Digital Instruments

AMD-V01

AM Digital Demodulator and TX Remote Controller

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Overview

AMD-V01 is a digital demodulator for amplitude modulation broadcasts in wide spectrum in the frequency range from 200 KHz to 30 MHz. In addition to the demodulation of the RF signal, **AMD-V01** is able to provide a series of information typical of a control apparatus. Absence or lowering of the level of the carrier, the absence of modulation and other control signals allow the broadcaster an easy implementation of a system of simple and reliable control.
The demodulated audio signal, is treated in a digital way along all the demodulation path. The entire chain, from RF front-end to the exit BF, is in fact entirely digital. The resulting advantage is appreciated in the versatility of the system, able to adapt to a variety of configurations including high rejection filtering, parametric measure, and anything else you may require a cluster made of processors dedicated to digital signal processing in real time. To facilitate the measurement activities were also implemented user-programmable channel filters which achieve cuts in frequency at 4.5 KHz, 6 KHz, 15 KHz, 20 KHz and 30 KHz.
Such filters facilitate, together with the possibility to set the frequency demodulation step of 1 KHz, all activities related to the extent of the distortion over that to make particularly precise curves or level-frequency background noise.

On the front panel of the **AMD-V01** are also two bargraph precision can display the audio level and the level of the carrier, in particular as regards the peak-meter audio conforms to the following specification according to DIN 45406.
The scale used for the bargraph audio stretching - 40 dB to + 5 dB according to specification and is comparable to a scale expressed as a percentage of the level of modulation. Similarly, as regards the bargraph linked to the carrier level. In installation phase calibration at 100% allows easy control whenever it detects a change in the level of output power from the transmitter. Also on the front panel is an alphanumeric display and a keyboard to access the configuration parameters. In a very simple way, you can set various parameters including the time within which to send alarm messages, the levels of threshold or cut-off frequency of the digital filter. The dynamical range of **AMD-V01** is 96 dB with a bandwidth that extends from 20 Hz to 30 KHz frequency linearity of the measure in between + / - 0.5 dB. The signal level of the two signals is amplifiable in such a way as to align the chain to 0 dB. The range of amplification ranging from a minimum of -20 dB to 0 dB.

AMD-V01 version is made of rack 19'' 1U. The dual power supply from mains and battery is guaranteed to perform in interruptible.

Features

· Demodulation range from 200KHz to 30 MHz,

· Status info of the level of the carrier,

· HD bargraph display,

· BF output (tunable from 4.5 KHz to 30 KHz),

· 2 x XLR Balanced transformer output connectors

· Display & Keyboard,

· System in format 19'' Rack 1U.

Tuner section
Frequency: 513 KHz From - to 1690 KHz in steps of 1 KHz.
Level: Min -10 dBm to 13 dBm
Connector: BNC (For each RF output)

Demodulator section
ADC: 14-bit 65 MSPS
SINAD: <56 dBc.
THD: <72 dB

BF output
Bandwidth: 15 Hz to 30 KHz
Maximum Output Level: 12 dBu (8.7 Vpp)
THD + N: - 72 dB at 400 Hz
Background noise: - 72 dB
Output connectors: 2 x XLR Balanced transformer

Signaling
RS232: DB9 Male ± 15kV electrostatic discharge (ESD) shocks
RS-485 (optional) DB9 Male ± 15kV electrostatic discharge (ESD) shocks
4x Dry Contact Connector Weidmuller mod. SL 3.5 8-pin

Supply
Network: 95 Vac - 240 Vac Plug IEC320 integrated EMI / RFI filter
Battery: 20 Vdc - 60 Vdc EMI / RFI filter integrated

Size
Width: 1 Unity 19".
Depth: 300 mm connectors excluded.
Weight: 1.5 Kg.