



Receive Feedline Current Choke

RFCC-1

DXE-RFCC-1-INS-Revision 2



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Introduction

The DX Engineering **RFCC-1** receive feedline common-mode choke is the most effective solution to common-mode noise or unwanted signal ingress available to date. The DX Engineering **RFCC-1** provides thousands of ohms isolation between the input and output coaxial shield connections while passing desired signals, including dc or low frequency ac control signals. The **RFCC-1** has extremely high isolation impedance which effectively blocks common-mode noise or unwanted signals, even in the presence of very poor grounding.

The **RFCC-1** is effective from 300 kHz to 30 MHz. It comes with standard CATV type “F” female connectors, although it can be used in any 50 to 75 ohm receiving system. The **RFCC-1** is a passive device, therefore requires no power to operate.

Application

Low noise receive antennas are traditionally located away from electrical wiring and other noise sources. Unfortunately, noise and other unwanted signals have a direct path to your low-noise antenna through the feedline shield connections between the station equipment and antenna. Unwanted signals can also energize the outside of the feedline shield, and this undesired signal energy can be conducted directly to the receiving antenna. This can reduce antenna directivity. Unless you have a perfect zero-resistance RF ground at the antenna, some of the common-mode noise or unwanted signals from the feedline shield will make it into the antenna. While RF suppression beads over the feedline can help, their impedance is generally very low, limiting the amount of isolation they can provide. Bead effectiveness is significantly dependent on feedline and antenna grounding.

*Do not transmit through the **RFCC-1** as damage to the unit will occur.*

Installation

One of the **RFCC-1** connectors is isolated from the case and can be identified by the white washer under the connector. The other connector is grounded to the case. The longest feedline cable run should always be attached to the grounded connector, and the **RFCC-1** should always be grounded to its own independent ground rod. We recommend at least one ½ to ¾” diameter copper ground rod at least 5 feet long.

The optimum location for the **RFCC-1**, in most applications, is near the antenna. Place the **RFCC-1** close to the antenna, but *before* the feedline parallels any antenna element. For a small loop antenna with the feedline dropping vertically from the loop, install the **RFCC-1** approximately one to two loop diameters below the loop.

If you have a Beverage, Flag, Pennant, or K9AY antenna, install the **RFCC-1** 15 to 30 feet away.

When the **RFCC-1** is mounted near the antenna, the grounded connector should be used for the feedline going to the operating position. If you mount the **RFCC-1** near a building entrance, the grounded connector should connect to the feedline going to the antenna. In all cases a separate isolated ground rod dedicated to the **RFCC-1** should be connected to the **RFCC-1** ground post.

Receiving antenna products from DX Engineering, such as the Active Receive Antenna system, include internal common-mode isolation between the feedline shield and antenna. If additional isolation is needed, the **RFCC-1** should be installed 20-30 feet from the antenna.

Figure 1 - RFCC-1 Shown in a Four -Direction Reversible Beverage System

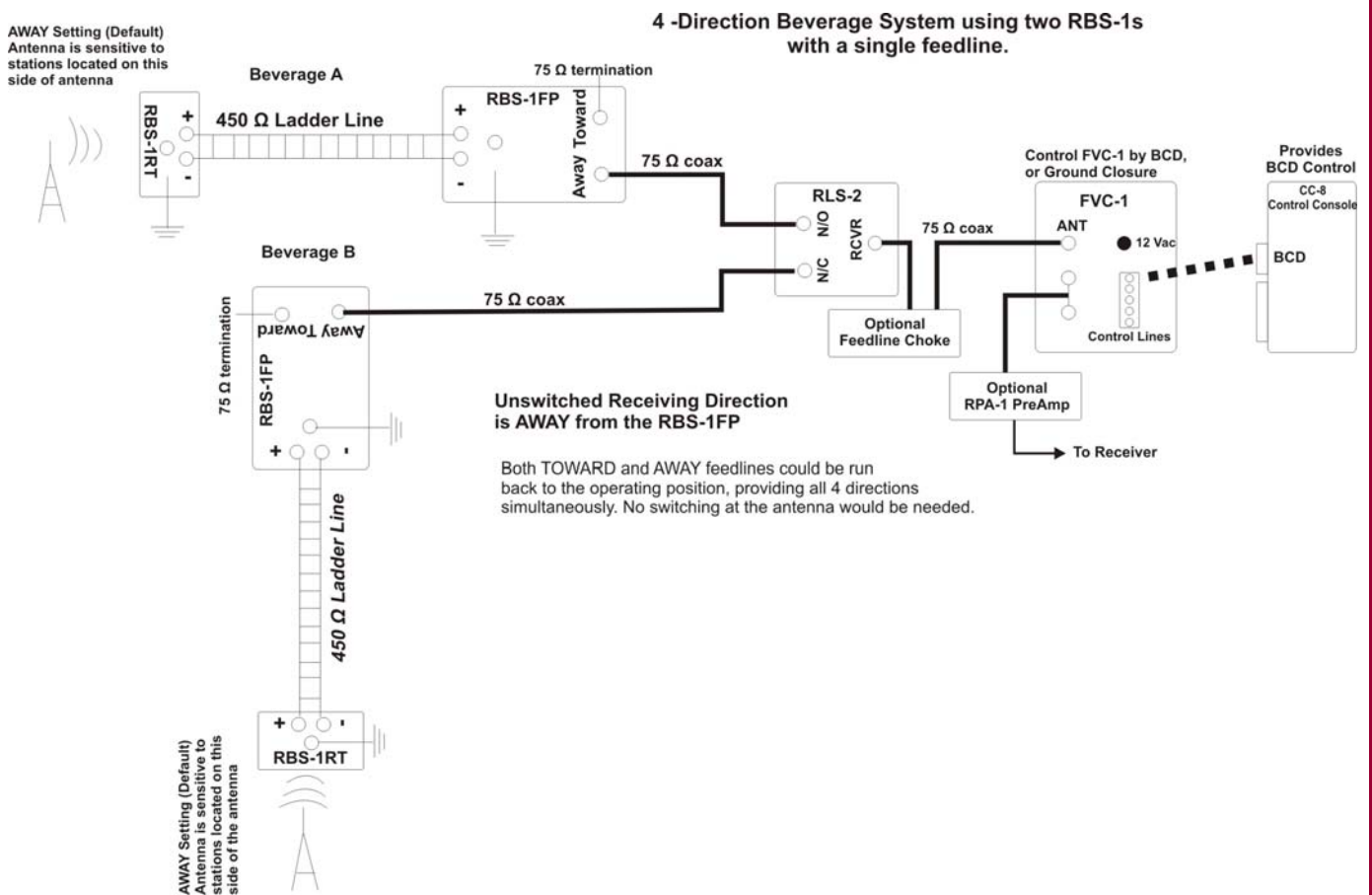
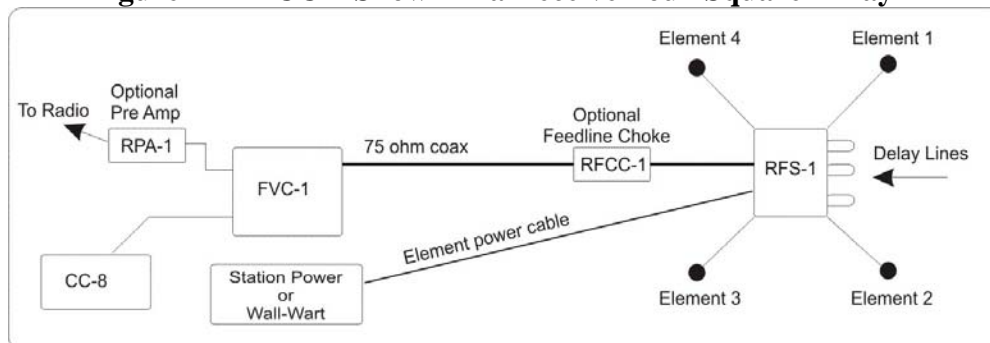


Figure 2 - RFCC-1 Shown in a Receive Four-Square Array



Technical Support

If you have questions about this product, or if you experience difficulties during the installation, contact DX Engineering at (330) 572-3200. You can also e-mail us at:

DXEngineering@DXEngineering.com.

For best service, please take a few minutes to review this manual before you call.

Warranty

All products manufactured by DX Engineering are warranted to be free from defects in material and workmanship for a period of one (1) year from date of shipment. DX Engineering's sole obligation under these warranties shall be to issue credit, repair or replace any item or part thereof which is proved to be other than as warranted; no allowance shall be made for any labor charges of Buyer for replacement of parts, adjustment or repairs, or any other work, unless such charges are authorized in advance by DX Engineering. If DX Engineering's products are claimed to be defective in material or workmanship, DX Engineering shall, upon prompt notice thereof, issue shipping instructions for return to DX Engineering (transportation-charges prepaid by Buyer). Every such claim for breach of these warranties shall be deemed to be waived by Buyer unless made in writing. The above warranties shall not extend to any products or parts thereof which have been subjected to any misuse or neglect, damaged by accident, rendered defective by reason of improper installation, damaged from severe weather including floods, or abnormal environmental conditions such as prolonged exposure to corrosives or power surges, or by the performance of repairs or alterations outside of our plant, and shall not apply to any goods or parts thereof furnished by Buyer or acquired from others at Buyer's specifications. In addition, DX Engineering's warranties do not extend to other equipment and parts manufactured by others except to the extent of the original manufacturer's warranty to DX Engineering. The obligations under the foregoing warranties are limited to the precise terms thereof. These warranties provide exclusive remedies, expressly in lieu of all other remedies including claims for special or consequential damages. SELLER NEITHER MAKES NOR ASSUMES ANY OTHER WARRANTY WHATSOEVER, WHETHER EXPRESS, STATUTORY, OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS, AND NO PERSON IS AUTHORIZED TO ASSUME FOR DX ENGINEERING ANY OBLIGATION OR LIABILITY NOT STRICTLY IN ACCORDANCE WITH THE FOREGOING.

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