

PAL B/G (D/K) Television Modulator Solution

AM2000 Series

- **CVBS to PAL RF**
- **47~870MHz**
- **Cost Effective 1RU Modulator**
- **Video Freq AGC**
- **Fixed or Freq Agile**
- **Intuitive Front Panel LCD Display**
- **Universal management through craft interface**



AM2000 1RU PAL Television Modulator offers a flexible, compact and all-in-one device which converts V/A signals into RF output signals. AM2000 PAL signal Modulator is a high-quality, microprocessor controlled modulator used in large sized broadband networks.

AM2000 PAL modulator is designed with two options fixed frequency adjacent channel modulator or frequency agile modular. It employs a high-quality Phase Locked Loop (PLL) circuit to provide advanced performance and excellent versatility in a 19-inch (1 RU) chassis. AM2000 series converts CVBS IF signals to PAL B/G or D/K RF out in the frequency range of 47~870MHz.

AM2000 PAL modulator can be deployed for mid and large sized broadband CATV operator networks, or in hospitality market, schools, government offices. It has intuitive front panel LCD display to make operator's life easier. The encoder modular is packaged in a self-contained 19" sub-rack of 1 RU with universal mains power supply and SNMP management.

Key Features

- 1 RU compact platform suitable for various video headend applications
- Cost effective solution with low cost per channel
- Adjacent channel operation (Fixed: Any fixed channel within 48 MHz to 861 MHz)
- In accordance to adjacent frequency design, no interference between adjacent channel
- Independent oscillation in IF 38.90 MHz
- PLL frequency composite in video carrier frequency and audio carrier frequency
- IF input/output interface for scrambling
- Clamping and non-clamping switch , easy for Video frequency scrambler
- Modular design provides great flexibility for video operator
- Excellent modulation quality MER ≥ 42 dB
- LCD display, Remote control and firmware (Radio frequency, Video/Audio medium frequency, Video frequency modulating scale, audio frequency modulating deviation, RF output level, A/V ratio, etc.)
- Web NMS management; Updates via web

Specifications

AM2000 PAL Modulator Solution - 19" 1RU

RF

Frequency Range	47 to 870MHz Any channel
TV System	PAL B/G or D/K
IF Frequency	38.9 MHz
Output Return Loss	≥ 15 dB (VHF) ≥ 12 dB (UHF)
Output Level	≥ 120 dB μ V (typical) 4-in1 Model: ≥ 105 dB μ V (independent output; ≥ 95 dB μ V (combined output)
Output Level Adjustable Range	0 dB to 16 dB (0.5 dB step)
Audio Carrier Power to Video Carrier	-8 dB to -22 dB (0.5 dB step)
Power Ratio	
Total Frequency Deviation	≤ 5 kHz (VHF); ≤ 10 kHz (UHF)
Error of Video/Audio Carrier Interval	$\leq \pm 0.5$ kHz
Carrier to Noise Ratio (C/N)	≥ 65 dB (fixed fc ± 4 MHz), ≥ 62 dB (agile)
Output Suppression	≥ 60 dB
Interface	FL10

Video

Degree of Modulation Signal	≥87.5 %
Flatness is Operating Band	≤±0.75 dB
Gain of Differential Coefficient	≤2 %
Phase of Differential Coefficient	≤2 °
K-2T Factor	≤3 %
Delay Difference of Color or Light	≤30 ns
Signal to Noise Ratio	≥56 Db (unweighted) ≥62 dB (weighted)

Audio

Pre-Emphasis of Audio	50 μs
Maximum Partial Frequency of Audio	±50 kHz
Audio Flatness	≤±0.5 dB (40 Hz to 15 kHz)
Distortion Degree of Audio	≤1 %
Signal to Noise Ratio	≥6 dB

Communication Interface

Interface	RJ45
Communication Format	RS485
Date Rate	9600 bits/s

Miscellaneous

Dimensions	44 mm × 482 mm × 360 mm
Power	AC220 V ± 10 %, 50 Hz, 20 VA

Ordering Information

Model No.	Description
AM-20-PF-CVBS-BGX-YY-AC	AH2000 Modulator PAL Fixed Frequency, CVBS to PAL B/G, AC Power (YYY – Channel #, such as E66, S20 etc)
AM-20-PF-4CVBS-BG-XY-AC	AH2004 4-in1 Modulator PAL Fixed Frequency, CVBS to PAL B/G, AC Power (XY – Customized Code for 4 Channel #, such as E66, S20 etc)
AM-20-PA-CVBS-BG-AC	AH2000 Modulator PAL Agile Frequency, CVBS to PAL B/G, AC Power

Other Modulation modules include:

ISDB-T RF (single/dual carriers) out module

DVB-C RF (single/dual/quad carriers) out module

ATSC RF (single/dual/quad carriers) out module

DVB-T RF (single/dual carriers) out module

Note:

1. Contact ACT for additional product variations on input & output options.
2. 4-in-1 version is a low cost model, please check with Ascent for spec variance.

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