

STB Controller

OMC 1006

USER MANUAL

Rev. 2



Note: The specification and contents in this manual is subject to change.



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Introduction

Overview

STB Controller, OMC 1006, is the equipment to receive upstream data from the STB and transmit it to Media Server via its dedicated frequency. The STB receives downstream data from Media Server and control the STB with this data. STB Controller can control independently the STB with its own function.

Communication method between STB Controller and the STB is Binary FSK.

Function

1) RF Modem

STB Controller has RF Modem Function to transmit command and control data from the STB to Media Server.

2) Controller

STB Controller can control the STB via Key buttons on the front panel. (i.e. Force Tune, Forced Power on/off.)

3) Output Level Adjustment

Adjust RF Output Level to maintain stabilized level at the terminal.

4) Remote Monitoring of the STB

STB Controller has the built-in protocol to poll the status of the STB at every 500ms.

5) LCD Indicator

Indicate the status of data input and operation.

6) Troubleshooting of Serial Port

STB Controller has its own protocol to check RS-232C Port Status.

7) RACK Mountable Type

Standard 19" Rack mountable.

Product Overview

Front View



- ☐ **POWER SWITCH**
Power On/Off toggle switch
- ☐ **LCD DISPLAY**
Display input/output data and operation status
- ☐ **LED for Tx & Rx**
LED is blinking when STB Controller transmits and receives data
- ☐ **INPUT LED**
LED indicator for ⑤ ~ ⑦ button on front panel
- ☐ **OFF KEY**
Force TV to power off
- ☐ **ON KEY**
Force TV to Power on
- ☐ **CH KEY**
Set Channel No.
- ⑧ **NUMERIC KEY**
0~9 Numeric Button
- ⑨ **ESC KEY**
To quit input process at each function.
- ⑩ **MODE KEY**
Set MODE
- ⑪ **ENTER KEY**
Apply input data for function.

Rear View

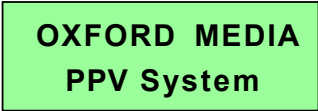


-
- ☐ **RF INPUT**
Upstream RF Signal Input
 - ☐ **RF OUT**
RF Output Port
 - ☐ **RF ADJ**
Adjust RF Output Level
 - ☐ **RS232C PORT**
RS232C Communication Port
 - ☐ **DC POWER IN**
Cannon Jack for DC 12V/2A Power Input

Operation

1) Initial Screen

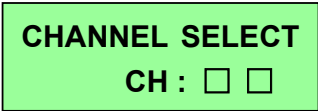
When STB Controller is power on state, you will see the below message.



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PPV System

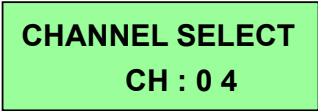
2) How to set CH for STB Control

- Press CH button on front panel, you will see blinking prompts on LCD screen.



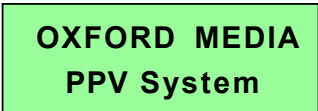
CHANNEL SELECT
CH :

- Enter a channel number that you want to tune by using numeric button on front panel. Then, press ENTER button. You will see the changed CH number.



CHANNEL SELECT
CH : 0 4

- LCD Screen returns to the initial screen.



OXFORD MEDIA
PPV System

3) Force ON

Control the STB to be tuned on with preset CH Number forcibly.

- Press ON button on front panel. You will see the channel information that you preset above.



POWER ON CH:04
Press Enter key.

- According to LCD screen instruction, press ENTER to send the data to STB.

POWER ON CH:04
Sending . . .

- The screen will return to the initial screen after finishing data transmission.

OXFORD MEDIA
PPV System

4) Force OFF

Control the STB to power off TV by force.

- Press OFF button on front panel. You will see the below message.

POWER OFF
Press Enter key.

- According to the instruction displayed, press ENTER key on front panel.

POWER OFF
Sending . . .

- The screen will return to the initial screen after finishing data transmission.

OXFORD MEDIA
PPV System

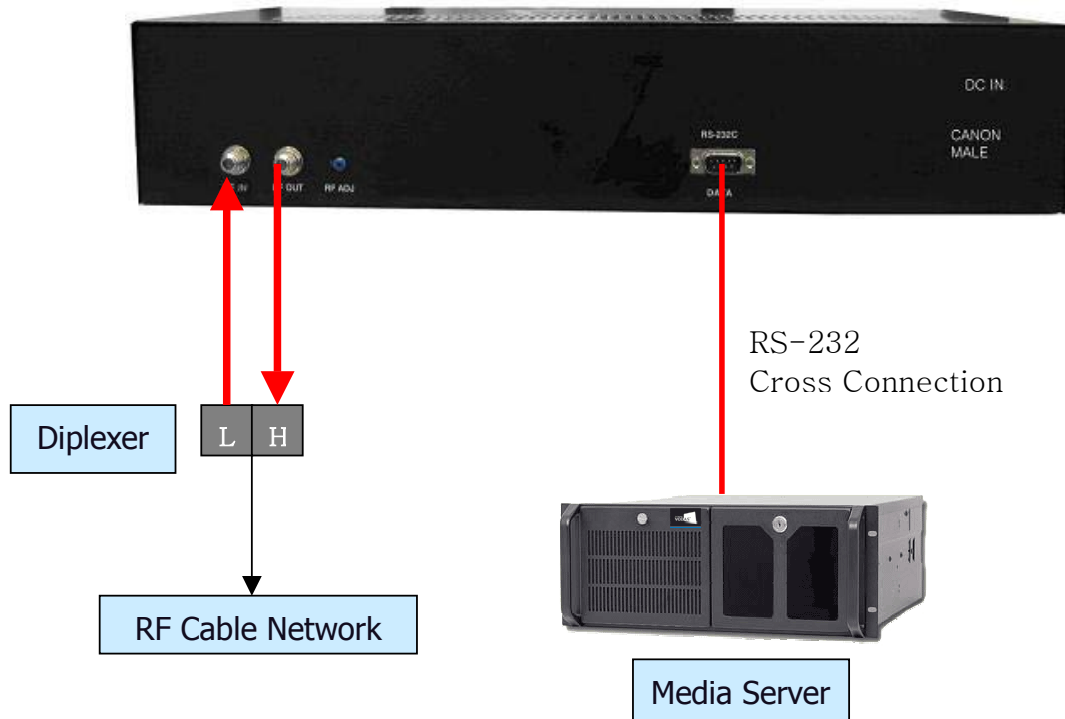
5) Troubleshooting of RS-232C Port

OMC1006 has its own protocol to check RS-232C port status. Therefore, the user needs to check the communication status of serial port via this protocol. Please contact Technical Engineer of Oxford Media Corp. to obtain the protocol.

6) Additional Message on LCD

Once OMC1006 receives the data from RCU, OMC1006 displays “remocon data” message on LCD screen. If OMC 1006 receives the protocol of Serial Query, then OMC1006 displays the status of RS-232C Port Status.

Connection Diagram



Technical Specification

Control Part	
MCU	Atmega128(Atmel)
Clock	16 MHz
RAM	4 Bytes
ROM	128 Kbytes

RF Specification	
RF Modem Section	
Symbol Rate: 9600 bps	9600 bps
TX Data Modulation Method	Binary FSK
TX Center Frequency	108.00 MHz
TX Frequency Deviation	+/- 50 KHz
TX RF Output Level	45dBmV Nominal
TX RF output Control Range	-20dB
TX Return loss	16 dB
RF Modem Section	
Symbol Rate	9600 bps
RX Demodulation Method	Binary FSK
RX Center Frequency	10.7 MHz
RX Signal Frequency Deviation	+/- 50 kHz
RX Return Loss	16 dB
RX Input Level	-18dBmV min to +38dBmV Max
RF Port Impedance	75 Ohms both connectors

Environmental Specification	
Input Voltage	+12VDC/2A
External Power Adapter	- Input Voltage : 115VAC+/- 10%, 60Hz - Output Voltage : +12VDC/2A
Operating Temperature Range	0 to +50 degrees C

Operating Humidity Range	20 to 95% (non-condensing)
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Physical Specification	
Dimensions (W x H x D)	484 x 88 x 290 (mm) (2RU high)
Weight	5.0 kg
Connectors	RS-232 : 1 each, 9 pin Sub-Miniature type □" male RF Output : F type RF receptacle RF Input : F type RF receptacle DC Power Input : Cannon(Male)

FCC Warning

FCC15.19

This device is verified to comply with part 15 of the FCC Rules for use with cable television service.

FCC 15.105

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

FCC 15.21

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.