

The ISO-MAX<sup>®</sup> series of video ground isolation interfaces are designed for use in the finest professional and home theater systems. They have been engineered with the same standards of excellence as the Jensen series of audio transformers, which have been installed in tens of thousands of recording studios, broadcast facilities, and sound reinforcement venues worldwide. Jensen audio transformers have become the industry benchmarks for sonic transparency because of their extremely wide bandwidth, low harmonic distortion, and extremely low phase distortion. The Jensen series of video ground isolation interfaces meet the same level of unparalleled performance.

Model VRD-1FF is a one channel CATV ground isolator designed to solve a ground loop problem that can show up as a hum or buzz problem in either the audio or video portion of a professional A/V or home theater system. These ground loops occur because the coax cable from the cable TV provider is grounded outside the building or residence (required by National Electric Code), and this ground becomes an alien ground to the AC power safety ground inside, creating the ground "loop".

The model VRD-1FF is a capacitive based isolator which provides a high impedance barrier to AC power related ground currents, preventing this hum or buzz in sound systems or "hum bars" in video systems. The VRD-1FF was designed specifically to be a completely transparent path for video and cable modem signals. Unlike other low-cost CATV isolators available, the VRD-1FF has ruler-flat response and wide enough bandwidth to not cause an interruption of cable modems, the two-way communication between the cable provider and their set-top box, and any of the upper range channels. In other words, the VRD-1FF works where others don't!

### Model VRD-1FF Specifications

Bandwidth .....	2 MHz to 1300 MHz
Insertion Loss (typical) .....	-0.19 dB
Capacitance (output shield to input shield, 1 kHz) .....	2000 pF

PROPER INSTALLATION IS ESSENTIAL TO ACHIEVE OPTIMUM PERFORMANCE

**PLEASE READ THIS GUIDE CAREFULLY !**

**NOTE: The VRD-1FF isolator must be installed inside your home, after the point where the cable company has grounded your cable outside. This is a safety ground required by electric code to prevent a lightning strike from entering your home, and must not be defeated. If you do not see evidence that your cable is grounded outside (possibly because of an underground feed), or if you know that someone has removed the ground, **CALL YOUR CABLE COMPANY NOW, and get them to add the necessary ground connection ASAP.****

We recommend that the VRD-1FF isolator be installed on the coax cable run in the room where you are experiencing a hum problem. If you install the VRD-1FF at the point where the cable enters your residence, but before a multi-tap cable splitter, you will be isolating the cable ground outside from the input to the splitter only. All of the splitter's outputs will still be grounded together, raising the possibility that you might still have a ground loop between two or more of the splitter's output destinations. The optimum place to install the VRD-1FF is directly at the back of the cable company's set-top box (if you have one) or at the point it enters your system (TV input, DVD input, Control Amp input, etc.).

**NOTE: The next page contains important information about the proper installation of the VRD-1FF. We strongly recommend that you read our instructions and follow them. Failure to do so can lead to damage to the connectors on the VRD-1FF. This type of damage is not covered under the warranty policy.**

## **Installation Instructions for the VRD-1FF**

**Step 1.** Remove your existing coax cable at the system's entry point. **STOP ! READ STEP 2 NOW !**

**Step 2.** Before going any further, you must inspect the condition of your existing coax cable's center conductor (the solid wire in the center of the F-connector). The end of the center conductor must be smooth, straight, cleanly cut, and should not extend past the edge of the nut; trim if needed. If it is bent over in any way, gently straighten it with a pair of thin-nosed pliers before proceeding. If the end has any significant flare to it because it was cut by a pair of dull wire cutters, **it must be cleaned up before you install the VRD-1FF. This flare will damage the gold-plated contacts inside the VRD-1FF female F-connectors, causing a bad connection which can result in lost channels and poor performance. This type of damage to the VRD-1FF's connectors will not be covered by warranty.**

**Step 3.** Once you have determined that the end of the center conductor on your existing coax cable is clean and of the proper length, you can install the VRD-1FF. Hold the VRD-1FF isolator in one hand, and insert your coax cable into either end of the isolator (the VRD-1FF is bi-directional). Now, turn the nut on your existing coax cable's connector until snug. Do not rotate the VRD-1FF; you want to spin the nut only. Rotating the VRD-1FF is what causes the aforementioned damage to the VRD-1FF's connectors by the flared-out end of the existing coax cable's center conductor.

**Step 4.** Now, attach an additional coax cable (not provided) to the other end of the VRD-1FF. Use a short (6" to 1' or so) cable if you can find one. As before, hold the VRD-1FF still, and rotate the nut on the short cable's connector until snug.

**Step 5.** Finally, insert the other end of the short cable into your system's input, and tighten the nut snug.

**Step 6.** Turn on your system, and enjoy the hum-free signals you are now experiencing!

## **Troubleshooting Section**

**Question 1:** *My hum is gone, but now I'm no longer able to get certain channels. What's wrong?*

This can occur occasionally. We have been investigating this problem for a while now, and have discovered it is due to one of two reasons:

a. In most of these cases, the connectors of the VRD-1FF have been damaged enough from a bad coax end to cause a poor connection. The fix is to make sure your coax cable's end is clean before you install the VRD-1FF.

b. The other reason this occurs is due to reflections of the video signal occurring at points along the feed between the cable company and your home. Video reflections can be caused by improper tuning of the cable company's repeater amplifiers, illegal wire taps into the cable system (such as in apartment buildings), or unused video outlets in your home. Unused outlets should have a 75 Ohm terminator attached to the F-connector to prevent reflections. Go to an electronics store (ie: Radio Shack), purchase these terminator(s), and install them on all unused video outlets first as a possible fix.

If you still have missing channels, try moving the VRD-1FF to the other end of the coax cable run in the room it is in. We have found that changing the lengths of the cables that are before and after the VRD-1FF is enough to eliminate the reflections that are causing the dropped channels. However, if this still does not solve the problem, we will give you a 100% refund on a VRD-1FF purchased directly from us, provided we receive it in an undamaged, re-sellable condition.

**Question 2:** *Do I need a Return Authorization Number to send the VRD-1FF back?*

Yes, call us for a return number. Also, make sure it is packed in such a way that it arrives to our Chatsworth, CA office in an undamaged condition. Damage due to improper shipping will void our refund policy. It also prevents us from being able to determine the real cause of failure.

## If You Need Help

If you experience difficulty or have technical questions, our staff engineers are available from 8 AM to 4:30 PM Pacific time, Monday through Friday, by calling (818) 374-5857, or our toll-free number (866) 476-6291. You may also reach us by FAX 24 hours a day, 7 days a week at (818) 374-5856 or e-mail us at [info@jensen-transformers.com](mailto:info@jensen-transformers.com).

Several Jensen application notes discuss the technical aspects of grounding and interfacing in audio and video systems. They are available free on request. This information, as well as data on our full line of products for audio and video, may be obtained from our website at [www.jensen-transformers.com](http://www.jensen-transformers.com).

## **ISO-MAX**® PRODUCT WARRANTY

For a period of **1 YEAR** after purchase, Jensen Transformers, Inc. will, free of charge, repair or replace any part of this product that fails due to defective materials or workmanship. This limited warranty is subject to the following limitations:

1. Defects that are, in the sole judgement of Jensen, the result of accident, misuse, abuse, neglect, mishandling, misapplication, faulty installation, unauthorized repair, modification, or acts of God will not be covered by this warranty.
2. In the absence of proof of date of purchase, the date of manufacture (as determined from lot numbers of internal parts and the records of Jensen Transformers, Inc.) shall be used in its place.
3. There are no express warranties except as listed above.
4. JENSEN TRANSFORMERS, INC. SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT OR ARISING OUT OF THE BREACH OF THIS WARRANTY. Duration of implied warranties, if any, is limited to 12 months.

If a problem develops with this product during the warranty period, call or write us before attempting any repair. We can help you identify specific problems, and possibly solve the problem, before the unit is returned to us for repair or replacement. In any case, **DO NOT RETURN THE UNIT WITHOUT AUTHORIZATION** and instructions from us. Jensen cannot be responsible for damage due to shipping or improper packaging.

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