



# Broadcast Frequency Locked Modulator

BFLM System

Headend



## ○ Features & Benefits

- Front Panel Accessible Level Controls for Easy Set-Up and Adjustments
- Two Product System Designed to Lock to a Local Off-Air Source to a Satellite Delivered Local Broadcast to Cure Flutter and Moire Patterns
- Consists of a BFLM-IF and a On Channel CAP with Option 21
- Rack Mountable - 1 EIA (1.75") Rack Space Each Unit - (2 Rack Spaces for System)

The BFLM is a product system that corrects and cures the unacceptable picture flutter and moiré patterns that manifest on viewer televisions when using local VHF broadcast channel assignments to deliver program content that is received via satellite or is originated locally. The BFLM accomplishes this correction via automatic frequency locking and tracking circuits which ensure that the output frequency is exactly & continuously the same as that of the local VHF broadcast carrier frequency.

The BFLM-IF is a professional quality Broadcast Frequency Locked IF Modulator. A professional grade saw filter is employed to provide true vestigial sideband selectivity with built-in FCC group delay pre-distortion. The unit accepts standard polarity (sync negative) video in the range of 0.7 to 2.8 V p-p. An integrated BTSC stereo encoder module is standard. The unit accepts a SAP audio input from a SAP generator.

The BFLM includes a "Stand By Carrier" feature that substitutes an alternate clean IF signal if the off-air broadcast station stops transmitting. The BFLM automatically detects the loss of the VHF broadcast signal input and activates the alternate IF signal. This will ensure that the signal from the satellite receiver is undisturbed and continues to be transmitted to the distribution system.

## ○ Specifications

### IF

- Frequency Output: 45.750 MHz
- Aural/Visual Carrier Ratio: -9 to -20 dB
- Visual Carrier Frequency: Locked via On Ch. CAP
- Aural Carrier Frequency: Offset from Visual Carrier: +4.5 MHz  
Tolerance: ±50 Hz
- Channel Selectivity: Adjacent Aural and Below: -42, min dB  
Adjacent Picture and Above: -45, min dB
- Spurious Outputs: -60 dBc
- C/N Ratio In Channel: 68 dB
- Output Impedance: 75 Ohm
- Aural Frequency: 41.25 MHz
- Visual Frequency: 45.75 MHz
- Composite IF Loop Output: Aural Carrier Level: +20 dBmV  
Visual Carrier Level: +35 dBmV
- Output/Input Impedance: 75 Ohm
- Output Return Loss: 18 dB

### Video

- Input Level: 1.0 V p-p
- Frequency Response: fv-0.5 MHz to fv+4.2 MHz: ±0.5 dB
- P-P Video to RMS Hum Ratio: 65 dB
- Video Signal-to-Noise Ratio, Weighted: 64 dB
- Differential Gain: 2.0 %
- Differential Phase: 1.0 °
- C/L Delay Inequality
- Over Modulation Indicator: 87.5, ±2.5 %
- Input Impedance: 75 Ohm
- Input Return Loss: 30 dB

### Audio

- Input Level: -10 to +10 dBm
- Ext. 4.5 MHz Input Level: +40 dBmV
- Frequency Response: Mono (30 Hz to 15 kHz): ±0.5 dB  
Stereo (50 Hz to 10 kHz): 1.5 dB
- Pre-Emphasis-Mono: 75 µs

### Audio Signal-to-Noise

- Mono @ 25 kHz Deviation: 64 dB
- Stereo @ 50 kHz Deviation: 60 dB
- Total Harmonic Distortion: 0.6 %
- Over Modulation Indicator: 25 ±2 kHz
- Input Impedance: 600, balanced Ohm

### Sub-Carrier Audio

- Frequency: 4.5 MHz
- Stability: ±5 KHz

### General

- Power Requirements: Voltage: 117, ±10%  
Frequency: 60 Hz  
Power: 14 W
- Fuse: 1/4 A
- Temperature Range: 0 to +50 °C

### Mechanical

- Dimensions (WxHxD): 19.0 x 1.75 x 14.5 in.  
(483 x 44 x 368) mm
- Weight: 6 lbs. (2.73 kg)
- Connectors (Rear Panel): Video Input: "F" Type, Female  
Audio Input: Standard - Mono: Barrier Strip  
Optional - Stereo: Barrier Strip  
4.5 MHz Input: "F" type, Female  
Composite IF Output: "F" Type, Female

### Controls (Front Panel)

- Video Level: Control
- Aural Carrier Level: Control
- Audio Level Stereo/Mono: Control

### Indicators (Front Panel)

- Power ON: LED, Green
- Video Over Modulation: LED, Red
- Audio Over Modulation: LED, Red
- BTSC Stereo: LED, Red

## ○ Ordering Information

Model	Stock No.	Description
BFLM-XX ✱	5898	Broadcast Frequency Locked Modulator System Complete system of BFLM-IF and CAP-60-ON with Option 21
BFLM-IF ✱	5898 IF	Broadcast Frequency Locked Modulators - IF IF Unit Portion only

xx - Specify channel when ordering (UHF Channel 02-13)