



TRANSPORT STREAM MULTIPLEXER

UC-16MX

User Manual



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Operations Manual UC-MX16

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Notice

The information in this document was believed to be correct at the time of publication, and every effort was made to ensure that the most current information was shipped with each machine. If subsequent modifications were made to your unit, and you need information on these, please contact the UPCOM documentation department.

If you have technical or editorial comments concerning this manual, please write them on photocopies of the relevant pages and send them to the documentation department or contact the Customer Service Department. This assistance will be greatly appreciated

Manual Applicability and Symbols

This is the general operating manual for UPCOM Receivers Please make sure that the correct manual is being used by verifying part number and serial number with UPCOM technical support team or your local distributor.

Be prepared to furnish:

Serial Number

Exact Model Number

Symbols

The following warning and caution symbols are used throughout this manual:



Warning: A hazard exists that may result in personal injury or loss of life.



Caution: Failure to follow the procedures given may result in damage to the equipment.

WARNING

This equipment operates at potentially lethal voltages. Only trained, qualified personnel should operate, maintain, or service it. Only technicians thoroughly familiar with the equipment must perform Service work.

This equipment is rated for 85 to 265V. Proper power cords should be used for the country where the equipment will be operated. Power consumption should not exceed 50W.

The UC-16MX should not be operated where the unit is exposed to extremes of temperature outside the ambient range, (0°C to +45°C), precipitation, condensation or humid atmospheres above 75%.

This equipment should not be operated around excessive dust, vibration, flammable gases, corrosive or explosive atmospheres.



CONTENT

1. Before Getting Started.....	1
2.Introduction	2
2.1 Working principle.....	2
2.2 Function.....	3
2.3 Technique parameter	3
2.4 Use surrounding.....	3
3 Structure	4
3.1 Front Panel & Dimensions	4
3.2 Rear Panel.....	5
4 Operation.....	6
4.1 Front Panel.....	6
4.2 UC-16MX Operation Flow	6
4.3 Menu Structure	7
4.3.1 Setting the network address	9
4.3.3 Output number.....	11
4.3.4 Test mode.....	12
4.3.5 Keyboard Lock	13
4.3.6 Modify password.....	14
4.3.7 Master Reset.....	15
4.3.8 Version Info	16
Appendix A. Alarm information	17
Appendix B. Noun Abbreviations.....	18

UC-16MX

Transport Stream Multiplexer

1. Before Getting Started

If you need help UPCOM and its distributors stand by every product sold. If you need help please contact your local distributor or UPCOM directly at:

+1.408.329.4158

or

by e-mail:

support@upcom.com

Manual Updates

From time to time, new versions of software may require slight changes to the material presented in this document. Check inside the back cover for supplementary pages that may have been added to keep the manual up to date

Unpacking and Inspection

Before installing the equipment. Please check the box for integrity. After unpacking, look for any missing items or damage to the equipment. If there is damage, please contact customer support immediately. Do not proceed installing the equipment if there is visible or perceived physical damage.

Warranty and RMA

UPCOM guarantees this equipment against defects in material and workmanship for a period of 3 years from date of shipment. During this period UPCOM will repair or replace products that are under warranty.

For all equipment under warranty the owner is responsible for freight to UPCOM and all related customs, tariffs, insurance, etc. UPCOM is responsible for the freight of the equipment from the factory to the owner under the same method the equipment was returned to UPCOM.

Equipment shipped back to UPCOM without a previously accepted RMA will be returned to owner at owner's expense.

The warranty does not cover: products with defaced serial number, damage during shipping, damage caused by lightning, power surge or installation services.

2.Introduction

The UC-16MX is a DVB Standard Transport Stream Multiplexer supports real-time video stream multiplexing and re-multiplexing. The UC-16MX can handle 16 inport ASI SPTS or MPTS and send the out through 1 or two MPTS streams.

It is compatible with the ISO/IEC-13818 standard with DVB ASI output interface.

2.1 Working principle

[Principle figure]

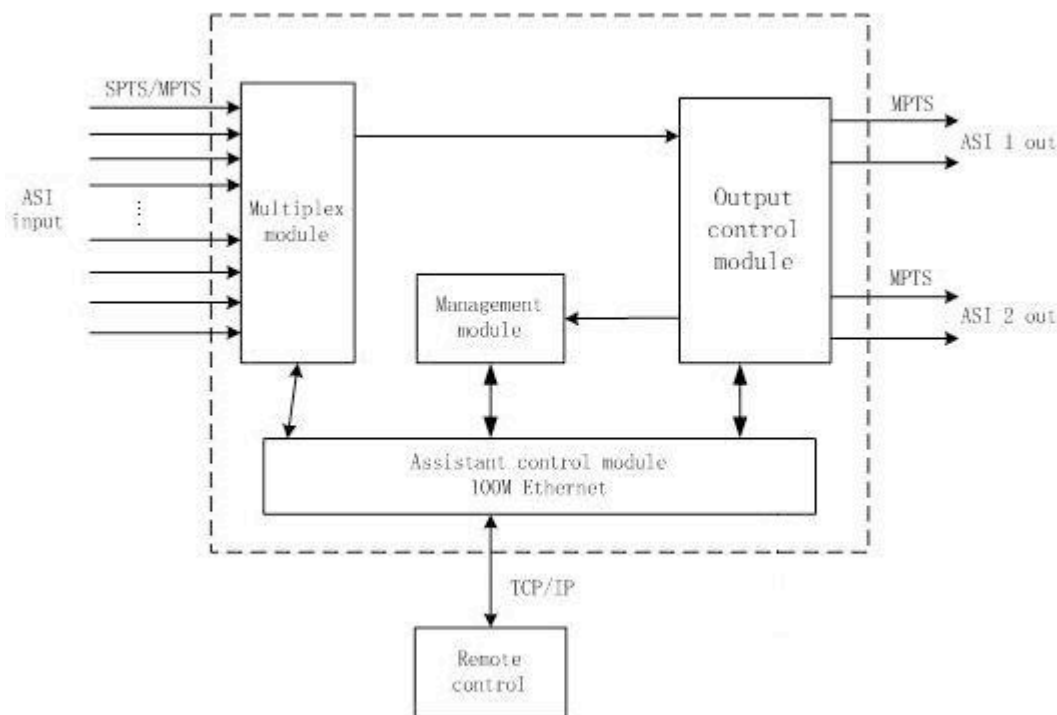


Figure2-1

[Working principle explanation]

- (1) The multiplexer supports 16 MPEG-2 SPTS or MPTS inputs and two MPEG-2 transport stream (MPTS) outputs. It filters out the empty packets or the unneeded packets, and changes the PID (packet identity).
- (2) Obtains the PSI (Program Specific Information) and SI (Service Information) and integrates them with local data.
- (3) The UC-16MX can connect with a network management software through TCP/IP protocol.

2.2 Function

- Multiplexing to SPTS (single program transport streams) or multiplexing to MPTS (multi program transport streams), MPTS supports all-chosen or part-chosen.
- Supports two different output.
- Low time delay. The delay for MPEG-2 Video program is less than 100ms.
- Providing PCR check
- Supports DVB data broadcast.
- Supports remote upgrade of the software.
- Real time monitor input status.
- Port PID monitor function, you can customize monitoring time and port.

2.3 Technique parameter

- PCR: < 100 ns
- Input interface: ASI Interface, BNC
- Input interface impedance: 75Ω
- Input interface bit rate (max) : 180Mbps
- Input select PID num (max) : 120
- Input program num(max): 100
- Input packet length: 188or 204byte
- Output interface : ASI Interface, BNC
- Output interface impedance: 75Ω
- Output packed length: 188 or 204byte
- Total output rate (max) : 180Mbps
- Power supply: 220VAC±10%,50Hz
- Power: 30W
- Weight: 4Kg
- Dimension: 450*430*44 (deep*wide*high) mm

2.4 Use surrounding

- Working temperature: 0~45℃
- Working humidity: 5~80%
- Storage temperature: -20~70℃
- Storage humidity: 5~90%

3 Structure

3.1 Front Panel & Dimensions

Each equipment is designed for 1U(44mm)space, machine dimensions of equipment is shown as figure3-1.

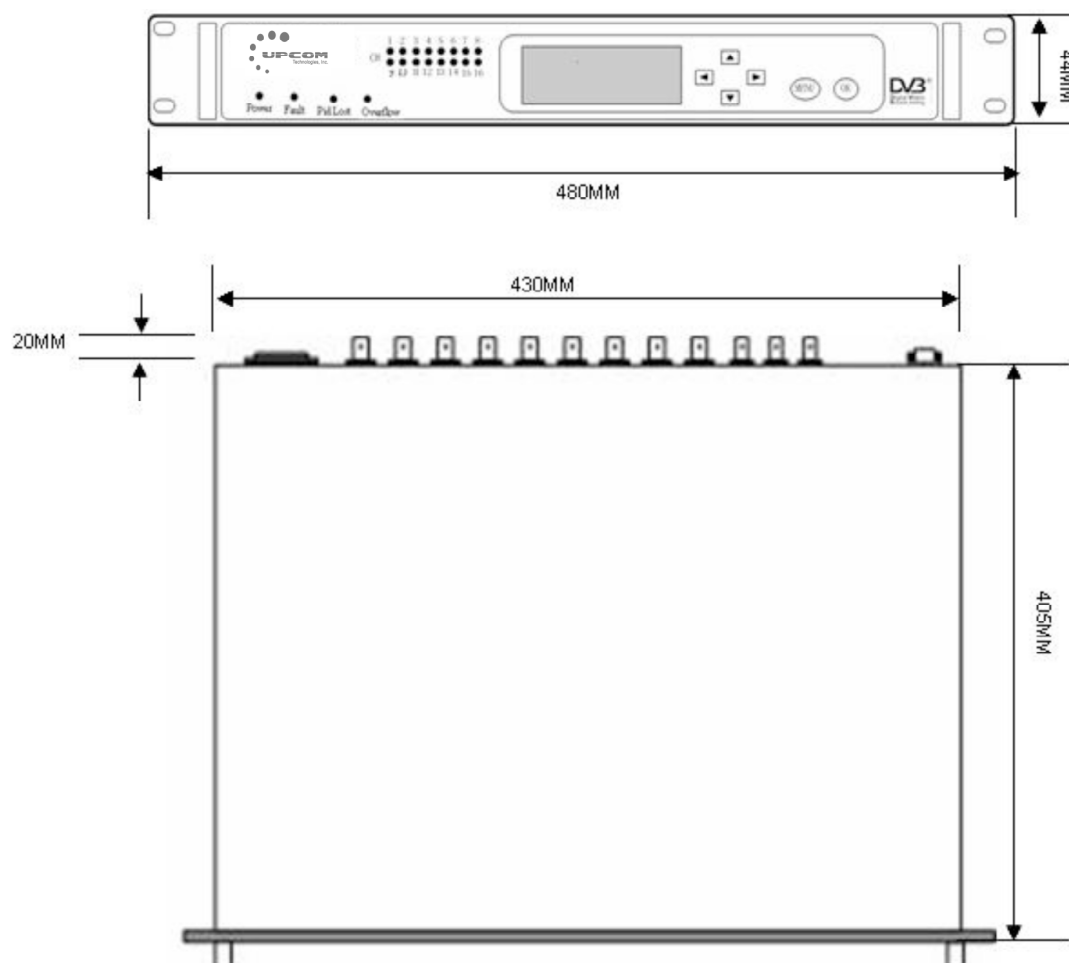


Figure 3-1

3.2 Rear Panel

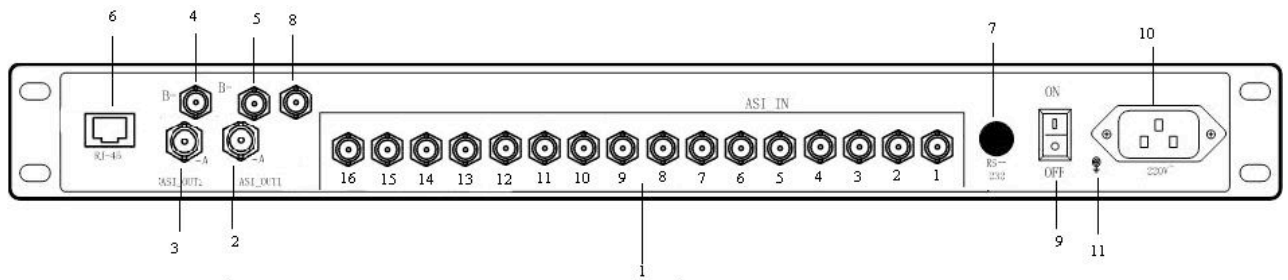


Figure3-2

Figure3-2 shows rear-panel map of equipment, port describe is shown:

- (1) ASI input channel (from 1 to 16), input SPTS or MPTS with DVB standard, 75ΩBNC.
- (2) ASI output 1, multiplex output, 75ΩBNC.
- (3) ASI output 2, multiplex output, 75ΩBNC.
- (4) The same as to ASI output 2.
- (5) The same as to ASI output 1.
- (6) RJ-45 port, network control. The customer can manage the multiplexer via any PC in the LAN or WAN.
- (7) RS232 port, it is used upgrade and test locally.
- (8) ASI ring outport.
- (9) Power switch.
- (10) Power supply.
- (11) GND.

Note: output 1 is different or same with output 2

4 Operation

4.1 Front Panel

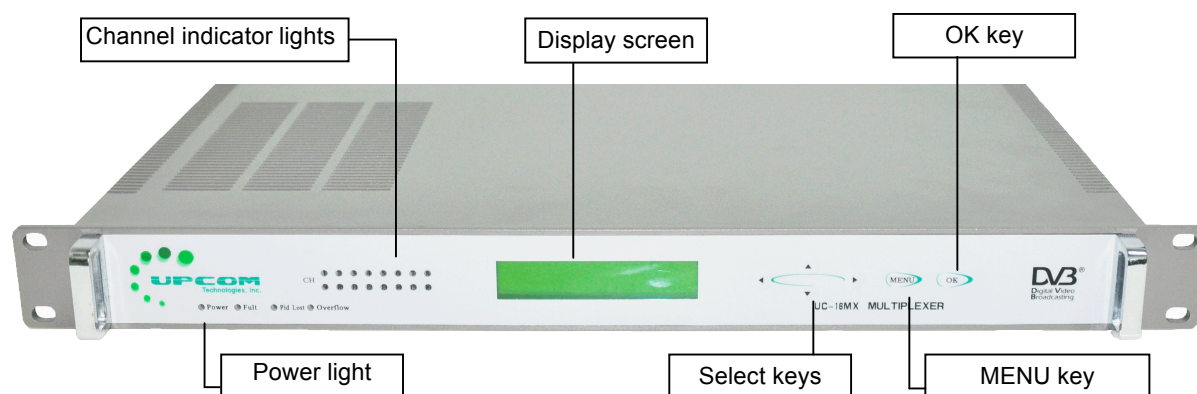


Figure 4-1

- Power: power supply work indicator light, when green the system is normal.
- channel indicator light: Display channel status. These status is shown as appendix A
- Display screen: Display the system state and menu setting.
- select key: ▲▼◀▶, ▲▼ key is used to switch up/down menu and add/decrease number, ◀▶ key is used to change numbers.
- MENU key: enter or exit operation.
- OK key: make sure the operation.

4.2 UC-16MX Operation Flow

Step Appliance	First	Second	Third	Fourth	Fifth
Installation	Setting network address	Initialization	Logon	Reading information	Program multiplexing
Change input port transport streams	Initialization	Logon	Reading information	Program multiplexing	
Change output program parameters	Logon	Reading information	Modify parameters		
Status monitor	Logon	Reading information			

Table 4-1 UC-16MX basic operation flow

4.3 Menu Structure

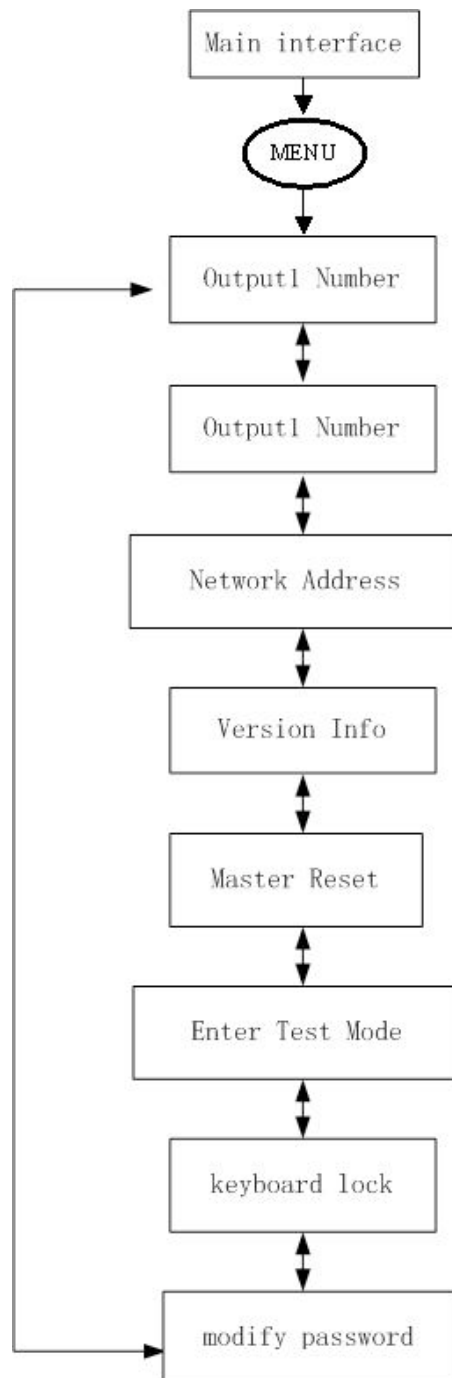


Figure 4-2

Main interface shows the multiplexer running state

01#	p03	bitrat000.0
02#	p04	bitrat000.0

- 01#, 02#: Output number.
- p03, p04: Output program number
- Bitrat000.0: Output real time output effective bitrate

For example: 01# p03 bitrat015.0, means output 1 have three programs and output bitrate is 15Mbps

output1 number: Modify output1 number

output2 number: Modify output2 number

Network address: Setting network IP address

Version info: Display equipment version information

Master reset: Return to original parameters

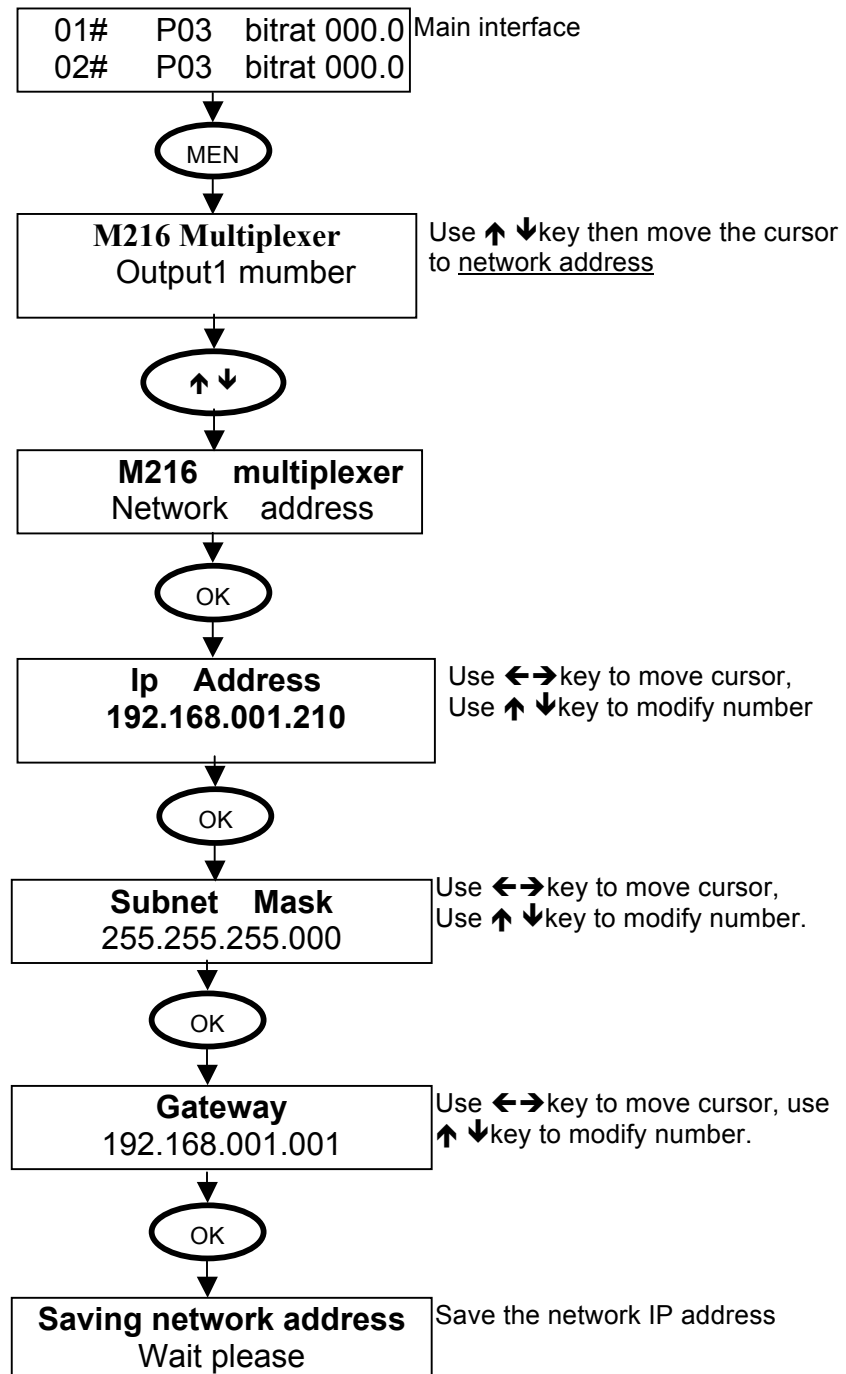
Test mode: It is a kind of work mode

Keyboard lock: Setting the keyboard lock

Modify password: Setting unlock password

4.3.1 Setting the network address

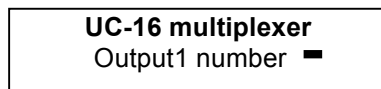
Modify the multiplexer IP settings to define IP address/subnet mask/gateway.



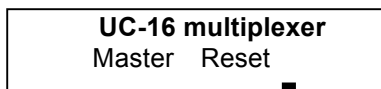
4.3.2 Initialization

- The initialization of multiplexer deletes some Parameters of the configuration
- The initialization of multiplexer is usually used during the first installation, when the input streams must be changed or when the work status is abnormal.

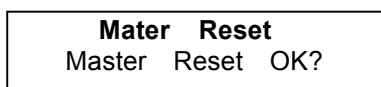
1、 Click” MENU”, enter into main menu.



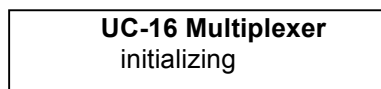
2、 Click ↑ ↓ key to move 'master reset'.



3、 Click 'OK' key to enter the following figure.

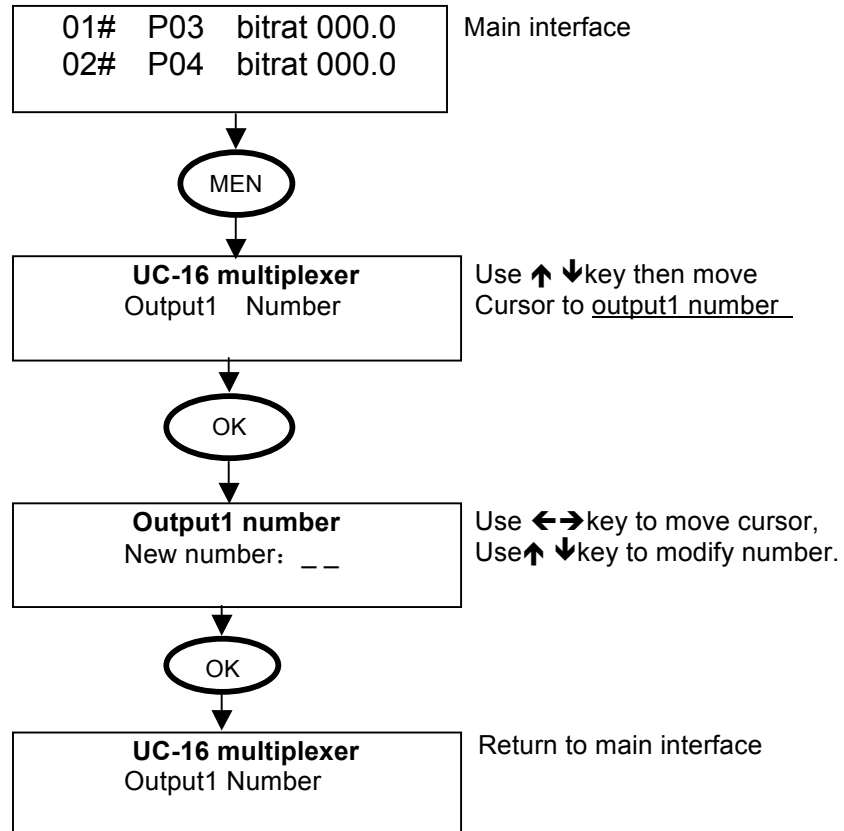


4、 Click “OK” key to finish initialization, the interface is shown as following figure.



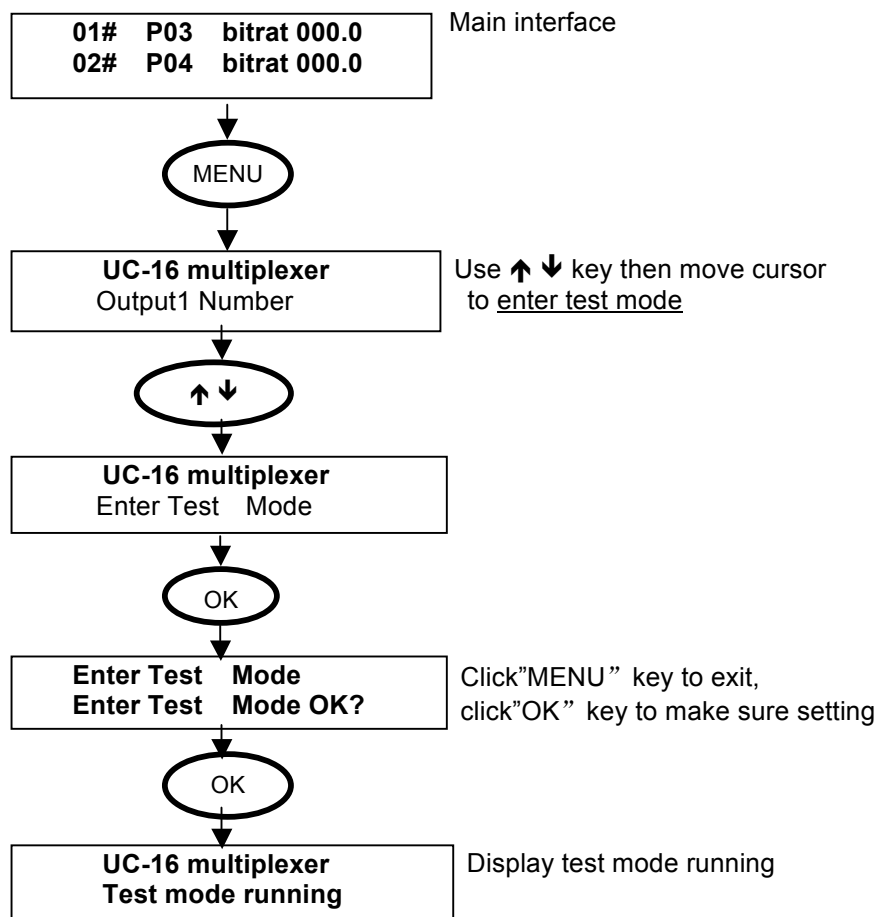
4.3.3 Output number

Setting Output number modifies multiplexer output number, for example setting output1 number



4.3.4 Test mode

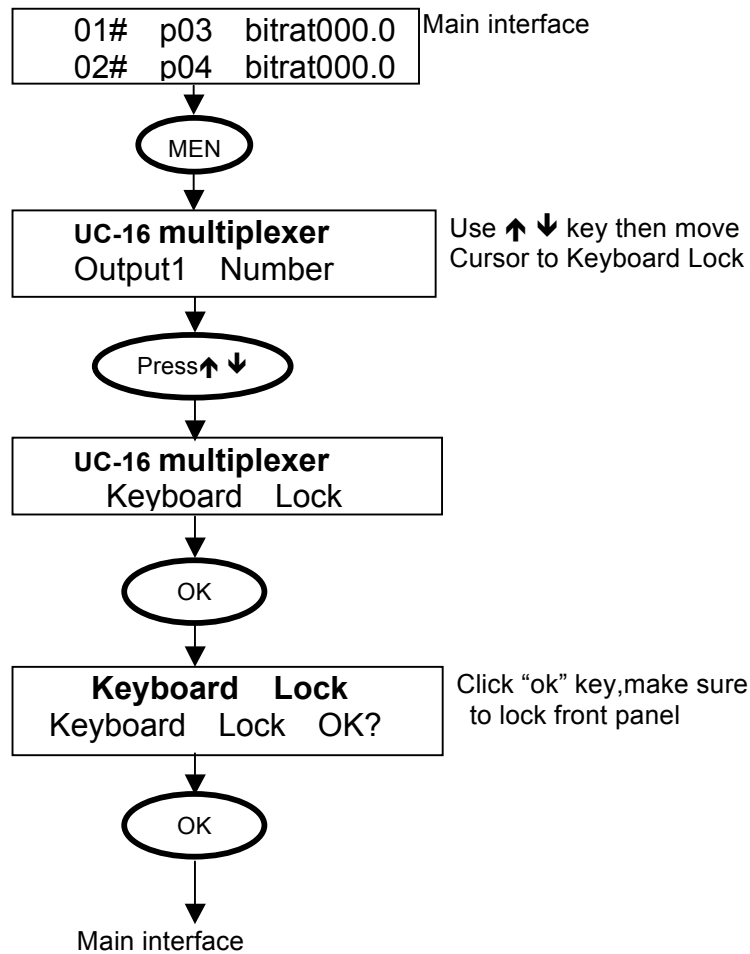
Note: When setting test mode, input port will select a program to send to output and output, until you turn on the equipment again to return to original work mode.



When the equipment is in test mode the front panel keys can not be operated, the equipment returns to its normal working mode after you power cycle.

4.3.5 Keyboard Lock

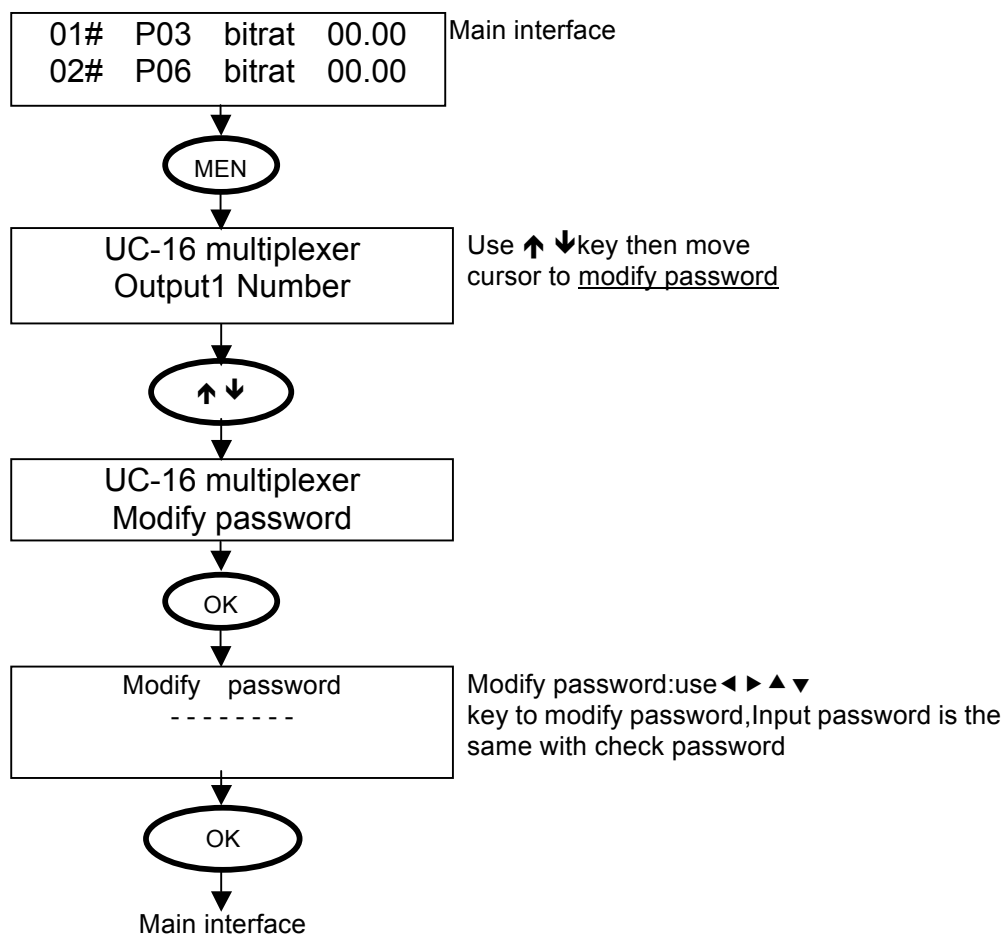
Make sure operate safely by Keyboard lock



When the front panel is locked the unlock password would be needed to operate the equipment. Original unlock password is ↑↑↑↑↓↓↓↓↓↓, if you need to modify the unlock password, please look procedure ahead.

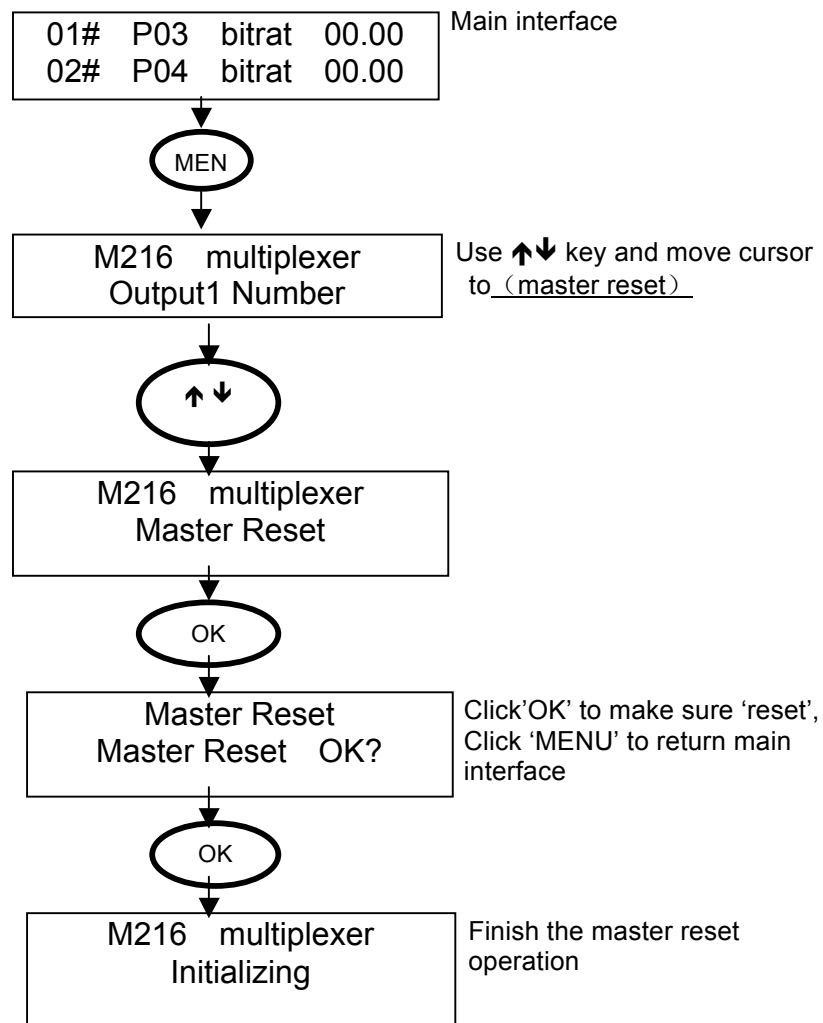
4.3.6 Modify password

- Front-panel password is necessary to operate the equipment; once you change it you will be only one to know the new password. Please keep it on a safe, known place in case you need it in the future.



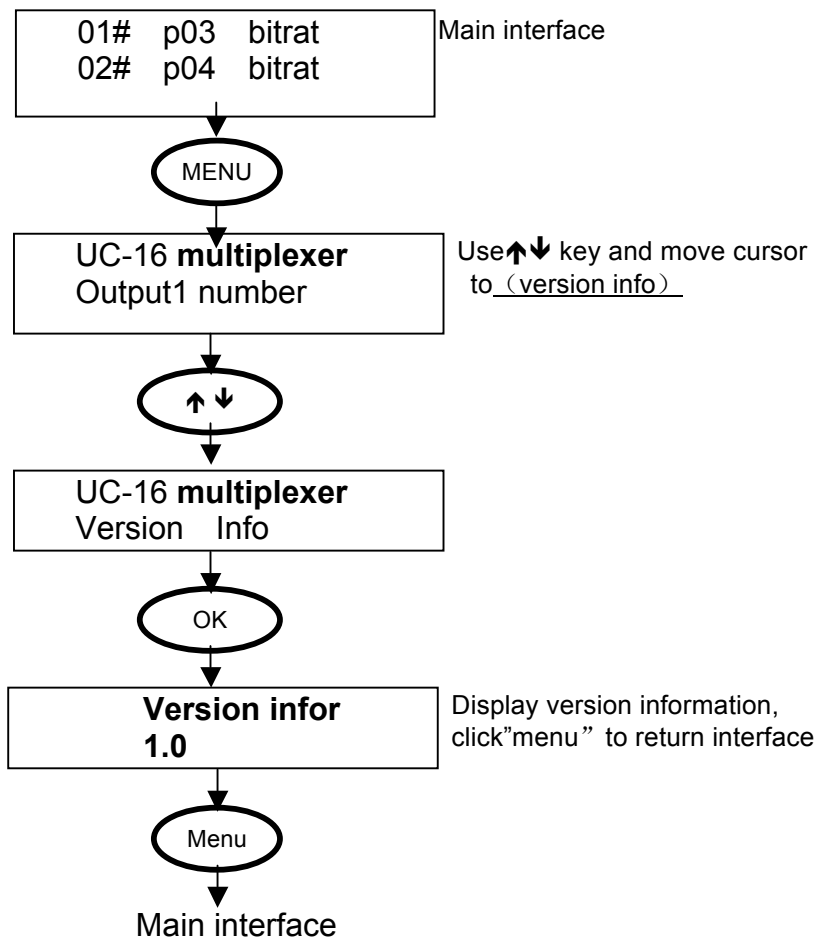
4.3.7 Master Reset

- Once you reset the equipment, all previous settings will be lost. Please be careful with this option.



4.3.8 Version Info

Version info display the M216 version status information



Appendix A. Alarm information

Indicator light states	Input channels states
Green light shine	Input information locked, channels port opened
Green light twinkle	Input information but channels port unopened
Red light shine	Input bitrate overflow or input port opened but no signal input
Light dark	No input signal or open input port

Appendix B. Noun Abbreviations

A	ASI:	Asynchronous serial interface
B	BAT:	Bouquet Association Table
C	CAT:	Condition Access Table
M	MPTS:	Multiple Programs Transport Stream
N	NIT:	Net work Information Table
P	PAT:	Program Association Table
	PCR:	Program Clock Reference
	PID:	Packet Identifier
	PMT:	Program Map Table
	PSI:	Program Specific Information
S	SDT:	Service Description Table
	SI:	Service Information
	SPTS:	Single Program Transport Stream
T	TDT:	Time and Date Table
	TS:	Transport_Stream



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