

Hamation Bandpass Filter Unit

with removable filters



© Hamation, 2004-2007

Introduction

The ShackLAN Bandpass Filter unit provides bandpass filters for 160, 80, 40, 20, 15, and 10 meters. There is also an *optional* second set of filters for 160 and 80 meters that can be used for receive antennas. These filters are almost always required to operate more than one radio from the same location without interference from other stations and to protect receivers from being damaged by excessive signal levels.

The filters can be controlled automatically, manually or remotely. Automatic control is accomplished using the *optional* Ethernet interface by selecting AUTO with the MODE switch. Manual filter selection is enabled by selecting MANUAL with the MODE switch. This is the only mode where the BAND switch is activated. Remote control, such as from a band decoder, can be done using the REMOTE inputs on the rear panel. If you wish to use the remote control feature you must place the MODE switch in the OFF position and apply +12vdc to the REMOTE inputs to select the desired band.

The REMOTE connector can also be used as band decoder outputs for selecting external devices. This type of operation is only available when using the AUTO and MANUAL modes. The connector pin will supply +12vdc for the currently selected band. Pinouts are listed on the rear panel and also shown on the installation page.

-o-

Installation & Configuraton

Power

+12vdc power to the unit is supplied to the 2.1mm power jack on the rear panel with the center pin being positive and then outer sleeve being ground. The applied power can be between 12 and 14 volts and the power supply must be able to supply a minimum of 500ma. The power connection can be ignored if you only plan to control the filters with an external band decoder and do not plan to use the front panel controls or the *optional* Ethernet interface.

Unit ID (Ethernet option only)

The only configuration required for the filter unit is to set the Unit ID. If you need to change the ID, set the dip switches to reflect the new ID number. The switches are weighted 1, 2, 4, 8 for switches 1 to 4, respectively. The Unit IDs for these filter units occupy a different network address block and can overlap those of the relay drivers and antenna switches.

SW1	SW2	SW3	SW4	
1	0	0	0	Unit ID #1
0	1	0	0	Unit ID #2
1	1	0	0	Unit ID #3
0	0	1	0	Unit ID #4
1	0	1	0	Unit ID #5
0	1	1	0	Unit ID #6
1	1	1	0	Unit ID #7
0	0	0	1	Unit ID #8

1	0	0	1	Unit ID #9
0	1	0	1	Unit ID #10
1	1	0	1	Unit ID #11
0	0	1	1	Unit ID #12
1	0	1	1	Unit ID #13
0	1	1	1	Unit ID #14
1	1	1	1	Unit ID #15

Installation

Connect a length of 50 ohm coax from the antenna jack on your radio to the Main Input connector on the filters and another length of 50 ohm coax from the Main Output connector to either your antenna switch or the input of your amplifier. For the *optional* 160M/80M Receive filters, connect a 50 ohm coax from your receive antenna or receive antenna switch to the Rx Input connector and another length of 50 ohm coax from the Rx Output connector to the receive antenna jack on your radio.

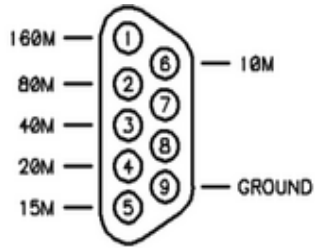
WARNING: These bandpass filters are designed to be installed between your radio and amplifier. If you install the filters on the output of your amplifier, the filters will be destroyed the first time you transmit through them.

Filters

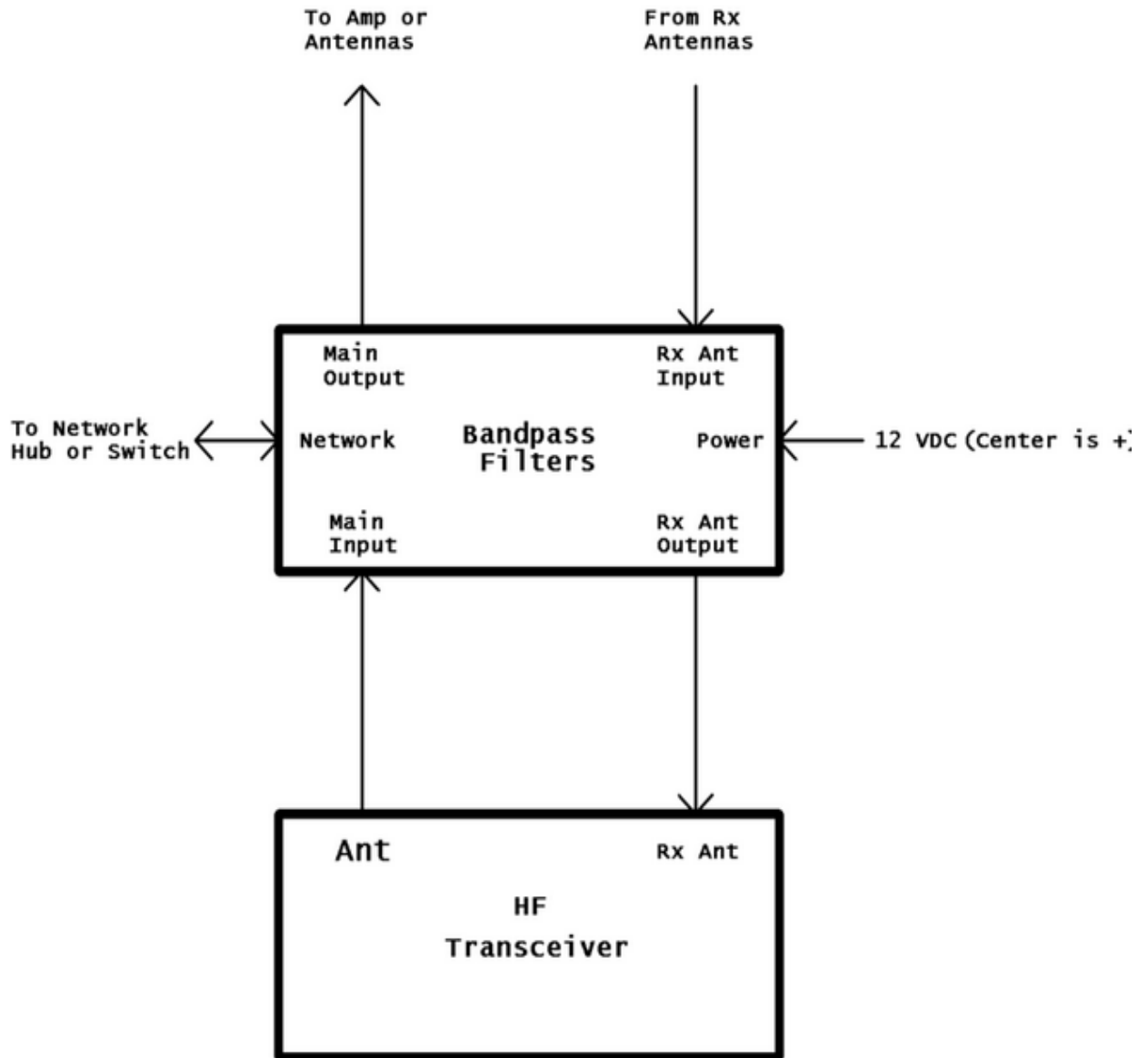
The unit is shipped with all filters installed. In the event you need to replace any of the filters be sure to install them in the correct orientation. The filter module is correctly installed when the band label is towards the rear panel and the end of the filter with the larger number of capacitors is towards the front panel.

Remote Operation (Band decoder)

Remote operation is possible via the Remote connector on the rear panel. Select the desired filter by applying +12vdc to the associated pin. Be sure to place the front panel Mode switch in the OFF position when selecting filters remotely. When controlling the filters via the Ethernet interface or manually with the front panel controls the Remote connector will supply +12vdc on the pin associated with the selected filter.



External Inputs/Outputs



Block diagram of typical installation with all options installed