

# Electro-Voice®



## CDR-1000

### OPERATING INSTRUCTIONS SUPPLEMENT



**TELEX®**

# TABLE OF CONTENTS

1.	Quick System Setup . . . . .	See Section 1 in the main RE-1 Instructions
2.	System Description. . . . .	2
3.	Detailed Component Description . . . . .	3
4.	Detailed Description of Unique CDR-1000 Features	
1.	Headset Port. . . . .	4
2.	Audio Output. . . . .	4
3.	Antenna Connections and Chaining . . . . .	4
4.	RE-OneLink PC Monitoring and Control. . . . .	5
5.	Trouble Shooting Guide . . . . .	6
6.	Specifications . . . . .	6
7.	Certifications. . . . .	7
8.	Accessories for CDR-1000. . . . .	7

## Section 1 Quick Setup

See Section 1 of main RE-1 Operating Instructions

## Section 2 System Description

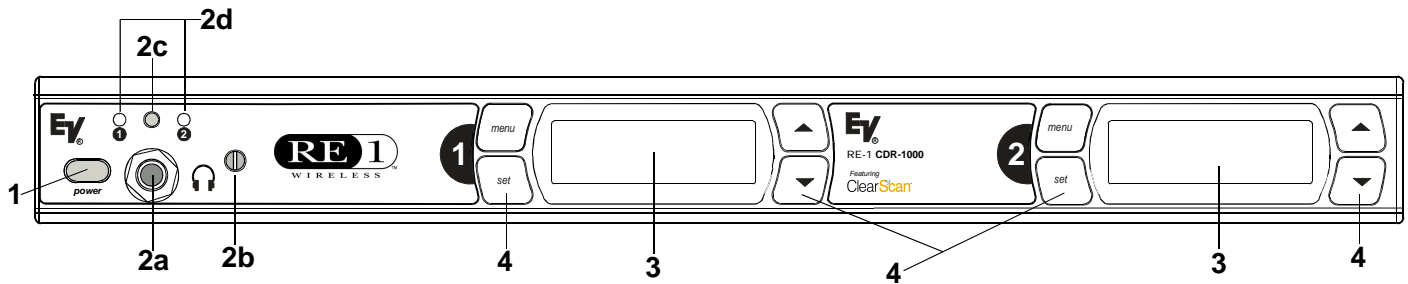
The CDR-1000 Wireless Microphone system combines frequency agility and ease of use like no other. The RE-1 transmitters and receivers operate over a 24MHz bandwidth in the UHF portion of the spectrum. The high quality audio circuitry and advanced Radio Frequency (RF) signal processing offer broadcast quality signal-to-noise and audio clarity.

### CDR-1000 Features Include:

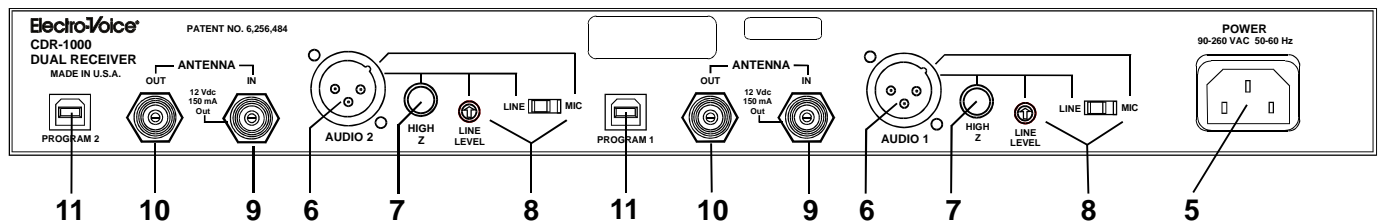
- Advanced ClearScan technology for selecting clear channels and inter-modulation free groups.
- USB Port for monitoring and controlling the receiver from a PC.
- Integrated antenna splitter and output jacks
- Adjustable Balanced Line Level and fixed Mic Level XLR output jack.
- Adjustable unbalanced ¼" line level output jack.
- Headphone jack on front panel for monitoring and setup.
- Internal power supply with universal input.
- 960 Radio Channels, user programmable or factory installed.
- LCD Displays for ease of viewing.
- Patented DSP Phase Diversity System.
- Front Panel Power ON/OFF Switch.
- Quadruple Tuned Ceramic Resonator front end for superior interference rejection.
- SAW Filter 1st I.F for out of band rejection.
- Triple ceramic filters in 2nd I.F for adjacent channel rejection..
- Double Tuned Quadrature circuit for low audio distortion.
- Permanent Flash Memory for frequency/system storage.
- Front Panel Software Control of Squelch settings
- Double Squelch (Amplitude and Tone) system prevents false squelch.
- Lockout feature to prevent accidental channel changes
- Sound Check mode to speed walk testing and provide tangible results.

## Section 3 Detailed Component Descriptions

### CDR-1000 RECEIVER CONTROLS, CONNECTORS AND INDICATORS



**Figure 1**  
**Front Panel CDR-1000 Receiver**



**Figure 2**  
**Rear Panel CDR-1000 Receiver**

1. Power ON/OFF
2. Headphone Monitoring
  - a. ¼ Inch Stereo Jack
  - b. Headset Volume Control
  - c. Receiver Select Button
  - d. Selected Receiver Indicator LEDs
3. Graphical Display (2)
  - a. Channel Display
  - b. Battery Strength Indicator
  - c. Diversity Indicator
  - d. RF Strength of Signal Indicator
  - e. Audio Level Indicator
4. Display Control Buttons (Menu/Set/Up/Down) (2 Sets)
5. Power Connector
6. Balanced Mic/Line Level XLR Audio Output (2)
7. Unbalanced Line Level Audio Output (2)
8. Mic/Line Switch and Line Level Adjustment (2)
9. TNC Antenna Input Connectors (2) with 12Vdc (150mA) output on center pin
10. TNC Antenna Output Connectors (2) with factory installed “Dummy” loads (2)
11. USB Program Connector (2)

## Section 4 Detailed Description of Unique CDR-1000 Features

### Headphone Operation

1. With the transmitters and receivers setup and operating (see Sections 1 and 3 in the main RE-1 Operating Instructions), plug stereo headphones into the 1/4inch jack on the front panel.
2. The Selected Receiver LED will indicate receiver 1 is being monitored. Press the Receiver Select button once to change from Receiver 1 to 2.
3. Press the Receiver Select button once more and both indicator LEDs will light. You can now listen to both receivers. **NOTE:** *If both receivers are set to the same channel, the volume will double.*
4. Pressing the Select button once more cycles back to Receiver 1.

### Audio Output

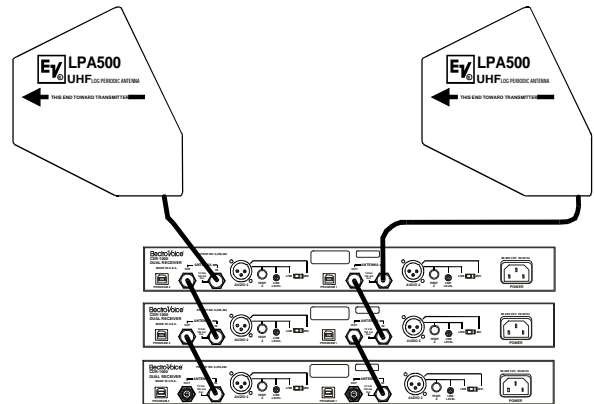
1. The CDR-1000 is equipped with a balanced XLR output for each receiver that can be switched between a fixed microphone level and an adjustable line level. There is also an unbalanced adjustable line level 1/4" jack.
2. For microphone level operation place the Mic/Line switch in the Mic position. The level adjustment will have no effect on the output in the Mic setting.
3. For adjustable balanced line level operation place the Mic/Line switch in the Line position. The level adjustment will now affect the output.

### Antenna Connections

1. Install the two FA-1 flexible antennas to the "antenna in" jacks on the rear panel.

**NOTE:** The two flexible 1/2 wave antennas included with the CDR-1000 can be remote mounted. For an additional 5dB gain use the LPA500 log periodic directional antenna.

2. The CDR-1000 is equipped with a left and right antenna output jack. These jacks can be used to connect up to 3 CDR-1000 (6 receivers) to two antennas without any additional equipment. **DO NOT** remove "dummy" loads unless connecting to another CDR-1000.



**Figure 3**  
**Antenna Chaining**

3. Figure 3 shows the connection diagram for 3 CDR-1000 units.
4. Up to 12 CDR-1000 units can be operated with just two antennas with the optional APD4-B antenna distribution unit (see Figure 4).

### 12 Volt Power On "Antenna In" Jacks

To power in line antenna amplifiers, 12 volt power is available on the center pin of the antenna in jacks. this power is disabled when the CDR-1000 leaves the factory but may be turned on by the installer.

To turn on the 12 volts, first take off the cover of the radio by removing 14 screws. There is a 2 pin "header" and a "jumper" behind the "XLR" audio connector on each of the two large printed circuit boards. See Figure 5. The jumper is installed on one pin of the header at the factory. To turn on power, unplug the jumper and install it on both pins of the header.

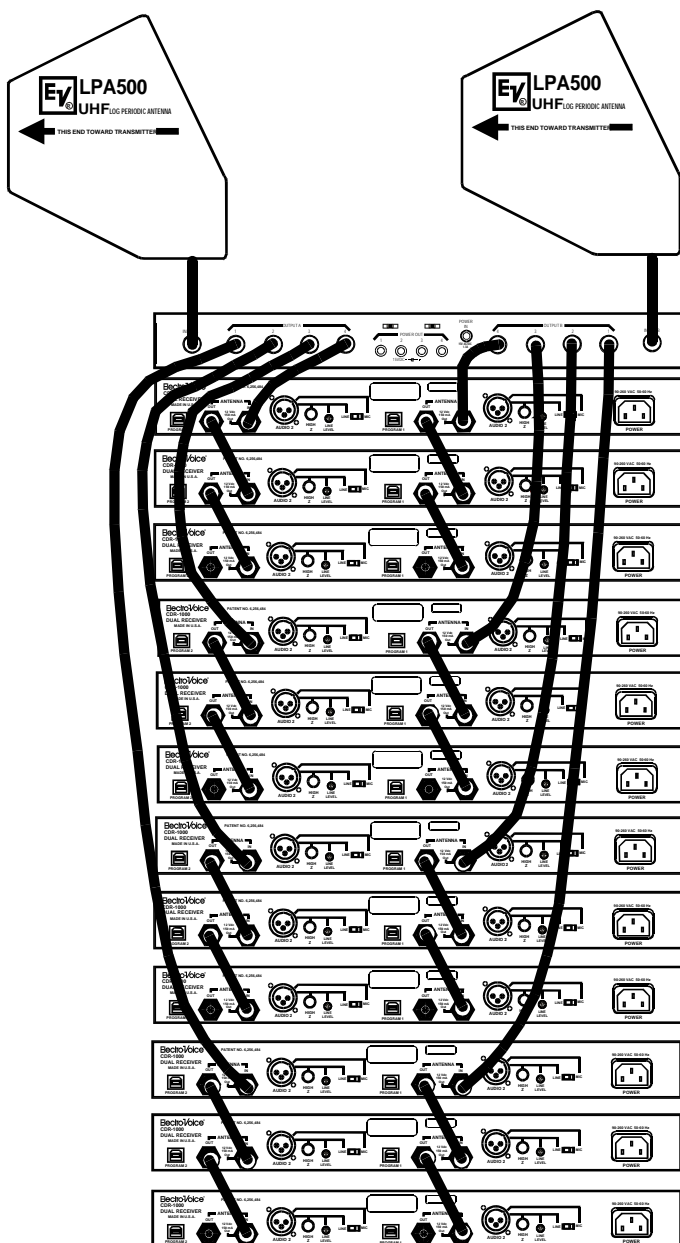
**CAUTION:** Do not attach antennas and splitters with a DC short circuit to the antenna in jacks when the power is turned on. Damage could result to the splitter or CDR.

The following antennas and accessories may be used with power on:

**FA-1, CLA-X, LPA-500B, APD4-B, APD4-1B, UAA-500**

The following antennas and accessories may be used with the power off.

**FA-1, CLA-X, LPA-500, APD4, APD4-1**

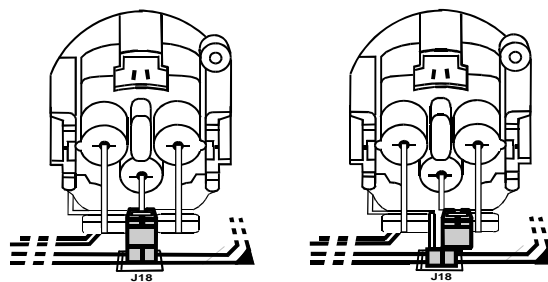


**Figure 4**  
**Antenna Chain with APD4-B**

## RE-OneLink PC Software

1. Software to monitor and control the CDR-1000 receivers from a PC through the USB port is available at [www.electrovoice.com](http://www.electrovoice.com). Minimum system requirements are:

Windows 2000  
 512 Mbytes of RAM  
 One USB port  
 USB Hubs for controlling multiple receivers  
 CD-ROM Drive  
 2 Mbytes of hard drive memory



**POWER ON**

**POWER OFF**

**Figure 5**  
**Moving Jumper**  
(Be sure to move Jumper on Both Receiver printed circuit boards.)

## Section 5 Trouble Shooting Guide

Problem	Possible Causes	Solutions
No (or low) Audio with good RF signal and Audio indications on receiver display	Receiver audio output cable is disconnected or connected to the wrong receiver.	Repair, replace cable or connect cable to the correct receiver.
	Audio Output in Mic position or line level adjustment low	Adjust audio output (See Audio Output section)
Low RF Signal	antennas connected to output instead of input jack.	Connect antennas to the input jack.

For more trouble shooting information see Section 6 in the main Operating Manual.

## Section 6 CDR-1000 Receiver Specifications

Receiver Type	Synthesized PLL
Frequency Range (RF)	A Band 680 - 704 MHz B Band 722 - 746 MHz D Band 798 - 822 MHz E Band 841 - 865 MHz H Band 740 - 752 MHz T Band 794 - 806 MHz
Number of Channels	> 960 possible channels Programmable in 25 kHz steps
Modulation	+/- 40 kHz
Diversity	DSP Posi-Phase™ True Diversity
RF Sensitivity	< 0.8 $\mu$ V for 12 dB SINAD
Image Rejection	> 60dB
Squelch	Tone Code plus Amplitude
Ultimate Quieting	> 100dB
FCC:	Authorized under Part 15
Power Requirements	100-240VAC, 50-60 Hz
Antenna DC Power (center pin)(when enabled)	12VDC, 150mA
Operating Temperature	-7° to 49° C (20° to 120° F)
Dimensions:	1.72 in. H x 16 in. W x 10.25 in. D 43.7mm H x 408 mm W x 261.4 mm D

### Audio Parameters

Frequency Response	30 – 15kHz +/- 2dB
Mic Level Balanced Output	Fixed: -10 dBV*
Line Level Balanced Output	Adjustable: 8 mV to 1.414 VRMS*
Line Level Unbalanced Output	Adjustable 4 mV to .707 VRMS*
Distortion	<0.5% (ref 1kHz, 40kHz deviation)
Signal-to-Noise Ratio	>110dB
Dynamic Range	>100dB

\*Nominal at 40 kHz Deviation, 100 k ohm Load

## Section 7 Certification

### CERTIFICATIONS

(Depending on frequency selected and country of operation)

#### **CDR-1000 Receiver, CSH-1000 Transmitter, CSB-1000 Transmitter**

Certified to ETSI EN 300 422-2 and ETSI EN 301 489-3, Conforms to European Union directives, eligible to bear CE marking as per the R&TTE Directive. Certified for use in Canada under RSS 123 Issue 1.

The CDR-1000 is authorized under United States Federal Communications Commission, Part 15.

The CSH-1000 and CSB-1000 are Type Accepted under United States Federal Communications Commission, Part 74.

**Licensing of this equipment is the user's responsibility and is determined by the user's classification, the user's application, and frequency selected. The user should contact the appropriate telecommunications authority for any desired clarification. Any changes or modifications made to the aforementioned equipment, by the user, could void the user's authority to operate the equipment.**

## Section 8 Accessories

### **ACCESSORIES AND PARTS for CDR-1000**

	<b>MODEL NO.</b>	<b>ORDER NO.</b>
UHF Wideband Antenna Amplifier (680-865 MHz)	UAA-500	7186400
½ Wave Flexible Rx Antenna (680-865 MHz)	FA-1	860031
Universal mounting bracket for ½ wave antennas. Includes 10 ft (3m) coax cable	AB-2	71138000
Antenna distribution system. Outputs for 4 receivers using only 2 antennas	APD4	APD4
Broadband (450-900 Mhz) log periodic antenna with mounting hardware. 5dB gain.	LAP500	LAP500
25-foot (7.6m) low-loss coax cable with TNC connectors	CXU-25	71151-025
50-foot (15.24m) low-loss coax cable with TNC connectors	CXU-50	71151-050
75-foot (22.9m) low-loss coax cable with TNC connectors	CXU-75	71151-075
100-foot (30.4m) low-loss coax cable with TNC connectors	CXU-100	71151-100



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