

JRC

HF RECEIVER **NRD-345**

Shaped Up Receiver



JRC *Japan Radio Co., Ltd.*

HF RECEIVER NRD-345

Let's Listen Clear Sound

The NRD-345 HF Receiver is developed for BCL and SWL fans who want to enjoy the world's broadcast programs and shortwave communications with sound clarity under good, interference-free air conditions.

In shortwave propagation, however, there is a typical phenomenon called fading. Fading deteriorates the received signal quality, making the sound loud or low. Shortwaves travel in the atmosphere, reflecting between the ionosphere and the surface of the earth. The radio waves reflecting on different paths interfere with one another, resulting in loud or low sounds. When the AM carrier is affected by fading, its level is distorted, causing an overmodulation of more than 100% and distorting the received signals.

To solve the problem of overmodulation distortion, the NRD-345 incorporates an AM synchronous detection circuit which produces a constant level of regenerative carrier synchronized with the received carrier in terms of frequency and phase. The received signals are demodulated on the regenerative carrier, ensuring low signal distortion and clear sound listening.

The NRD-345 HF Receiver is of compact, lightweight, refined design, and offers advanced multifunctions to meet the exquisite requirements of enthusiastic BCL and SWL friends.



Join to the World's Waves with Precision and Sharp Tuning

FEATURES

AM Synchronous Detection

The NRD-345 incorporates an AM synchronous detection circuit, ensuring effective interference rejection and high sound quality for BCL and SWL.

Use of One-Chip DDS-IC

A one-chip direct digital synthesizer (DDS) IC is employed in the phase locked loop (PLL) circuit to miniaturize the PLL circuit and to enhance the C/N (carrier to sideband noise) ratio.

High Sensitivity and Wide Dynamic Range

The RF amplifier and the first mixer in the front-end stage incorporate 4 low-noise, junction-type FETs with excellent cross modulation characteristics respectively to ensure high sensitivity and wide dynamic range.

Noise Blanker (NB)

A noise blanker (NB) which works effectively on narrow noises like automobile ignition noise is used for interference rejection. A wide range of noises can be rejected by adjusting the NB level control.

Clock/Timer Function

The NRD-345 has a built-in real-time clock, which enables the timer mode to turn the power on/off at a specific time. The clock can display the UTC (Universal Time Coordinated) or a local time.

Personal Computer Control

Operational functions including receiving frequency setting can be remote-controlled from a personal computer connected with an RS-232C interface cable (option).

100-Channel Memory Capacity

Various status items including frequency, mode, AGC time constant, ATT on/off, VFO, IF filter bandwidth and NB can be stored each per channel in a 100-channel internal memory.

Tone Control

The high-tone level of the AF output can be controlled to adjust tone quality to a favorable level.

Scan Reception

The NRD-345 offers memory channel scan and frequency scan functions.



OPERATING PANEL AND DISPLAY

- 1 TONE control
- 2 AF GAIN control
- 3 Up switch
- 4 VFO switch
- 5 MODE switch
- 6 LOCK switch
- 7 Main tuning control
- 8 Down switch
- 9 MEMORY switch
- 10 Memory Write switch
- 11 FILTER switch
- 12 Noise Blanker switch
- 13 PASS switch
- 14 SCAN switch
- 15 Noise Blanker Level control
- 16 Headphone jack
- 17 TIMER mode switch
- 18 CLOCK mode switch
- 19 Power and timer on/off switch
- 20 SIGNAL meter
- 21 LCD Display
- 22 Ten-key pad
- 23 CLEAR switch
- 24 MHz switch
- 25 kHz switch
- 26 ENTER switch
- 27 METER switch
- 28 AGC switch
- 29 ATT switch

OPTIONS

ST-3 Headphones



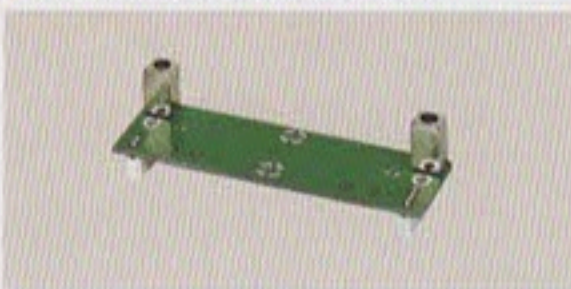
WeightApprox. 300g

IF Filters



- CFL-231 (300Hz)
- CFL-232 (500Hz)
- CFL-233 (1kHz)
- CFL-218A (1.8kHz)
- CFL-251 (2.4kHz)

CFQ-8673 AUX Filter Board



RS-232C Cable (6ZCJD00350)

SPECIFICATIONS

Frequency range: 0.1 to 30MHz
 Type of reception: AM, SAM (synchronous detection), CW, SSB, FAX
 Frequency stability: ± 10 ppm or less 5min. to 60min.
 after powering on and within ± 5 ppm for one
 hour thereafter

Adjustable frequency
 step: 5Hz, 100Hz, 1kHz, 10kHz

Frequency memory: 100 channels

Receiving system: Double superheterodyne

Sensitivity:

	CW, SSB, FAX	AM
0.1 to 0.54MHz	0dB μ (1 μ V)	10dB μ (3.2 μ V)
0.54 to 1.8MHz	15dB μ (5.6 μ V)	25dB μ (17.8 μ V)
1.8 to 30MHz	10dB μ (0.3 μ V)	6dB μ (2 μ V)

S/N: 10dB Bandwidth: 2.4kHz

Modulation (AM): 400Hz, 30%

Selectivity:

Bandwidth	6dB	60dB
WIDE	4kHz or more	10kHz or less
NARR	2kHz or more	6kHz or less
AUX*	500Hz or more	1.6kHz or less

*Fitted with the CFL-232 filter option.

Dynamic range: 100dB (500Hz IF bandwidth)

Image rejection: 70dB or more

IF rejection: 70dB or more

Antenna impedance: 50 Ω (Lo-Z terminal), 450 Ω (Hi-Z terminal)

Antenna input attenuator: 20dB

AGC characteristics: The AF output varies 10dB or less for the
 antenna input of 3 μ V to 100mV

AF output-Speaker: 1W or more with 8 Ω load at 10% distortion

Clock accuracy: Within ± 2 minutes per month

RS-232C interface: 25PIN D SUB connector

4800baud (character format: 1 start bit, 8 data
 bits, non-parity bit, 1 stop bit)

Power supply: Performance guarantee voltage 12VDC $\pm 10\%$ (12V
 standard), approx. 0.8A

Operating guarantee voltage 10.5 to 16VDC

Dimensions: 250(W) \times 100(H) \times 238(D)mm

*including no projections

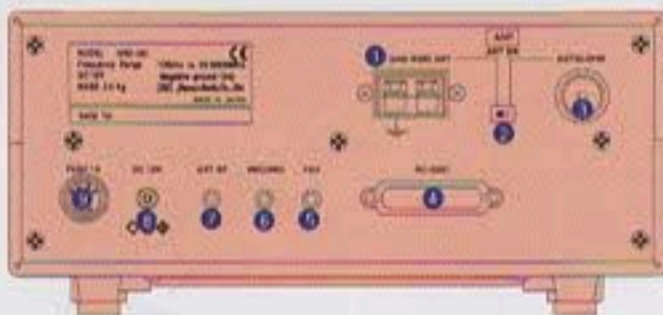
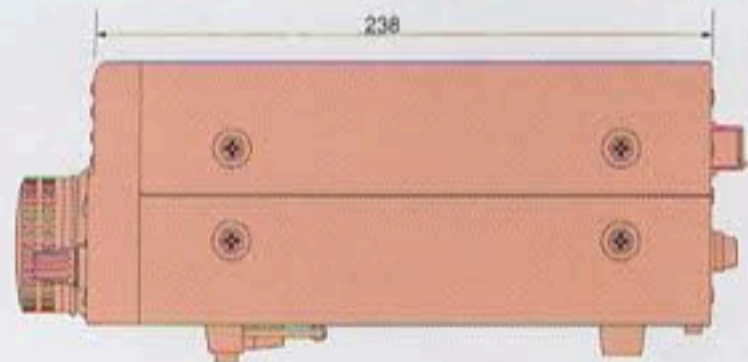
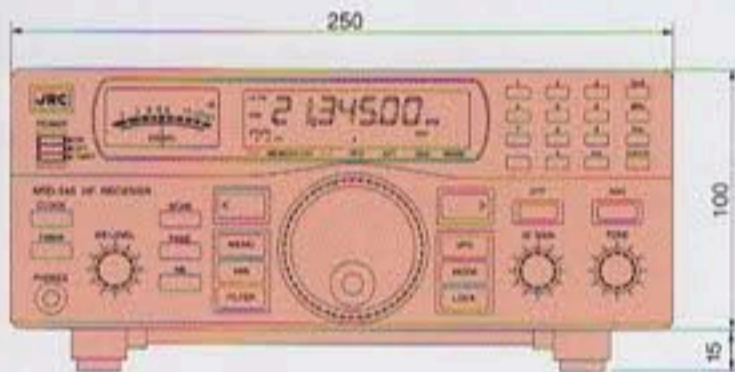
Weight: Approx. 3.5kg

Temperature: 0 to +50°C (performance operating guarantee)

-20 to +70°C (in storage)

Accessories: Instruction manual, fuse (1A), AC adapter

DIMENSIONS



Rear Panel Description

- ① Antenna terminal (low impedance)
- ② Antenna switch
- ③ Antenna terminal (high impedance)
- ④ RS-232C connector
- ⑤ FAX (line output) jack
- ⑥ Recording jack
- ⑦ External speaker jack
- ⑧ Power connector
- ⑨ Power fuse

Specifications may be subject to change without notice. For further information, contact:

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Since 1915 JRC Homepage <http://www.jrc.co.jp/>

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ISO 9001

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16EL