\begin{array}{r} 20-500 \mathrm{MHz} \\ (0.5-1100 \end{array}$ <br> MHz opt, down to 10 kHz on special request) | $\begin{aligned} & 10 / 20 / 100 / 500 \mathrm{khz} \\ & 2 \mathrm{MHz} \end{aligned}$ | 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 | 20-500MHz | 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 | 20-1100MHz | as above | same as WJ-8619 except for expanded frequency range |
| WJ-8625-1 | 0.2-1.5MHz |  | 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 | $5 \mathrm{kHz}-30 \mathrm{MHz}$ | any 3 from $0.2 /$ 0.5/1/2/3/4/6/8/ $12 / 16 \mathrm{kHz}$ | 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 | 20-512MHz | 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, 10mS tuning speed, opt: coverage to $1.4 \mathrm{GHz}, 1 / 2$ rack width 5.25" high |
| WJ-8640-1 | $\begin{aligned} & \text { plug-in } \\ & 0.5-500 \mathrm{MHz} \end{aligned}$ | $\begin{aligned} & 10 / 50 / 200 \mathrm{kHz} \\ & 5 / 20 \mathrm{kHz} \text { optional } \end{aligned}$ | AM/FM/CW/USB/LSB, port able 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 | 105-175MHz | $5 / 15 \mathrm{kHz}$ | ```minature receiver, AM/FM, 10 chan, scan, step, tracking preselector, 10-14VDC, 4W, 4.25"dia x 0.6"high, 10oz``` |
| WJ-8650-1 | 200-270MHz | 15 kHz | same specs as WJ-8650 except 0.8" high |
| WJ-8652 | 210-350MHz | $100 \mathrm{kHz} / 1 / 2 \mathrm{MHz}$ | minature receiver, $\mathrm{AM} / \mathrm{FM}$, 5 chan, scan, step, tracking preselector, 10-14VDC, 2.5W, 0.75"h x 3.25 "w x 7.12"d, 11b |


| WJ-8653A | $\begin{aligned} & 400-500 \mathrm{MHz} \\ & \text { or } 0.8-1.0 \mathrm{GHz} \end{aligned}$ | $25 \mathrm{kHz}$ | ```minature receiver, FM, scan, step, 10-14VDC, 5W, 0.8"h x 3.5"w x 8.75"d, 11b``` |
| :---: | :---: | :---: | :---: |
| WJ-8654 | 20-1000MHz | $6.4-100 \mathrm{kHz}$ | miniceptor, $\mathrm{AM} / \mathrm{FM} / \mathrm{SSB} / \mathrm{CW}$, 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, 2.51bs |
| WJ-8700 | 0.5-32MHz |  | 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 "h x 8.25 "w x 20 "d, 181bs |
| WJ-8709 | $5 \mathrm{kHz}-30 \mathrm{MHz}$ | 0.3/1/3.2/6/16kHz | AM/FM/CW/MCW/USB/LSB, 7 digit yellow LED display, synthesized: 10Hz steps, 1/2 rack width 5.25" h |
| WJ-8711 | 0.005-30MHz | $\begin{aligned} & 58 \text { digital } \\ & \text { filters } \end{aligned}$ | 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, 47-440Hz, current issue, |
| WJ-8712 | $5 \mathrm{kHz}-30 \mathrm{MHz}$ | $58 \text { digital }$ filters | remote control version of WJ-8711, half rack 3.5" high, blank front panel, RS-232 or CSMA control |
| WJ-8718A | $5 \mathrm{kHz}-30 \mathrm{MHz}$ | 0.3/1/3.2/6/16kHz | 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, 351bs |


| $\begin{gathered} W J-8718 \mathrm{~A} \\ -14 \end{gathered}$ |  |  | special wideband unit with bandwidths of $40 \& 100 \mathrm{kHz}$ |
| :---: | :---: | :---: | :---: |
| $\begin{gathered} W J-8718 \mathrm{~A} \\ -15 \end{gathered}$ |  |  | Special E-Systems unit with green front panel, other differences unknown |
| $\begin{gathered} \text { WJ-8718A } \\ -19 / F E \end{gathered}$ | $5 \mathrm{kHz}-100 \mathrm{MHz}$ | $0.3 / 1 / 3.2 / 6 / 50 \mathrm{kHz}$ | AM/FM/CW/ISB/USB/LSB, synthesized, microprocessor controlled $\mathrm{w} / 10 \mathrm{~Hz}$ 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 |
| WJ-8721 | $5 \mathrm{kHz}-30 \mathrm{MHz}$ | digital | VXI card version of WJ-8711, $1 / 12$ rack width, BITE, 5lbs |
| WJ-8730A | ```plug-in 20-1000MHz (WJ-9060 series)``` | ```plug-in 10kHz-3MHz (WJ-9930 series)``` | ```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 | $5 \mathrm{kHz}-20 \mathrm{MHz}$ | $\begin{aligned} & 1 / 4 / 8 / 16 \mathrm{kHz} \text { std, } \\ & 0.5 / 2 / 6 / 12 \mathrm{kHz} \text { opt } \end{aligned}$ | AM/FM/CW/LSB/USB, synthesized: 10Hz steps, red LED display, ruggidized, military vehicular radio 22-32VDC, 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, synthesized, micropro- cessor control, rack mount 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 | 0.5-30MHz | 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 | 20-500MHz |  | receiver/DF controller, part of WJ8990 system |
| WJ-9080 | $30-1000 \mathrm{MHz}$ | $\mathrm{n} / \mathrm{a}$ | converter, tunes all in one band |
| WJ-9477 | 0.001-30 MHz | $3 \mathrm{kHz}-5 \mathrm{MHz}$ | precision tunable demodulator but sensitivity adequate for receiver use, AM/FM/SSB, 10 Hz tuning steps, provision for 9 IF BW filters, microprocessor controlled, 3.5 h h x 8.5 F w x 21"d, 201bs |
| WJ-9477G | $0-31 \mathrm{MHz}$ | $3.2 \mathrm{kHz}-6 \mathrm{MHz}$ $3.5 " \mathrm{~h} x 8.5 \mathrm{~m} \text { x }$ | tunable demodulator, AM/FM(SSB opt), 10 Hz tuning steps, provision for 9 IF BW filters microprocessor controlled, "d, 201bs |
| WJ-9478 | 0.001-30 MHz | $\begin{aligned} & 100 / 150 / 300 / 1000 \\ & 2400 \mathrm{kHz} \end{aligned}$ | baseband receiver but sensitivity adequate for receiver use, detector modes, unknown, microprocessor controlled, 3.5 h h x 8.5 m w 21"d |
| 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 "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 "h x 8.5 "w x 21 ld , 201bs |  |  |

XT-8012 8-12GHz 8 MHz minimum converter, one 160 MHz IF output, two 21.4 MHz outputs, $18 d B$ max noise figure, four section YIG preselector, DAFC in, AGC in, LO out, 25lbs, cost \$6500 (1968)

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