

## ZHC518A-500W/C2 Analog TV Transmitter



### Overview:

This Transmitter is a high-standard, broadcast-level all-solid-state **Compact design** analog TV transmitter. It uses a new software radio technology to achieve the TV modulation function; the use of international high-quality LDMOS high-power field effect tube to achieve radio frequency amplification, the output power can be **500W**.

The TV transmitter is mainly composed of a **TV modulation unit** and an **RF power amplification unit**. Among them, the TV modulation unit uses the new **FPGA + DDS** to realize the software **TV modulation function**, while obtaining superior technical indicators while ensuring reliability and performance consistency; the **RF power amplification unit** uses international high-quality LDMOS high-power field effect transistors, Analog/Digital Compatible, stable and reliable.

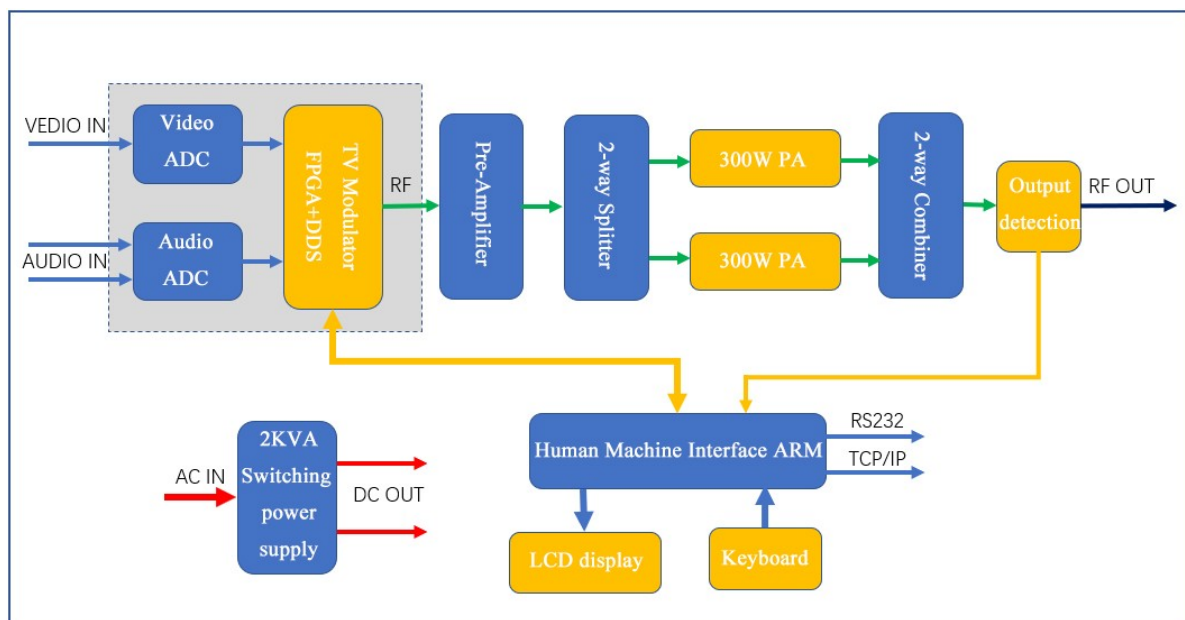
The whole Transmitter adopts 19 "standard stainless steel case, suitable for all levels of TV stations.

### Features:

- It adopts new FPGA + DDS technology to realize software-based TV modulation function, with superior performance, high reliability and good consistency.

- It adopts the integrated structure design, and the single-channel image sound combination type is easy to install and use.
- It has the functions of no video, excessive standing wave ratio, over power, over voltage, over current, and over temperature protection to reduce equipment damage.
- With intelligent network management and monitoring, with RS232 and TCP / IP communication interfaces.
- It's using high-quality switching power supply, with over-voltage, over-current, under-voltage, over-temperature, short circuit, lightning protection and other protection measures, high efficiency, good voltage regulation range, strong ability to adapt to external power changes.
- It adopts high-quality high-flow axial flow fan, with good heat dissipation effect, keep the transmitter in a low temperature state, and extend the life of the transmitter.

### ZHC518A-500W/C2 Analog TV Transmitter Diagram



### Technical Specifications:

#### Overall performances:

1. Operating frequency band: VHF / UHF
2. Image carrier frequency deviation:  $\pm 300\text{Hz}$
3. Output power: 500W

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4. Output impedance: 50 $\Omega$
5. Inter-modulation distortion:  $\leq -50\text{dB}$
6. Useless emission:  $\leq -50\text{dB}$  inside adjacent channels;  
 $\leq -65\text{dB}$  outside adjacent channels
7. RF output interface: 7/16" female
8. Power supply: single phase 220VAC / 110VAC
9. Cooling method: forced air cooling
10. Working environment temperature:  $-10\sim +45\text{ }^{\circ}\text{C}$
11. Dimensions: 483mm(width)x177mm(height)x650mm(depth)
12. Weight: 35Kg

**Image performance:**

1. Video input level: 1VP-P positive polarity
2. Video input impedance: 75 $\Omega$
3. Video in-band reflection loss:  $\geq 35\text{dB}$
4. Video input interface: BNC-K
5. Periodic clutter signal-to-noise ratio:  $\geq 55\text{dB}$
6. Continuous random wave SNR:  $\geq 60\text{dB}$  (weighted),  
 $\geq 55\text{dB}$  (un weighted)
7. Group delay:  $\pm 30\text{ns}$
8. 2T square wave distortion:  $\leq 1\%$
9. Distortion of brightness waveform:  $\leq 1.2\%$
10. Non-linear brightness distortion:  $\leq 3\%$
11. Differential gain DG:  $\leq \pm 3\%$
12. Differential phase DP:  $\leq \pm 3^{\circ}$
13. Color / bright gain difference:  $\leq 1\%$
14. Color / bright delay difference:  $\pm 5\text{ns}$
15. Modulation degree:  $\leq 87.5\%$

**Sound performance:**

1. Sound / image carrier power ratio:  $-10\text{dB}$
2. Sound carrier frequency deviation:  $\pm 200\text{Hz}$
3. Audio input level:  $0\text{dBm} \pm 6\text{dBm}$
4. Audio input impedance: 600 $\Omega$  balanced or 10K $\Omega$  unbalanced
5. Audio input interface: XLR-K / BNC-K
6. Sound modulation capability:  $> \pm 100\text{KHz}$
7. FM signal-to-noise ratio:  $\geq 70\text{dB}$
8. Amplitude-frequency characteristic:  $\pm 1\text{dB}$
9. AM noise (no 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 $\mu\text{s}$