

ZHC518A/C2 Analog TV Modulator



Description:

This Modulator is one digital-type analog TV modulator developed by software technology. The built-in new FPGA + DDS technology architecture is used to achieve full-system, full-channel, digital, and analog TV modulation functions. The technical indicators fully meet and exceed the relevant national standards.

The whole machine is produced using the full SMT process, which not only has outstanding technical indicators, but also has high product reliability.

Functionally flexible design. With adjustable power ratio of image and sound; no video protection and other functions.

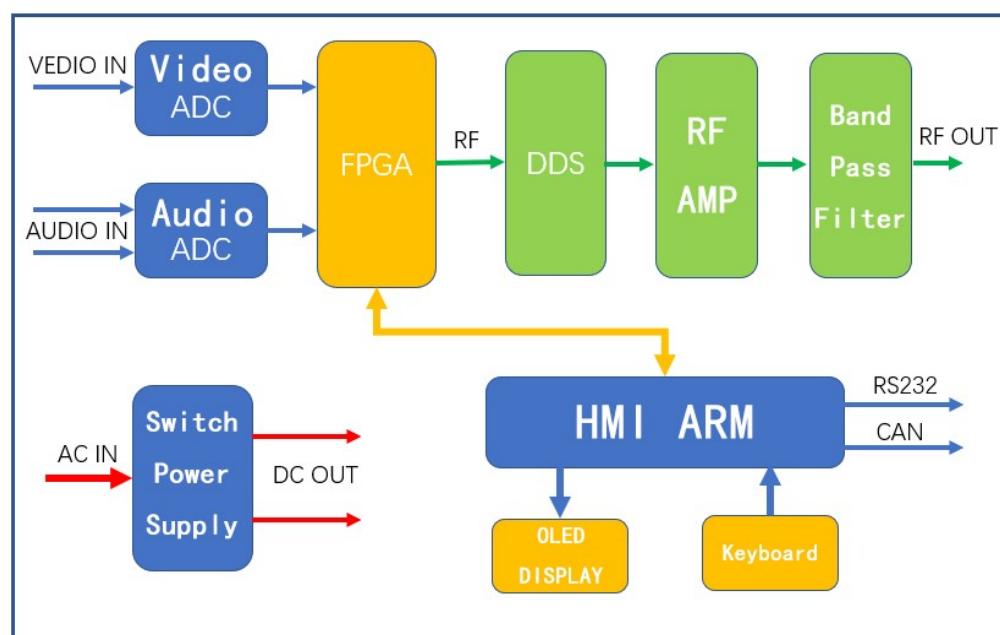
The whole machine uses a 1U / 19-inch standard aluminum alloy chassis, which is small and lightweight.

This modulator is the best choice for the modulator of TV transmitters of various power levels.

Features:

- Adopting the new FPGA + DDS technology architecture to realize digital modulation, superior performance and good consistency.
- Adopt modular design concept, which is convenient for long-term maintenance and upgrade.
- With no-video protection function and lightning protection measures for the whole machine and components.
- Various technical parameters can be read through the front LCD screen.
- With RS232, TCP / IP and other communication interfaces, and for remote monitoring and management.
- Using high-quality switching power supply, complete protection functions, wide voltage range operation.

Modulator block diagram:



Technical Specifications:

Modulator:

1. Working frequency band: VHF / UHF
2. Image carrier frequency deviation: $\pm 200\text{Hz}$
3. Output power: 0dBm
4. Output impedance: 50Ω
5. Useless emission: $\leq -50\text{dB}$ in adjacent channels
 $\leq -65\text{dB}$ outside adjacent channels

6. RF output interface: N-50KF
7. Power supply: single-phase 220VAC / 110VAC
8. Cooling method: forced air cooling
9. Working environment temperature: -10~+45 °C
10. Dimensions: 483mm (width) × 44mm (height) × 300mm (depth)
11. Weight: 3Kg

Image:

1. Video input level: 1VP-P positive polarity
2. Video input impedance: 75Ω
3. Video band reflection loss: $\geq 35\text{dB}$
4. Video input interface: BNC-K
5. Periodic clutter SNR: $\geq 55\text{dB}$
6. Continuous random wave SNR: $\geq 60\text{dB}$ (weighted)
 $\geq 55\text{dB}$ (un-weighted)
7. Amplitude frequency characteristics: meets standard requirements
8. Group delay: $\pm 30\text{ns}$
9. 2T sine wave square wave distortion: $\leq 0.5\%$
10. 2T sinusoidal square wave and bar pulse amplitude ratio: $\leq 0.2\%$
11. Line frequency tilt: $\leq 1.5\%$
12. Field frequency tilt: $\leq 1\%$
13. Non-linear distortion of brightness: $\leq 2\%$
14. Differential gain DG: $\leq \pm 1\%$
15. Differential phase DP: $\leq \pm 2^\circ$
16. Color / brightness gain difference: $\leq 1\%$
17. Color / bright delay difference: $\pm 5\text{ns}$
18. Stability of blanking level: $\pm 1\%$
19. Modulation degree: $\leq 87.5\%$

Sound:

1. Audio / Video carrier power ratio: -10dB
2. Sound carrier frequency deviation: $\pm 200\text{Hz}$
3. Audio input level: 0dBm \pm 6dBm
4. Audio input impedance: 600Ω balanced or 10KΩ unbalanced
5. Audio input interface: XLR-K / BNC-K
6. Sound modulation capacity: $> \pm 100\text{KHz}$

7. FM signal-to-noise ratio : $\geq 70\text{dB}$
8. Amplitude-frequency characteristic: $\pm 1\text{dB}$
9. AM noise (without modulation) : $\leq -55\text{dB}$
10. Internal carrier noise (100% modulation) : $\leq -50\text{dB}$
11. Harmonic distortion: $\leq 0.3\%$
12. Maximum frequency deviation : $\pm 50\text{KHz}$
13. Pre-emphasis time constant : $50\mu\text{s}$

Other technical specifications meet the "GB 12189-1990 general technical requirements for television broadcast exciters"