

# HIGH POWER CIRCULATOR

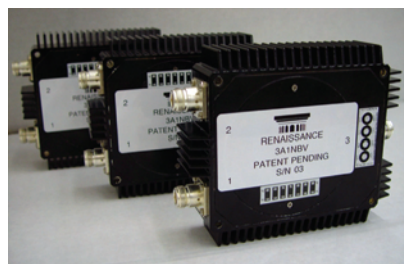
## MODEL 3A1NBV

*compact*  
 “Industry first  
 high power  
 circulator for  
 digital radio  
 applications”

Renaissance Electronics Corporation has developed a compact, high power circulator for FM Digital Radio applications. This circulator is designed for the frequency range of 88-108 MHz at a 4 MHz typical bandwidth; it features exceptionally low insertion loss, high isolation, and high power handling.

With isolation better than -22dB in 4 MHz bandwidth, this circulator is capable of handling more than 1,500W in CW mode without requiring forced cooling. The operation temperature range is from room temperature to 80°C.

The most common application for this high power circulator is in radio stations, combining the analog and digital signals from separate transmitters at high power levels. Inserting this high-power circulator at the output of digital transmitter prevents the analog signal from interfering with digital circuitry. The other application is to shunt any reflected signal due to mismatch in the high power path from returning into the transmitter. It also may be used on an antenna tower when combining several transmitter configurations.



### Characteristics

CENTRAL FREQUENCY	88MHz-108MHz
POWER	1,500W (CW)
ISOLATION	22 dB (MIN)
INSERTION LOSS	0.1 dB (MAX)
VSWR	1.15 (MAX)
TEMPERATURE RANGE	+25°C TO +80°C
DIMENSIONS	5.2" x 6.62" x 1.59"

### Features

### Benefits

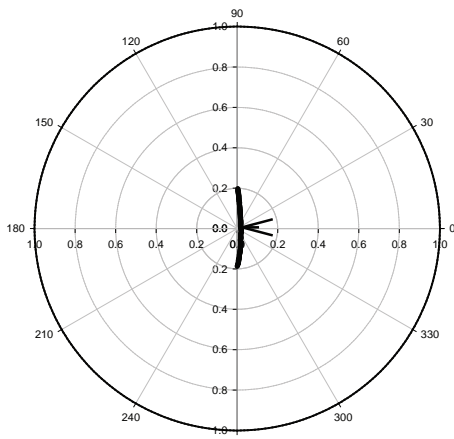
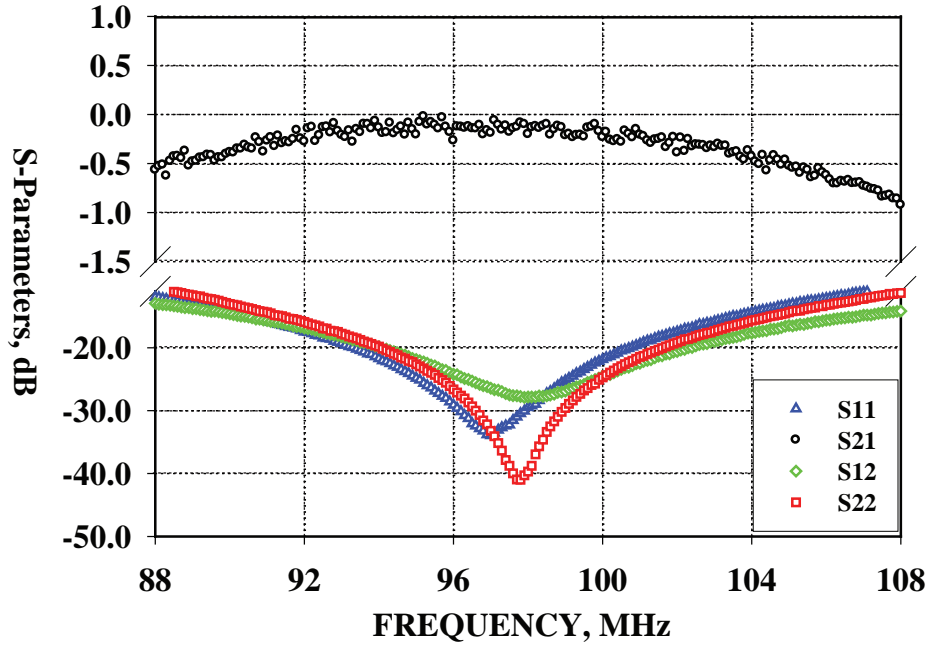
· <0.1 dB INSERTION LOSS	· POWER EFFICIENT, AIDING IN TEMPERATURE STABILITY AND AVAILABLE POWER LEVEL
· TYPICAL 4MHz BANDWIDTH	· SUFFICIENT MARGIN FOR OPERATING FREQUENCY RANGE
· ISOLATION >22dB	· PROLONGS TRANSMITTER LIFE
· CONVECTION COOLED	· NO EXTERNAL POWER/COOLING ARRANGEMENTS REQUIRED
· COMPACT SIZE	· EASY TO INSTALL, SMALLER & LIGHTER



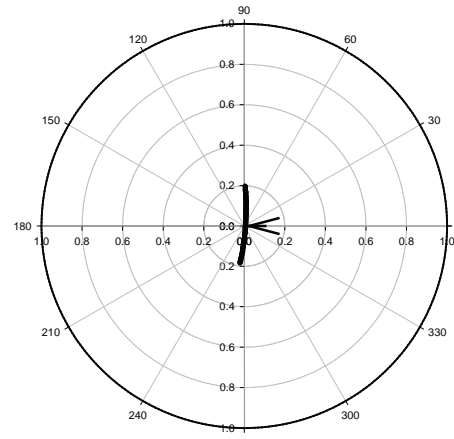
12 LANCASTER COUNTY ROAD  
 HARVARD, MA 02154  
 978-772-7774  
 WWW.REC-USA.COM

*The New Thinking in Wireless Technology*

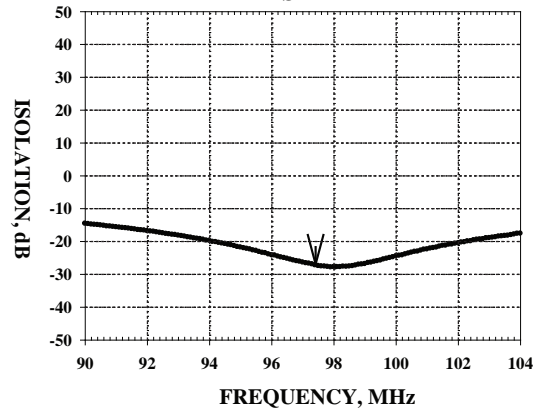
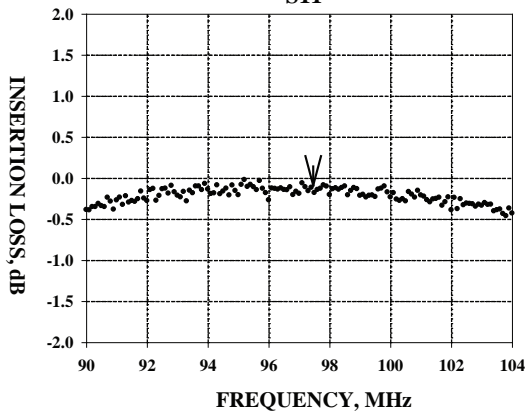
# S-Parameters of High Power Circulator for HD Radio Transmitters



S11



S22



## Ordering Information:

The High Power Circulator may be ordered by using Renaissance Electronics' part number 3A1NBV, and then indicating your specified frequency. Example: For a frequency of 101.5 MHz, your part number would be 3A1NBV-101.5.



12 Lancaster County Road, Harvard, MA 01451  
Tel: 978-772-7774 Web: www.REC-USA.com

