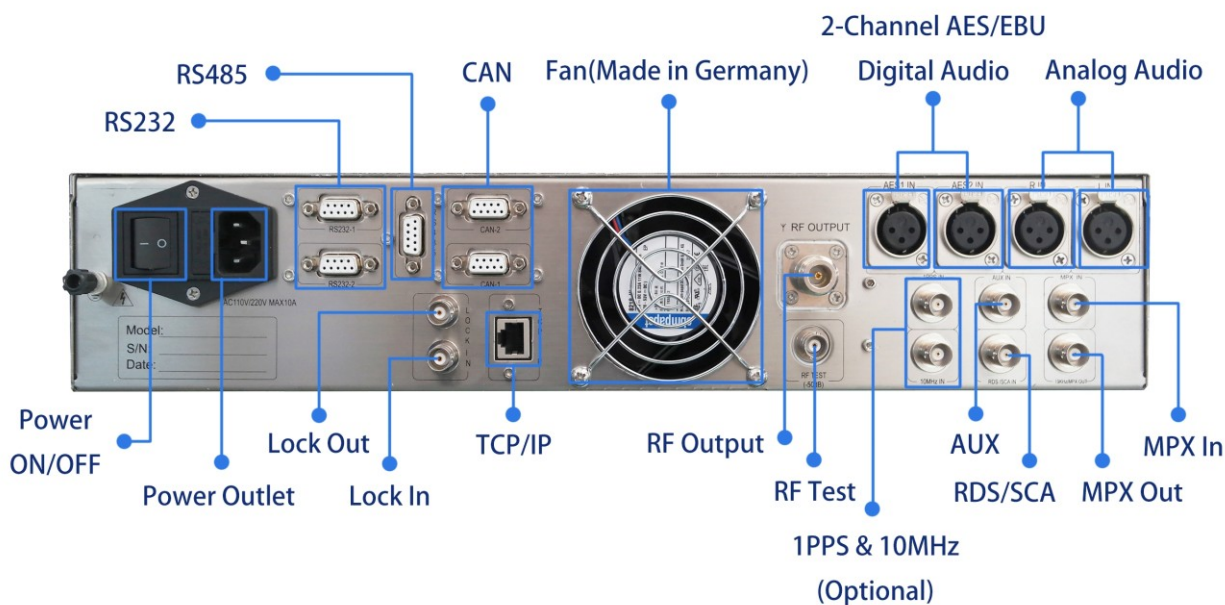
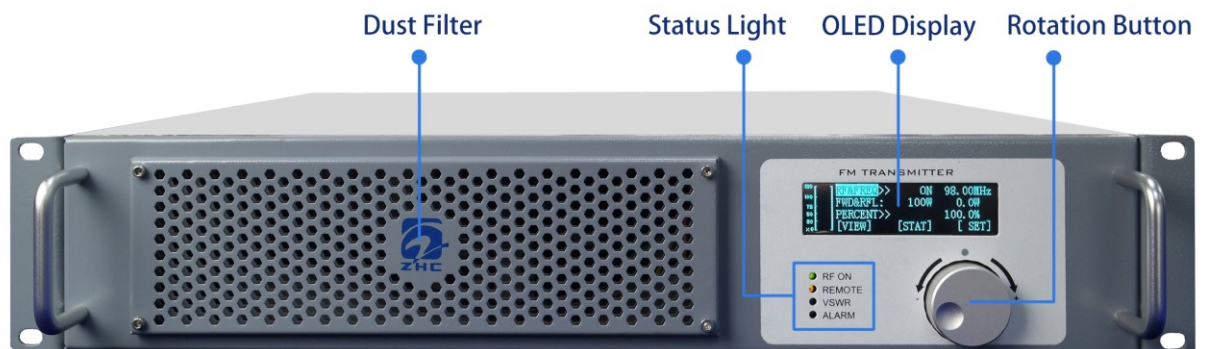


ZHC618F-30W~300W/5G FM Transmitter (Exciter)



1. Overview

ZHC5G series FM stereo broadcast transmitter (exciter) is an outstanding software radio product; it is designed with high reliability concept and has unparalleled performance indicators.

This transmitter uses a new large-scale field-programmable gate array (FPGA) and direct digital frequency synthesis (DDS) technology up to 5G, which has achieved the highest

technical specifications in the industry so far, it's providing listeners with **CD-like** sound quality.

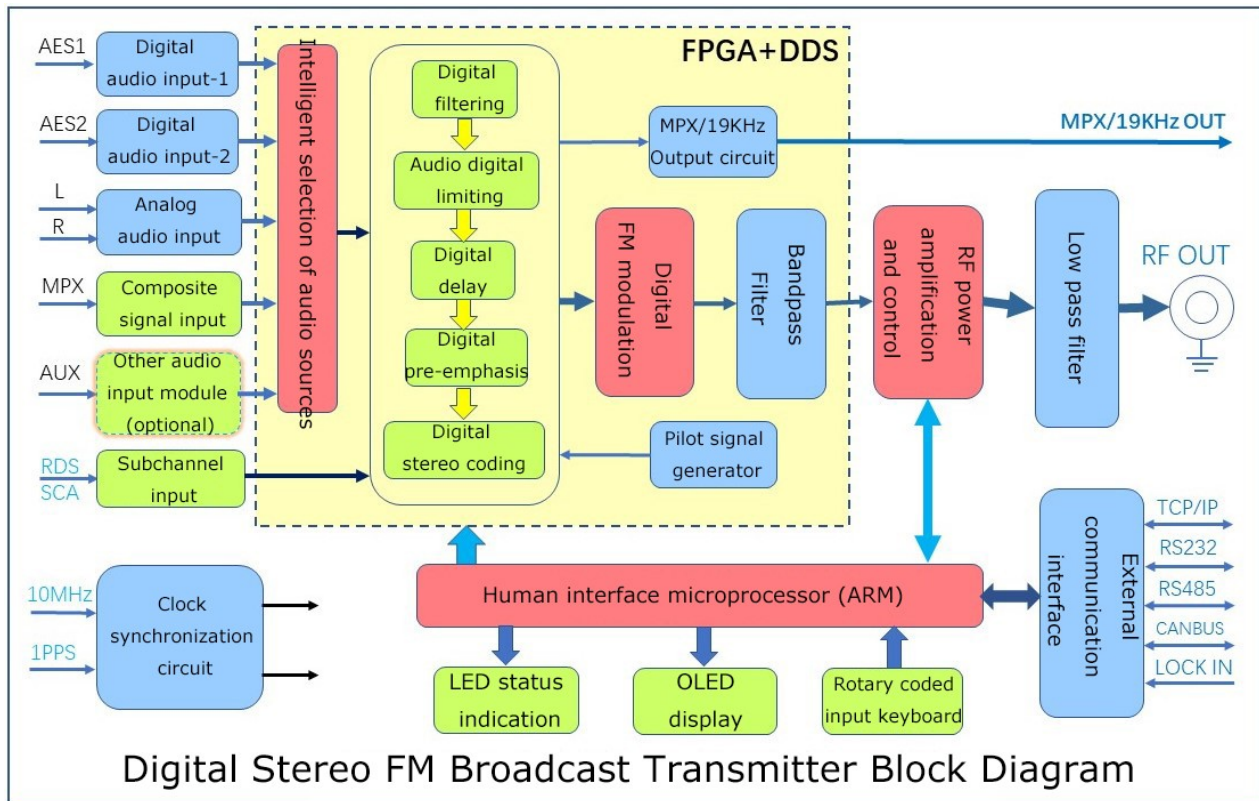
The transmitter consists of **audio interface unit, digital processing and FM modulation unit, radio frequency power amplifier unit, human-machine interface unit, communication interface unit, clock synchronization unit and power supply unit**. The transmitter is installed in one 19-inch 2U standard case, and all input and output signals are led out from the rear panel.

2. Technical characteristics and principle block diagram

Product technology has the following technical features:

- Full process digital processing to achieve a perfect auditory effect of **CD-like** sound quality
- Full-scale digital processing with large-scale **field-programmable gate array (FPGA)** technology
- Direct digital frequency synthesis (**DDS**) technology at speeds up to 5G to peak transmitter specifications
- High reliability microprocessor (**ARM**) technology as the primary controller
- Support for multiple audio source inputs (transmitters can be **automatically** selected by priority):
 - ◆ Two **AES/EBU** digital audio signal inputs (highest and second priority)
 - ◆ One analog stereo analog audio signal input (3rd priority)
 - ◆ One **MPX** stereo composite signal input (4th priority)
 - ◆ One **I2S** digital audio signal input (lowest priority)
- Supports one **RDS** or **SCA** subcarrier input
- Support stereo pilot signal and stereo composite signal **19KHz/MPX** output
- Upgradeable to FM **Synchronous** broadcast transmitter
- Electronically controlled **AGC** controls output power zero drift
- Perfect over-current, over-voltage, over-temperature, over-power, standing wave ratio alarm and protection
- One-touch shuttle quick keyboard input
- Real-time display of operating parameters using **OLED**
- With **TCP/IP, RS232, RS485, CAN** communication interface and **SMS modem** interface
- 19-inch standard chassis, height 2U

The Transmitter Block Diagram:



3. Technical specifications

- | | |
|---|---|
| 1. Nominal emission frequency | 87MHz~108MHz
(other frequencies can be customized), stepping 10kHz |
| 2. Carrier frequency tolerance | ±200Hz |
| 3. Output power | 0~30W/0~100W/0~300W |
| 4. Output power stability | <±3% (ambient temperature -10 °C ~ + 50 °C) |
| 5. Output impedance | 50Ω |
| 6. RF output connector | N-50K |
| 7. Residual wave radiation | <-80dB |
| 8. Parasitic amplitude modulation noise | <-55dB |
| 9. Analog audio input impedance | 600Ω balance |
| 10. Analog audio input level | -12dBm ~ +8dBm |
| 11. AES input impedance | 110Ω balance |
| 12. AES input level | -60dBFS~0dBFS |
| 13. MPX input impedance | 10kΩ unbalanced BNC |
| 14. MPX input level | -15dBm~+15dBm |
| 15. Input audio Level Gain | -15dB~+15dB Step 0.1dB |
| 16. RDS / SCA input | Unbalanced BNC |
| 17. Audio pre-emphasis | 0μs/25μs/ 50μs/75μs optional |
| 18. Signal-to-noise ratio | ≥92dB (1kHz, 100% modulation) |

19. Distortion	<0.01% (30Hz ~ 15000Hz, 100% modulation)
20. Frequency response	±0.01dB (no emphasis, no de-emphasis) ±0.05dB (emphasis, de-emphasis)
21. Stereo separation	≥73dB (30Hz~15000Hz)
22. Left and right channel level difference	<0.01dB (100% modulation)
23. 19KHz / MPX output impedance	600Ω, unbalanced BNC
24. 19KHz / MPX output level	-15dBm ~ + 15dBm
25. Heat dissipation method	Forced convection
26. Power supply voltage	90VAC~265VAC/ 47Hz~63Hz
27. Chassis standard	19" inch Size 2U (width 484mm × height 88mm × depth 500mm)
28. Total weight	15Kg
29. Operating environment temperature	-10 ° C ~ +50 ° C
30. Relative humidity	<95%