WJ-8617, 8617A, 8617B & 8617B(S1) Receiver Configurations
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The version number is rarely printed on the front panel. It is occasionally printed or handwritten on the rear panel option sticker. Sometimes it is written on the window cover of the microprocessor card EPROMs. These dash numbers appear to be more of an internal WJ code for designating the starting point in meeting a customers needs.

WJ-8617 receivers vary wildly in configuration, options, and coverage. Cannibalization is rampant. An option code on the rear panel or a configuration dash number is only an indication of the original state of the radio. Always check internally for appropriate option cards, filters, connectors and functions before assuming the radio has what is marked on the outside.

WJ-8617 Series

WJ-8617   Status = M   5/4/77
General purpose VHF/UHF receiver with 20 - 1000 MHz coverage. Synthesized, digitally controlled receiver with built-in signal monitor.

WJ-8617-2   Status = M   1/18/80
20 - 1100 MHz remotely controlled receiver. AM, FM, and CW reception. Voltage tuned preselectors (20% BW). Noise figure 20 - 500 MHZ is 9 dB typical, 500 - 1100 MHz is 10 dB typical. Internal signal monitor data over 20 Hz - 20 kHz line. Control data received 300 - 2800 Hz. 600 Ohm video output. 6 RF inputs.

WJ-8617A Series

WJ-8617A   Status=   1980
General purpose receiver. Digitally controlled. With VHF/UHF range of 20-1100 MHz

WJ-8617A-1   Status = M   8/14/80
Same as WJ-8617A without signal monitor.   (Bruff)

WJ-8617A-3   Status= M   8/14/80
WJ-8617A with blank front panel. This is for remote control. Unit must have IEEE-488 or RS-232C interface option.

WJ-8617A-4 STATUS = M   8/15/80
WJ-8617A with signal monitor deleted. AGC threshold detector of 30 dB (-1 +2 dB).

Analog AGC outptut. Wideband IF output of -13 to -33 dBm. FM detector accuracy to ithin 3% of straight line over 80% of the IF bandwidth. Antenna switch.

WJ-8617B Series

WJ-8617B   Status=   11/2/83
Frequency range 20 - 500 MHz (1100 MHz with FE option) Fully synthesized. 100 Hz tuning resolution. Sythesizer settling time 3 mS.   AM, FM, CW & PULSE detection modes (SSB, LOG optional). LOG/LIN signal monitor. Low RFI design meets MIL-STD-461A. Five selectable IF bandwidths (many available options). Modular construction. Built for low mean time to repair (MTTR).

WJ-8617B-1   Status = M   4/82
For customer *****. Modified WJ-827B for TCAS. Contains software changes that modify operation of dwell control and adds capability of manual logging and operating a real-time clock. Unique front panel. Software version must be less than v2.2. See file for list of options installed as standard.

WJ-8617B-2   Status = M   3/26/82
Fast acquisition receiver. Designed to scan 1 MHz increments with settings: step size = 1 MHz; dwell = 0. Front panel will be blank. DRD display may not use entire SDU screen. Non-MHz digits in the memory channels will be ignored. Scan time will be 50 mS. See file for complete details.

WJ-8617B-3   Status=
Same WJ-8617B except 794190-1 front panel display and controls sub-assembly replaced with WJ-8617B-3FP front panel. WJ-8617B-3FP contains on/off switch, power indicator, phone jack, and audio level control. Radio to be remote controlled from external device via IEEE-488 remote interface.

WJ-8617B-4   Status=   4/82
Modified WJ-8617B with IF bandwidths of 10, 20, 50, and 100 KHz. "B" version Karakal receiver with NRT. Special designation for scan, step, lock out, etc. Options included: EM, DRD, IEEE-488, LOC, H/O, and M/S.

WJ-8617B-5   Status=   3/1/83
The units are being developed for the TRQ-32 program. Special functions are: 1) 150 Hz recognition - with 150 Hz, without 150 Hz, and all signals. 2) Bandwidth output data - remote indication of active bandwidth. 3) Low frequency extension 0.5 - 20 MHz. 4) IF bandwidth of 3.2 kHz. (Bruff/Deeb)

WJ-8617B-5 Rev. 1:   1/89
Updates standard equipment included in WJ-8617B-5 unit. Signal monitor, Digital refreshed display, Single sideband, IEEE-488 interface bus. IF BWs for WJ-8617B-5, IF amplifiers for 3.2 KHz, 10 KHz, and 50 KHz, FM demodulators for 3.2 KHz, 10 KHz, and 50 KHz.

WJ-8617B-6   Status = p   4/29/83
This is a contract item for ***** Associates. Options installed: 488, SSB. IF BWs: 10 KHz, 25 KHz. see file for special requirements installed.

WJ-8617B-7   Status = M   5/13/83
***** Associates unit. Options installed: 488, SSB. IF BWs: 10 KHz, 25 KHz. See file for special requirements installed.

WJ-8617B-8   Status=
Feldspar receiver. Front panel light green. Tuning range of 10 KHz-500 MHz (VLF converter option). Video output level control on front panel with DAV and concentric audio control for front and rear panel output level. WBO option, but with 10.7 MHz center frequency (BW at least 8 MHz). AM detector dynamic range of 45dB minimum. With IF BW not greater than 50 KHz. Frequency offset can be entered via front panel or IEEE-488 bus. Disabled AGC ahead of SM. Positive video output. IF BW options not less than 300 KHz limited to the following (in KHz): 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 3200, 4000.

WJ-8617B-8 Rev 2:
EM option required.

WJ-8617B-8 Rev 3:
SSB option supported.

WJ-8617B-9   Status=   8/84
Similar to WJ-8617B except has different standard features: RS-232 remote interface; real-time clock; 1st and 2nd LO outputs are provided. FE LO output provided when installed. Type 796233-4 audio/video COR board replaces standard audio/video COR board. Three-step AFC feature replaces the the standard AFC. Software modified to function with WJ-8976 DF processor. Options supported: TUN, MS, FE, SSB, SM, LOGV, HFE, LFE, RTC. Consult engineering on options: VLF, 10IF, RLOG, BITE, VBFO, PKC, DRD, PSM, WBO, ASO, NRT, DFC, IFBW, 10MHZ, PRE, TPC.

WJ-8617B-9 Rev. 1   9/12/86
Differences not known.

WJ-8617B-10   Status=   11/83
Same as WJ-8617B except: Special "dump" front panel with dump memory channel, load memory channel, and clear memory channel. Storage allocations fixed: channels 0-47 for step and scan frequencies; channles 48-63 for sweep scan frequencies; and channels 64-95 for lockout frequencies.

WJ-8617B-11   Status=   11/83
Same as WJ-8617B except special synthesizer of 5, 110, and 30 ms settling times. Optimized control software for receiver processor steps and scans and dwell periods. Wideband IF and mode query.

WJ-8617B-12   Status=   3/5/84

(Configuration 5, DF box). Software modifications: 1) Combine box special software (WJ-8617B-10) and utilize LO master/slave (WJ-8617B-6); 2) Support fully functional front panel and SM, LOC, CUR, 488, 10, 20, 50 mS. Hardware modifications: 1) Rear panel identical to WJ-8617B-6. No front panel bezel change; 2) Add LO modules. See type number card.

WJ-8617B-13   Status=   3/5/84

(Configuration 5, DF box). Software same as WJ-8617B-12. Hardware reconfigured as follows: 1) remove A3A8 through A3A21 modules; A4A1 through A4A6 modules; A4 motherboard. Uses 8617B-3 front panel. New nameplate. Create new mainframe plate and schematic. Add 488 option only. Add 2nd LO amplifier. See type number card.

WJ-8617B-14   Status=   7/84

Similar to WJ-8617B with modified software to bias the display frequency with respect to the actual frequency. Units will have 10 IF BWs and buttons. New name plate. Generate CPL.

WJ-8617B-15   Status=   9/84

Same as WJ-8617B except that the IF output on the rear panel is provided through a BNC rather than a TNC connector.

WJ-8617B-16   Status=   10/84

WJ-8617B modified to provide noise figure of less than 6 dB. Decade tuning (TUN) and 10 IF bandwidths standard. Designed for narrowband tempest testing.

WJ-8617B(S1) Series

Testing for an S1 version

You can do a power on test to see if a WJ-8617B radio is an S1 version. Simply depress and hold the MAN button as you turn the power on. It will display the model with version number. The other versions will not respond to this sequence.

WJ-8617B(S1)   Status=   4/85

New microproccesor card uses MC6809 processor. Not backward compatible with old units. Most options supported in microprocessor board ROMs rather than on option card ROMs (latest major software upgrades).

WJ-8617B(SI)-3   Status=   6/25/85

Sames as the WJ-8617B-3 except has new microprocessor board (WJ type 796353-2) installed. New board will improve RS-232 interface and communication.

WJ-8617B-17   Status=   10/84
Same as WJ-8617B(S1) but with low noise amplifier instead of antenna switch.
Antenna 1 input is dedicated to 0.5 - 500 MHz and antenna 2 is dedicated to 500 - 1100
MHz input. The noise figure is typically 4 dB in VHF and 6 dB in UHF.

WJ-8617B-17 Rev. 1   2/87
Differences not known.

WJ-8617B-17 Rev. 2   1/89
Adds FE and SM as standard options.

WJ-8617B-18   Status=
Design per ***** specifications (see file). Front panel with green LEDs. Tuning range of
10KHz-500MHz (VLF converter). Video output level control on front panel with DAV
option and concentric audio control for front & rear panel output level. WBO, but with
10.7 MHz center frequency (BW at least 8 MHz). AM detector dynamic range of 45 dB
minimum with IF BW not greater than 50 KHz. frequency offset can be entered via front
panel or RS-232 interface. Disable AGC ahead of spectrum monito. Positive video. IF
BWs not less than 300KHz limited to the following selections (KHZ): 300, 400, 500, 600,
800, 1000, 1200, 1600, 2000, 3200, 4000.

WJ-8617B-18 Rev. 1
EM is required option

WJ-8617B-18 Rev. 2
SSB option is supported.

WJ-8617B-19   Status=   6/25/85
Controls WJ-8617B(SI)-3 through RS-232 communication link in normal mode. Same
as WJ-8617B in master/slave. Sends out tuned frequency, antenna select, RF/IF
manual gain, and AGC. Slave receiver sends 21.4 MHz IF signal through port 2. In
master/slave, AFC, STEP & SCAN are prohibited.

WJ-8617B-20   Status=
WJ-8617B with ELF option (0.01-500 MHz), 10 IF BWs with 10, 50, 300 & 500 KHz, 1,
2, 4, 6, 8 & 10 MHz IFs supplied (widest available10 MHz), and modified for external LO
input of 4.4-5.4 MHz. Also includes: SM, 488, SCS, (for ESL) OA#300561.

WJ-8617B-20 Rev. 1   2/3/86
To include video output impedance of 50 ohms nominal.

WJ-8617B-20 Rev. 2   12/29/86
Removes LFE and changes to ELF and delete minimum documentation.

WJ-8617B-20 Rev. 3   6/22/87
Changes 20-500 MHz frequency range to 0.01-500 MHz and makes FE unsupported.

See type form for options.

WJ-8617B-20 Rev. 4
Changes LOGV to unsupported.

WJ-8617B-20 Rev.5
Adds information on optional IF BW cards and type numbers.

WJ-8617B-21   Status=   1/20/86
Has standard IEEE-488 remote interface and real-time clock. 1st & 2nd LO outputs are
provided. FE LO output provided when installed. Type 796233-4 audio/video COR
board replaces standard audio/video COR board. Three-step AFC feature replaces
standard AFC. Software modified to function with WJ-8976/DFPA. For details see
OA#300544. Options supported: TUN, MS, 10IF, RLOG, BITE, VBFO, PKC, DRD, 488,
WBO, FE, SSB, SM, DFC, IFBW, LOGV, HFE, LFE, RTC, 10MHz SCS, FP, Consult
engineering on: PSM, 232, ASO, NRT, TPC

WJ-8617B-21 Rev. 4   3/87
Differences unknown.

WJ-8617B-22   Status=   Project cancelled 8/1/86.
Customer's requirement will allow him to use a standard WJ-8617B.

WJ-8617B-23   Status=   11/86
Same as current WJ-8617B(S1) except modified to control WJ-9075 frequency
extender. With WJ-9075 enabled, tuning above 1000 MHz is accomplished through the
use of extender as a down converter for signals in the 1.0 - 4.5 GHz range. With
extender disabled, receiver will function as a standard WJ-8617B(S1). Options
supported: TUN, M/S, 10IF, RLOG, BITE, VBFO, PKC, DRD, PSM, 488, WBO, FE,
SSB, SM, DFC, IFBW, HFE, LIFE, RTC, 10MHZ. Options excluded: VLF, NRT, PRE,
TPC. Consult engineering on: LOGV, 232, ASO.

WJ-8617B-23 Rev. 1   3/88
Frequency readout option TUN is standard.

WJ-8617B-24   Status=   12/29/86 Rev. 10/15/87
WJ-8617B with LFE & FE covers 10.5-1100 MHz, 10 IF BWs (widest is 10 MHz),
Modified for external LO input of 4.4-5.4 MHz and to include video output with an
impedance of 50 ohms nominal. BWs include 10K, 50K, 300K, 500K, 1 M, 2M, 4M, 6M,
8M, 10M. Supported options include: TUN, MS, 10IF, VBFO, PKC, 488, 232, WBO, FE,
SSB, SM, IFBW, HFE, LFE, RTC, 10MHz.

WJ-8617B-24 Rev. 2
Changes frequency range to 0.5-1100 MHz.

WJ-8617B-24 Rev. 3

Adds optional IF BW cards and type numbers (see file for complete information).

WJ-8617B-25   Status=   7/87
WJ-8617B receiver modified to operate with WJ-9073-2 tracking preselector. Installation of serial interface in option slot 5 or 6 precludes the use of certain options depending on which option slot is used. Consult engineering on the use of the following options: MS, RLOG, DAV, ASO, NRT, HFE, LFE. Options supported: TUN, 10IF, BITE, VBFO, PKC, DRD, PSM, 488, 232, WBO, FE, ISB, SSB, SM, DFC, IFBW, LOGV, RTC, 10MHZ, TPC, SCS, FP.

WJ-8617B-26   Status=   10/87
WJ-8617B receiver with VLF converter. Allows tuning down to 0.01 MHz. Has two dedicated antenna inputs: 0.01-5.99 MHz AND 5.99-500 MHz. The VLF converter eliminates the FE option. Noise figure is typically 13 dB below 6 MHz and 3rd order intercept point is 0 dB.

WJ-8617B-26 Rev. 1:   10/87
Note: A 6 MHz IF was ordered. The voltage code for the 10 MHz IF BW will be used for the 6 MHz IF.

WJ-8617B-27   Status=   11/87
Same as WJ-8617B receiver (old microprocessor) except for the following:
(1) includes all modifications of the WJ-8617B-1 "TCAS" receiver.
(2) AGC dump with fast attack.
(3) has the following standard options: RS-232, RLOG, RTC, SMO, BITE, EM, CUR,
       LOC, DRD.
(4) Software revision level 2.2.8

WJ-8617B-28   Status=   2/29/88
Same as WJ-8617B(S1) except software modified. Scan and step service request operation altered per customer requirement. All standard receiver options are supported. See type # file for customer specification.

WJ-8617B-29   Status=   5/88
Same as WJ-8617B except it will accept a 6 MHz IF BW and delete an 800 kHz BW as all bandwidth codes have been used in this receiver. Options requested: 10IF, BITE, DRD, 488, WBO-2, FE, SSB, SM, LOGV, LFE, Supported options: all except TPC

WJ-8617B-30   Status=   1/89
WJ-8617B receiver with VLF converter. Allows tuning down to 0.01 MHz and eliminates the FE option. Noise figure is typically <18 dB below 3 MHz, <15 dB from 3 MHz to 20 MHz and <11 dB above 20 MHz. Video output impedance is 50 ohms nominal. Ten IF BW's supplied including 25K, 75K, 100K, 200K, 300K, 500K, 1.5M, 4M, 10M. One RF input (ANT1). ISB is standard. This design was done for ESL.

WJ-8617B/FEDF   Status=

For use with WJ-8976 DF system. Permits receivers to operate up to 1100 MHz.

WJ-8617B/FEXDF   Status=
For use with WJ-8976 DF system. Permits receivers to operate up to 1200 MHz.