

IF Modulator with NICAM 99143.13

APPLICATION

The modulator 99143 is used for modulating audio and video signals to standard IF-signals with NICAM carrier.

The modulators are available for the following systems:

- System B/G (IF 38.9 MHz)
- System I (IF 38.9 MHz)
- System L (IF 38,9 MHz)

The modulators should be used together with an upconverter in order to obtain the desired output frequency.

Type 99143, adjacent channel operation, extended requirements.

MOUNTING

The enclosed cable is intended for establishing connection to the upconverter.

SETTING VIDEO:

Video input impedance

Factory set: 75 ohm

The modulator is delivered with an input impedance of 75 ohm. If a high-impedance input is required, thus the signal can be looped through, jumper J1 must be moved as shown in figure 1 and a T-link must be mounted at the output.

Audio input

Factory set: Unbalanced

Factory set: 600 ohm

The modulator is delivered with an unbalanced input of 600 ohm. If jumper J5 is moved as shown in figure 1, the input impedance increases to 10 kohm. If jumper J6 is moved as shown in figure 1, the input will be balanced.

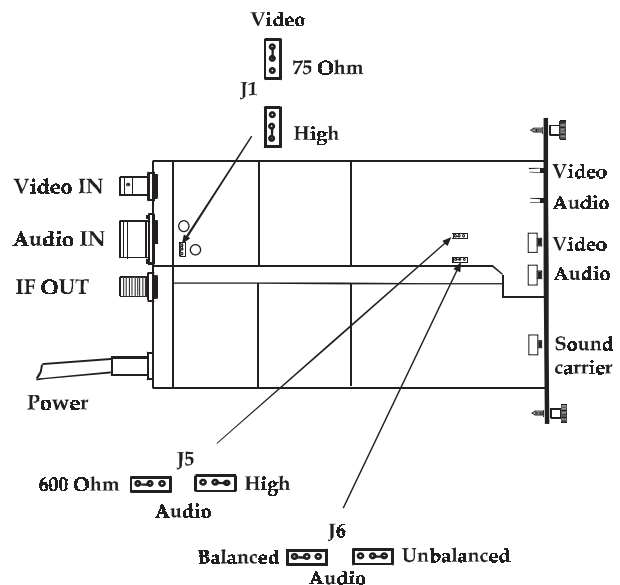


Fig. 1 Modulator with dismantled side plate.

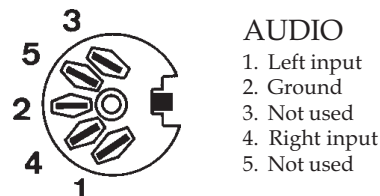


Fig. 2 Audio socket seen from modulator rear

ADJUSTMENT

Video input level:

The modulators have been preset to an input level of 1 Vpp, but may be adjusted -6 dB. Adjustment is made by turning the control "Video" clockwise until the indicator "Video" starts flashing. Then turn counter-clockwise until the indicator turns off again. The residual carrier will then be approx. 10% for the systems B/G, 20% for system I, 6% for system L and 12.5% for system M.

NOTE ! The indicator "Video" being a peak-detector, it may flash for short periods on account of input signal variations. If the indicator is giving out a constant light, the output signal is being overmodulated.

Audio input level:

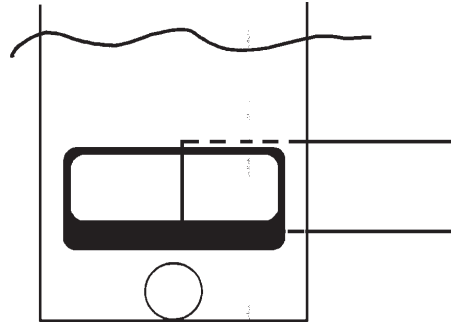
The modulators have been preset to a frequency deviation of -50 kHz (-25 kHz for system M) at an input level of 0dBm (2.2 Vpp, 0.77 Vrms) at 600 ohms, frequency 400 Hz (80% modulation for system L). Adjustments at input levels from -6 dBm to +20 dBm can be made by turning the control "Audio". Such adjustment should be made at a level corresponding to the maximum level from the sound source.

NOTE ! The indicator "Audio" being a peak-detector, it may start flashing on account of input signal audio peaks. If the indicator is giving out a constant light, the output signal is being overmodulated.

Output signal: Vision carrier level has been preset to 103 dBμV (99 dBμV, system L) and is not adjustable. The sound carrier level lies 13 dB (10 dB, system D/K) below the vision carrier. The difference between vision and sound carrier levels may be adjusted by 10-20 dB with control "Sound Carr."

Adjusting the level of the NICAM carrier

The level of the NICAM carrier is factory-set to 20 dB, 22 dB or 27 dB below the picture carrier, dependant on the system being I, B/G or L (ref. 103 and 99 dB V, respectively). The level can be changed by turning "QPSK".



The information panel label is intended for text as required, e.g. programme designation.

The label can be inserted from either side of the unit and is removed by pushing with a second label.

Label size : 30 x 10 x 0,1 mm (80 g/m²)

MAIN DATA

Video level	1 Vpp - 6 dB
Input impedance	75 ohm
Audio level	0 dBm -6/+20 dB
Impedance	600 ohms bal/unbal 10 kohms bal/unbal
Output level, vision	103 dBμV (99 dBμV, system L)
Level dist., sound/vision	13 dB, 10-20 dB (10 dB, 10-20 dB, system D/K)

The level of the NICAM carrier is factory-set to 20 dB, 22 dB or 27 dB below the picture carrier, dependant on the system being I, B/G or L (ref. 103 and 99 dB V, respectively).

System	Carriers	Video / Sound / Nicam
B/G:		38.9 / 33.4 / 33.05 MHz
I:		38.9 / 32.9 / 32.348 MHz
L:		38.9 / 32.4 / 33.05 MHz

Power consumption	200 mA/12V
-------------------	------------