

## FW IP-IP Mux Scrambler 24 Programs IP to IP Multiplexer Scrambler

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### Application Solution



Three OX308 8 in1 IP Mux-QAM Modules (24 QAM Carrier in all)



Three OX314 12 IP input and 4 TS output IP-Mux Scrambler Module  
(12 Mux-Scrambling IP output in all)



One OX308 8 in 1 IP-Mux QAM module and two OX314 12 channel IP input  
and 4 TS output IP-Mux Scrambler Modules.  
(8 channel QAM carrier and 8 Mux-scrambling IP output in all)

## FW IP-IP Mux Scrambler

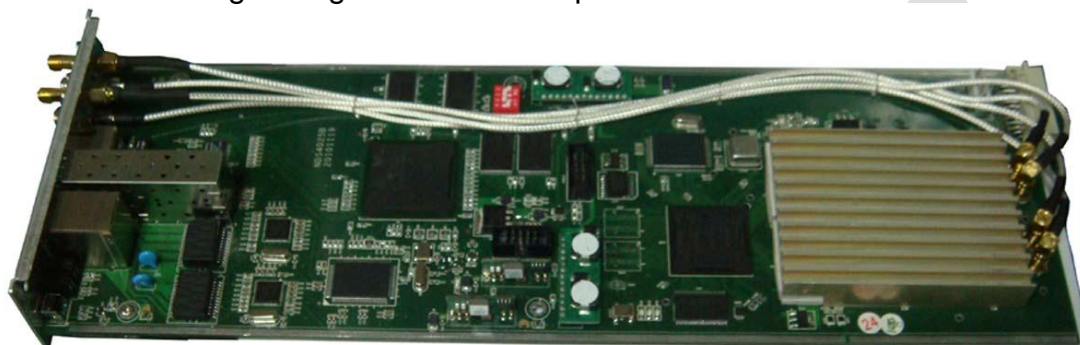
### 24 Programs IP to IP Multiplexer Scrambler

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### OX308 8 in1 IP Mux-QAM Modulator Module

#### Outline

OX308 8in1 IP Mux-QAM Modulator module is the latest generational QAM modulator with high integrated level and performance.



The modular design of this device makes each of its daughter cards stand-alone when operating. Besides, each daughter card can receive the UDP format TS through GE port, furthermore, it supports up to 10 different IP address or port No. This device is combined 8 multiplexers with 10 channels inputs and 8 QAM (DVB-C) modulators, which can output adjacent channel RF

carrier (48M~860M) through the two RF output interfaces (4 carriers for each). Additionally, the IU chassis for this modulator supports up to 3 modules (24 channels QAM) while the 4U chassis supports up to 12 modules (96 channels QAM). This FW308 8in1 IP QAM modulator has excellent integrated level, powerful performance and low cost, which is special adequate for the new generation CATV system.

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## Features

- z Modular design, 1U chassis supports up to 3 modules and 4U chassis supports up to 12 modules
- z Fully complying with EN300 429/ITU-T J.83A
- z Supports 2 GE input ports, up to 10 IP inputs, network anti-jitter
- z Supporting UDP, uni-cast and multicast, IGMP V2/V3
- z Supports max 108Mbps per input IP, supports max 840Mbps overall
- z Supports direct passthrough or multiplexing mode, up to 8 multiplexed output channels
- z Supports any input channel to any output channel multiplexing, supports maximum 256 PID remapping.
- z Supports accurate PCR adjusting
- z Supports PSI/SI editing and inserting
- z Supports 8 QAM modulation carrier output, 4 adjacent channel per output port, 2 RF output port
- z Supports 16QAM、32QAM、64QAM、128QAM、256QAM constellation
- z Symbol rate range: 5.0Msps~7.0Msps
- z RF output range: 48MHz~860MHz in 1kHz step
- z RF output level attenuation: -14dBm~6dBm in 0.5dB step
- z MER≥40dB
- z Network management system

## Specification

<b>Input</b>	2 GE input, RJ45/SFP interface, hot backup
<b>Transport protocol</b>	TS over UDP, uni-cast and multicast, IGMP V2/V3

## FW IP-IP Mux Scrambler

### 24 Programs IP to IP Multiplexer Scrambler

<b>Transmission code</b>		Max 108Mbps per channel
		Max 840Mbps amount channels
<b>Multiplexing</b>	Input channel	10
	Output channel	8
	Maximum PIDs	256 per input channel
	Functions	PID re-mapping( auto/manual optional)
		PCR fine-tuning
Automatic generating PSI / SI table		
<b>Parameters</b>	QAM channel	8
	Standard	EN300 429/ITU-T J.83A
	Symbol rate	5.0~7.0Msps, 1ksps stepping
	Constellation	16、32、64、128、256QAM
	FEC	RS(204, 188)
<b>RF output</b>	Interface	2 F type connectors, 4carriers for each one, 75Ω impedance
	RF range	48~860MHz, 1kHz stepping
	Output ATT	-14dBm~6dBm( each output), 0.5dB stepping
	MER	≥ 40dB
	ACLR	-60 dBc
<b>System</b>	Supporting NMS	
<b>General</b>	Demission(WxLxH)	482mm×455mm×44.5mm
	Weight	3.1kg
	Temperature	0~45℃(operation), -20~80℃(storage)
	Power supply	AC 100V±10%, 50/60Hz or AC 220V±10%, 50/60Hz
	Consumption	15.4W

## FW IP-IP Mux Scrambler

### 24 Programs IP to IP Multiplexer Scrambler

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### OX314 4 in 1 IP Mux-Scrambler



## Outline

OX314 4 in 1 IP Mux-Scrambler is the latest multiplexing and scrambling device with high integrity and powerful function. The modular design of this device makes each of its daughter cards stand-alone when operating. Besides, each daughter card can receive the UDP format TS through GE port, furthermore, it supports up to 12 different IP address or port number, which can generate 4 multiplexer with 12 input and 4 stand alone scrambler, and both device can output UDP format TS through the two gigabits Ethernet. Additionally, the 1U chassis can support maximum 3 modules (12 scrambling), and the 4U chassis can support maximum 12 modules (with 48 scrambling). In a conclusion, its high integrates and cost effective design make this device widely used in the new generation of CATV broadcasting system.

# Modulized IP Solution Device

## IP Mux-Scrambling Modulation Module

### Features

- z Module design, the IU case can support maximum three modules, and the 4U case can support maximum 12 modules.
- z Supports ETR289, ETSI 101 197 and ETSI 103 197
- z 1 GE IP input and 1 GE IP output, support maximum 12 IP input and anti network jittering
- z Supports UDP protocol, unicast and multi-cast, supports IGMP V2/V3
- z Supports maximum 108Mbps input per IP, maximum 840Mbps input overall 12 IP.
- z Supports all 12 input multiplexed into 4 separate output channels
- z Supports any input channel to any output channel multiplexing, supports maximum 256 PID remapping.
- z Supports PCR accurate adjustment
- z Supports PSI/SI inserting and editing
- z Supports 4 channel scrambling, and each scrambling channel can simultaneously support 4 simulcrypt CA
- z Supports NMS

### Specification:

<b>Input</b>	Interface	2 GE inputs, RJ45 or SFP interface, hot backup
	Transport Protocol	TS over UDP, Unicast and Multicast, IGMP V2/V3
	Transmission Rate	Max 108Mbps of each channel Max 840Mbps of all channels
<b>Multiplexing</b>	Input channel	12
	Output channel	4
	Maximum PID	256 per channel

# Modulized IP Solution Device

## IP Mux-Scrambling Modulation Module

	Function	PID re-mapping(auto、 manual)
		PCR correction
		Auto generate PSI / SI table
<b>Scrambling</b>	Maximum simulcrypt CA	4
	Standard	ETSI 101 197,ETSI 103 197
	Connection mode	Local/ remote connection
<b>IP output</b>	Interface	2 GE output , RJ45 or SFP interface
	Format	TS over UDP
	Code rate	1-54Mbps of each channel
<b>System</b>	Supports (NMS)	
<b>General</b>	Dimension (WxLxH)	482mmx455mmx44.5mm
	Weight	3.1kg
	Temperature	0~45℃(working ), -20~80℃(storage)
	Power supply	AC 100V±10% , 50/60Hz or AC 220V±10%, 50/60Hz
	Power consumption	15.4W