

Graigar ST-7201

Graigar Satlink ST-7201 ATSC-T/ATSC-C HD Modulator User Manual

Model: ST-7201

1. INTRODUCTION

The Graigar Satlink ST-7201 is a high-performance, single-channel HD modulator designed to convert an HD source into an ATSC-T or ATSC-C digital television channel. This compact and lightweight device features a 2.4-inch color LCD display for user-friendly setup and control, and supports parameter modification via a LAN port. It is suitable for use in regions such as the USA, Canada, Mexico, South Korea, Costa Rica, and Ecuador.

Key features include:

- Continuously adjustable RF signal output level from 69dBuV to 100dBuV (1dBuV step).
- Support for modifying parameters via LAN port.
- 2.4-inch color LCD display for intuitive operation.
- Compact and wall-mountable design.
- Multiple video format compatibility including 576i(PAL) / 480i(NTSC) / 720P / 1080P.

2. PRODUCT OVERVIEW

Familiarize yourself with the various components and ports of the ST-7201 modulator.



Figure 2.1: Front angled view of the Satlink ST-7201 HD Modulator, highlighting the LCD screen, control buttons (RETURN, OK, navigation arrows), and input/output ports including RF OUT, ANT IN, HDMI IN, VIDEO IN, AUDIO IN (Left/Right), and DC 12V IN.



Figure 2.2: Detailed front view of the modulator, showing the RF OUT, ANT IN, HDMI IN, VIDEO IN (RCA), AUDIO IN (Left/Right RCA), and DC 12V IN ports.



Figure 2.3: Rear view of the modulator, featuring the LAN port, PC port (USB-C type), and a product barcode.



Figure 2.4: The ST-7201 modulator shown with its standard accessories, including the DC 12V power adapter, a USB cable, and a wall-mounting bracket.

3. SETUP INSTRUCTIONS

Follow these steps to set up your Satlink ST-7201 HD Modulator.

1. **Power Connection:** Connect the provided DC 12V / 1.5A power adapter to the 'DC 12V IN' port on the modulator and plug it into a power outlet. The 'PWR' indicator light should illuminate.
2. **Input Source Connection:**
 - For HDMI input: Connect your HD video source (e.g., media player, set-top box) to the 'HDMI IN' port using an HDMI cable.
 - For Composite Video/Audio input: Connect your video source to the 'VIDEO IN' (yellow RCA) port and your audio source to the 'AUDIO IN' (Left - white RCA, Right - red RCA) ports.
3. **RF Output Connection:** Connect the 'RF OUT' port of the modulator to the antenna input of your television or distribution system using a coaxial cable.
4. **Antenna Input (Optional):** If you are combining the modulated signal with an existing antenna signal, connect your antenna to the 'ANT IN' port.
5. **LAN Connection (Optional):** For remote configuration and parameter modification, connect an Ethernet cable from the 'LAN' port to your network router or switch.

4. OPERATING INSTRUCTIONS

This section details how to operate your ST-7201 modulator.

4.1. Basic Operation

1. **Power On:** Ensure all connections are secure and plug in the power adapter. The device will power on automatically.
2. **Input Selection:** The modulator automatically detects the active input (HDMI or CVBS). The corresponding indicator (HDMI or CVBS) will light up.
3. **LCD Display:** The 2.4-inch color LCD display shows current settings and status. Use the navigation buttons (▲ ▼ ◀▶) to navigate menus and adjust values.
4. **Menu Navigation:**
 - Press **OK** to enter a menu or confirm a selection.
 - Press **RETURN** to go back to the previous menu or exit a setting.
 - Use ▲ ▼ to scroll through menu options or change numerical values.
 - Use ◀▶ to move between digits or select different options within a setting.

4.2. Adjusting RF Output Level

The RF output level can be adjusted from 69dBuV to 100dBuV in 1dBuV steps.

1. Navigate to the 'RF Output Level' setting in the menu.
2. Use the ▲ ▼ buttons to increase or decrease the output level.
3. Press **OK** to save the setting.

4.3. LAN Port Configuration

The LAN port allows for remote modification of parameters. Refer to the device's network interface for detailed instructions on accessing and configuring settings via a web browser or dedicated software (if provided).

5. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your ST-7201 modulator.

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the device. Do not use liquid cleaners or aerosols, as they may damage the unit.
- **Ventilation:** Ensure the ventilation slots on the device are not obstructed to prevent overheating.
- **Storage:** When not in use for extended periods, store the modulator in a cool, dry place away from direct sunlight and extreme temperatures.
- **Handling:** Avoid dropping or subjecting the device to strong impacts.

6. TROUBLESHOOTING

If you encounter issues with your ST-7201 modulator, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
No power/Device not turning on	Power adapter not connected or faulty; power outlet issue.	Check power adapter connection. Try a different power outlet. Ensure the adapter is the correct DC 12V / 1.5A type.

Problem	Possible Cause	Solution
No signal on TV	Incorrect input selected on TV; incorrect channel scan; RF output level too low; input source not active.	Ensure your TV is on the correct input (Antenna/Cable). Perform a channel scan on your TV. Increase the RF output level on the modulator. Verify the input source (HDMI/CVBS) is active and sending a signal.
Poor picture quality	Weak input signal; incorrect resolution settings; interference.	Check the quality of the input signal. Ensure the input video resolution is supported. Check for potential sources of RF interference.
Cannot access LAN configuration	Incorrect network settings; cable issue; firewall blocking access.	Verify the Ethernet cable connection. Check network settings (IP address, subnet mask). Temporarily disable firewall to test. Consult your network administrator if necessary.

7. SPECIFICATIONS

Detailed technical specifications for the Graigar Satlink ST-7201 HD Modulator.

Modulator

- **Standard:** ATSC-T/ATSC-C
- **Constellation:** 8-VSB (ATSC-T mode), QAM-64/QAM-256 (ATSC-C mode)
- **MER:** 35 dB
- **Frequency Range:** 50 ~ 860 MHz
- **Output Level:** 69 ~ 100 dBuV (adjustable in 1dBuV steps)
- **Output Impedance:** 75Ω

HD Input

- **Compression:** MPEG-2 - bitrate 5-15 Mb/s
- **Video Resolution:** 1920*1080_60P, 1920*1080_50P, 1920*1080_60i, 1920*1080_50i, 1280*720_60p, 1280*720_50P
- **Connector:** HDMI

Video Output (Modulated)

- **Video Resolution:** 1920*1080_30P, 1920*1080_25P, 1920*1080_30i, 1920*1080_25i, 1280*720_30p, 1280*720_25P

General

- **Power Source:** DC 12V / 1.5A
- **Operating Temperature:** 0 ~ +45°C
- **Dimensions:** 155mm (L) × 114mm (W) × 33mm (H)
- **Weight:** 0.34 Kg (approximately 0.75 lbs)
- **Material:** Plastic
- **Color:** Black

8. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact Graigar customer service directly. Keep your proof of purchase for any warranty claims.
For further assistance, you may visit the official Graigar website or contact their support channels.