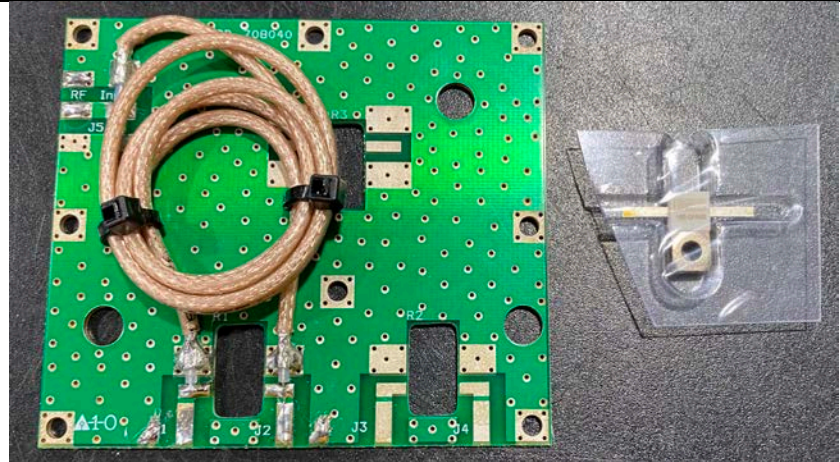


## Model TV3-SPL708040: 2 way Band 3 splitter kit

This combiner kit is ideally suited for input power splitting.

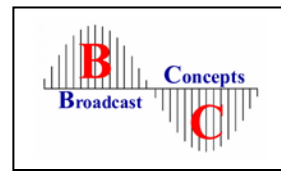
- 170-230 MHz (CH 7-13)
- 80W Average Power in DTV
- Low cost FR4 PCB
- Broadband not tune design.
- 30W flanged balance resistor included.
- Available for special order as PCB only.



Dimension (L x W x H inch) [3.130" x 2.750" x 0.5"]  
 Tolerance +.015 – 0 inches in L and W

Electrical Specifications				
Characteristics	min	typ	max	unit
Operating Frequency range	170	-	230	MHz
Maximum CW power	-	-	80	Watts
8VSB Digital	-	-	80	Watts
DVB Digital	-	-	80	Watts
Input ports return loss ports	-	-30	-25	dB
Common Port Return loss	-	-25	-20	dB
Insertion loss S12/S21**	-3.14	-3.16	-3.20	dB
Port to port isolation	-	20	25	dB
Phase unbalance	-	-	1	degree

A mechanical drawing and raw S-parameter files can be downloaded from the main product page. The S-parameter files are standard 2-port format. The DXF file is 2003-2006 format which can be opened by all modern cad and drawing programs.



## **Electrical Connections:**

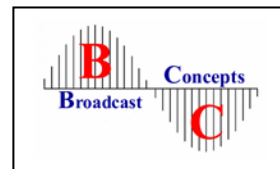
The RF connections are designed to be made by soldering coaxial cable directly to the combiner PCB.

Please note that the inputs and outputs have ground solder pads on both sides of the RF track. Do not twist braids of coax cables in an attempt to make contact with additional ground. Use only high temperature PTFE cables. Cables that melt when soldered are unsuitable and may fail after a short time.

This combiner can be used to split the signal between 2 units of any Broadcast Concepts Inc. Band III TV amplifier pallet. All pallets must be of the same make and model.

The 100 ohm 30W flanged balance resistor supplied in the kit must be installed by the end user. The kit should be installed on a heat sink or metal surface.

This product can be special ordered in a milled housing with SMA connectors or with an aluminum base plate. Please contact us for costing if you are interested in these optional configurations.

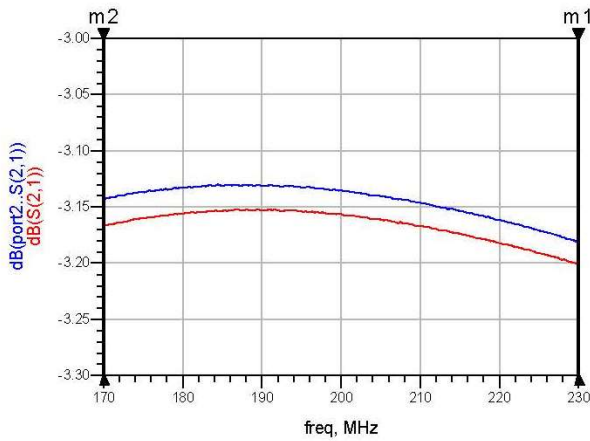


Typical RF Performance

Insertion Loss J1 and J2

m1  
 freq=230.0MHz  
 dB(S(2,1))=-3.201  
 dB(port2..S(2,1))=-3.181

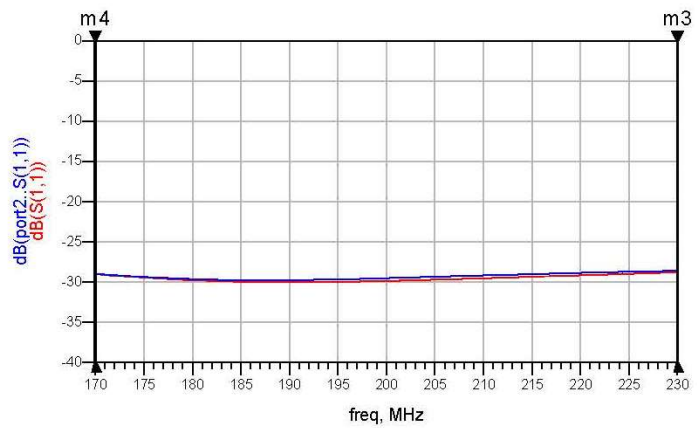
m2  
 freq=170.0MHz  
 dB(S(2,1))=-3.166  
 dB(port2..S(2,1))=-3.142



Return Loss J1 and J2 Inputs

m3  
 freq=230.0MHz  
 dB(S(1,1))=-28.794  
 dB(port2..S(1,1))=-28.612

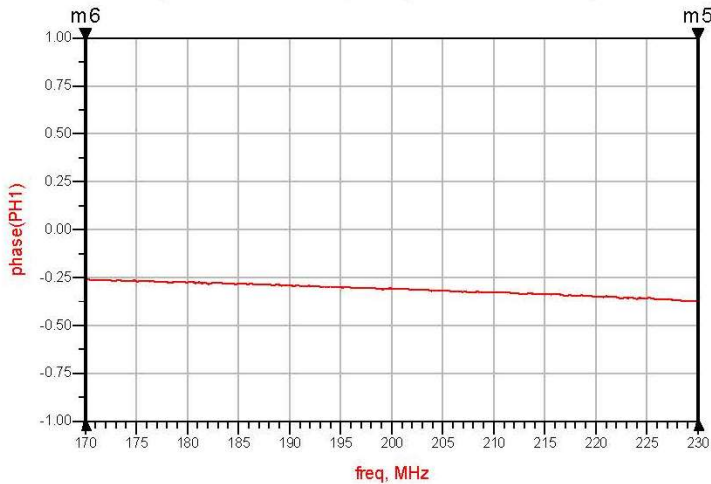
m4  
 freq=170.0MHz  
 dB(S(1,1))=-29.030  
 dB(port2..S(1,1))=-28.998



Phase Difference J1 and J2

m5  
 freq=230.0MHz  
 phase(PH1)=-0.374

m6  
 freq=170.0MHz  
 phase(PH1)=-0.265



Eqn PH1=S(2,1)/port2..S(2,1)

Return Loss at Sum port

m7  
 freq=230.0MHz  
 dB(S(2,2))=-20.266

m8  
 freq=170.0MHz  
 dB(S(2,2))=-21.610

