IF Demodulator/Modulator

IFDM Series

❍ Features & Benefits

- Synchronous Video Detector Provides Exceptional Differential Phase and Gain Response
- External Video Loop - Allows Insertion of Video Signal Processing Equipment
- IF Output Carrier Phase Locked to IF Input Carrier
- Automatic IF Bypass Mode During Power Loss
- Manual External Video/IF Bypass Mode Selection
- Rack Mountable - 1 EIA (1.75") Rack Space

The IFDM is a high quality, commercial grade, IF signal processor. The unit consists of two sections, an IF demodulator and an IF modulator. The IFDM provides an external video loop, allowing for conditioning of the baseband video signal. These features make the IFDM an ideal interface to a wide variety of signal processing equipment, especially those requiring stringent performance characteristics. Some applications suited for IFDM include, digitally based noise reducers and ghost cancelers.

The IFDM demodulator section utilizes a keyed AGC, Nyquist filter, and a synchronous video detector. This design provides superior differential phase and gain characteristics over the entire IF input level range (+13 to +42 dBmV). The baseband video output of the demodulator is available via an external video loop. A wide array of signal processing and conditioning equipment can be inserted to achieve a desired video performance. The baseband video is then modulated onto the IF output carrier. This IF output section is phase locked to the IF input section, thereby ensuring minimal phase noise and exceptional signal reproduction. The 4.5 MHz aural subcarrier output of the demodulator is fed directly to the modulator circuitry. This feature preserves the integrity of the original aural signal. The modulator provides sufficient output level (+22 to +42 dBmV) to satisfy the IF input requirements of all professional, heterodyne processors.

❍ Specifications

IF

Frequency
Visual: 45.750 MHz
Aural: 41.250 MHz

Input Level: +13 to +42 dBmV

Input Visual Carrier Frequency Tolerance: ± 25 kHz

Output Level Range: +22 to +42 dBmV

Output Visual Carrier Frequency Tolerance: ± 25 kHz

Aural Carrier Frequency Tolerance: Same as input (fv - 4.5 MHz)

Aural/Visual Ratio Range: -8 to -25 dB

Spurious Output: 62 dBc

Intermod Distortion: -60 dBc

Impedance - All Ports: 75 Ohm

Return Loss
Input: 16 dB
Output: 20 dB

Video

Video Output: 1.0 V p-p

IF IN - Video OUT Response: ± 0.75 dB
+0.75 / - 2.0 dB

Video Output S/N: 62 dB

Video Input Depth of Modulation: 87.5 %

Maximum Video Modulation Depth: 96 %

Video IN - IF OUT Response: 1.0 dB P/V

Differential Gain: 5 %

Differential Phase: 3 °

Modulator Selectivity
Sidebands (fv - 6.0 MHz): -36 dB
Sidebands (fv +1.5 MHz): -30 dB
Ultimate Rejection: -60 dB

Visual Carrier to Noise: 60 dB

Visual Carrier to P-P Hum: 60 dB

Overall Video S/N: 59 dB

Video Input Return Loss: 19 dB

Audio

Audio Distortion: < 0.5 %

Audio S/N: 53 dB

Audio Hum and Noise: 60 dB

General

Power Requirements
Voltage: 117, ±10% VAC
Frequency: 60 Hz
Power: 12 W

Fuse: 3/16 A

Temperature Range: 0 to +50 °C

Mechanical

Dimensions (WxHxD):
19.0 x 1.75 x 18.0 in.
483 x 44 x 457 mm

Weight: 7.0 lbs., 3.2 kg

Connectors(Rear Panel)

IF IN: "F" Type, Female

Video Out: BNC, Female

Video In: BNC, female

IF OUT: "F" Type, Female

Manual IF Bypass: Barrier Strip, 2 Terminal

Controls (Rear Panel)

A/V Ratio: Var. Control

IF Output Level: Var. Control

Manual IF Bypass: Jumper, Barrier Strip

❍ Ordering Information

Model	Stock No.	Description
IFDM	5979	IF Demodulator/Modulator