

1.3.3 **OPTIONAL EQUIPMENT**

The following optional equipment is available for use with the WJ-8626A-4 HF Receiver. For additional information concerning these options and others, contact the Watkins-Johnson Company, Gaithersburg, Maryland, or your Watkins-Johnson representative.

- Sub-Octave Preselector WJ-8626A-4/PRE
- Wideband 455 kHz Signal Monitor Output (30 kHz BW), (standard output is 16 kHz BW) WJ-8626A-4/SMO30
- Master/Handoff WJ-8626A-4/MH
- FSK Demodulator WJ-8626A-4/FSK
- Stand Alone Power Supply WJ-8626A-4/MPS
- F1/F2 Sector Scan WJ-8626A-4/SCAN
- Baseband Converter WJ-8626A-4/BBC
- Wideband 10 MHz Output (100 kHz BW) WJ-8626A-4/WBO

1.4 **EQUIPMENT SPECIFICATIONS**

See Table 1-1 for WJ-8626A-4 HF Receiver specifications and Table 1-2 for IF bandwidth options and sensitivity levels.

**Table 1-1. WJ-8626A-4 HF Receiver Specifications**

Tuned Frequency .....	5.0 kHz to 30.00000 MHz
Tuning Resolution .....	10 Hz
Synthesizer Tuning Speed .....	15 ms, typical
Antenna Conducted Local Oscillator Radiation .....	-87 dBm, maximum
Antenna Input Protection .....	The antenna input will withstand the effects of RF power to +27 dBm and static build-up. The protection circuit automatically resets.
Input Impedance .....	50 ohms, unbalanced, nominal
IF Bandwidths (3 dB) .....	Standard: 2.85 kHz; Optional: any four of the following: 0.2, 0.5, 1, 2, 3, 4, 6, 8, 12 or 16 kHz; USB, LSB
Detection Modes .....	Standard: FM, AM, CW, LSB and USB
Gain Control Modes .....	Manual, AGC
AGC and Manual Range .....	90 dB, minimum
AGC Threshold .....	3.0 microvolt, typical
AGC Attack Time .....	15 ms, maximum
AGC Release Time .....	FAST = 100 ms, maximum; SLOW = 2-4 Sec., nominal
Synthesized BFO .....	±8.0 kHz in 100 Hz steps
IF Rejection .....	Greater than 90 dB
Image Rejection .....	Greater than 90 dB

**Table 1-1. WJ-8626A-4 HF Receiver Specifications (Continued)**

Sensitivity .....	See IF Options and Sensitivity Table
IF Output .....	455 kHz, 20 mV into 50Ω, minimum, at 3 micro-volt input level, IF BW limited
Signal Monitor Output .....	455 kHz, center frequency, 17 kHz bandwidth, 50Ω, output impedance
Third Order Input Intercept Point .....	+20 dBm, minimum for signals separated by 30 kHz minimum.
Video Amplifier Response .....	Within 3 dB from 20 Hz to 1/2 IF Bandwidth
Video Output Level .....	350 mV rms into 75 ohms
Video Distortion .....	Less than 5% total Harmonic Distortion in AGC or Manual Gain Modes
Phones Output .....	10 mW minimum into 600 Ω phones
Signal Strength Output .....	Shaped DC AM Detector output, 0 to +10 Vdc
Squelch/COR .....	Adjustable threshold from noise level to 80 dB above noise. COR holds a nominal 4 seconds after carrier disappears.
Digital Control .....	72 Bit Serial Word (WJ-9040 System compatible)
Environmental Conditions:	
Temperature, Operating .....	0° to +50°C
Size .....	5.2 inches (132 mm) high, 8.0 inches (203 mm) wide and 14.38 inches (365 mm) deep
Weight .....	Approximately 17 lbs (7.7 kg)
Power Consumption .....	Approximately 15 watts (From +8.2, ±18.3, +29 VDC)

**Table 1-2. IF Bandwidth Options and Sensitivity Levels**

	3 dB IF Bandwidth	IF Shape Factor (Typical) 50 dB:3 dB	RF input Level Microvolts dBm
WJ-9926A/200	200 Hz	10:1	0.50 -113
WJ-9926A/500	500 Hz	7:1	0.64 -111
WJ-9926A/1K	1 kHz	5:1	0.80 -109
WJ-9926A/2K	2 kHz	3:1	1.0 -107
WJ-9926A/3K	3 kHz	3:1	1.4 -104
WJ-9926A/4K	4 kHz	3:1	1.6 -103
WJ-9926A/6K	6 kHz	3:1	2.0 -101
WJ-9926A/8K	8 kHz	3:1	2.2 -100
WJ-9926A/12K	12 kHz	3:1	2.9 -98
WJ-9926A/16K	16 kHz	2:1	3.2 -97
WJ-9926A/USB	2.85 kHz	1.8:1	0.7 -110
WJ-9926A/LSB	2.85 kHz	1.8:1	0.7 -110
WJ-9926A/SSB (uses offset L.O.)	2.85 kHz	1.8:1	0.7 -110

**Table 1-2. IF Bandwidth Options and Sensitivity Levels (Continued)**

**NOTE:** Over the frequency range of 0.2 to 30 MHz, the RF input levels and IF Bandwidths specified above will:

1. Produce a minimum AM (S+N)/N ratio of 10 dB at the audio output for 50% AM modulation at a 400% Hz rate, (1 kHz and wider IF Bandwidths).
2. Produce a minimum CW (S+N)/N ratio of 16 dB at the audio output.
3. Produce a minimum FM (S+N)/N ratio of 17 dB at the audio output (10 kHz and wider IF Bandwidth).
4. Produce a minimum USB/LSB (S+N)/N ratio of 10 dB at the audio output (SSB Filters only).

Over the frequency range of 5 kHz to 200 kHz, the following applies:

**CW Sensitivity (1 kHz IF Bandwidth)**

200 kHz - 30 MHz .....	A 0.8 microvolt signal will produce at least a 16 dB (S+N)/N ratio at the audio output.
50 kHz - 200 kHz .....	A 1.8 microvolt signal will produce at least a 16 dB (S+N)/N ratio at the audio output.
15 kHz - 50 kHz .....	A 7.1 microvolt signal will produce at least a 16 dB (S+N)/N ratio at the audio output.
5 kHz - 15 kHz .....	A 128 microvolt signal will produce at least a 16 dB (S+N)/N ratio at the audio output.

When the optional switched sub-octave preselector option is installed, receiver sensitivity is decreased by 2 dB, maximum.