8*Voice Over Ethernet

User’s Manual

Dear users:

Thank you for using our product. In order to make your work smoothly, we give you some advice. Before you connect and operate the product, you should make sure to read this manual carefully and pay more attention to the notices.

Overview

The converter encapsulates the voice data in the IP packet, supports the UDP packet mode, realizes the 1-8 voice service to the 2*100Base-TX Ethernet conversion, in the same network segment or through the router to achieve different network segment communication.

Features

- Based on self -copyright IC;
- Provide Web and Console (RS232) management interface, easy to install and open;
- Ethernet interface rate of 10M / 100M, full duplex / half duplex adaptive;
- support power failure or automatic network recovery;
- support Ethernet packet out-of-order recovery and cache to anti-network delay;
- Adjustable frame length to balance bandwidth and transmission delay;

  based on FPGA hardware design, start fast;

Parameters

FXS Phone Interface

Ring voltage: 75V

Ring frequency: 25HZ

Two-line Impedance: 600 Ohm (pick up)

Return loss: 40 dB

FXO Switch Interface

Ring detect voltage: 35V

Ring detection frequency: 17HZ-60HZ

Two-line Impedance: 600 Ohm (pick up)

Return loss: 40 dB

Ethernet interface (10/100M)

Interface rate: 10/100Mbps, half/full duplex auto-negotiation

Interface Standard: Compatible with IEEE 802.3, IEEE 802.1Q (VLAN)

MAC Address Capability: 4096

Connector: RJ45, support Auto-MDIX

Power

Power supply: AC90V ~ 265V； DC –48V； DC +24V

Power consumption: ≤7W

Working Environment

Working temperature: -10°C ~ 60°C

torage temperature: -40°C ~ 80°C

Working Humidity or Storage Humidity: 5%~95 % (no condensation)

Dimension

Desktop： 216（Length）X140（Width）X31（height）mm

Panel Description

Figure 1. Front Panel

Figure 2. Back panel

Note: Extension interface is optional interface. The corresponding interface is invalid without custom.

Indicator LED

Name	Condition	Color	Description
PWR	Green	ON	Device power is ON
		OFF	Device power is OFF
RUN	Green	ON	The system is working properly
		OFF	The system is not working or working abnormally
L1	Green	ON	LAN1 is connected
L2	Green	ON	LAN2 is connected
FX	Green	ON	Fiber is connected
RSV	Green	ON	Connect with the Remote equipment
1-8	Green	ON	Corresponding 1-8Channel voice is busy or picking up
		Flash	Caller ID display
		OFF	Corresponding 1-8Channel voice is not busy or no caller

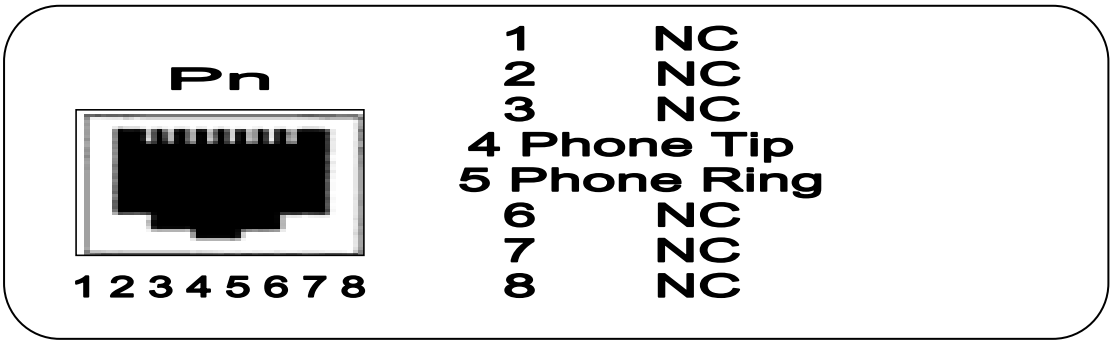
Telephone Interface

There are 8RJ45 connectors on back panel, support 1-8 analog telephones access. The device supports two interfaces: FXO and FXS. If this device is built-in FXO module, the interface is FXO interface, you can insert the phone line that that through switch into FXO interface. If this device is built-in FXS module, the interface is FXS

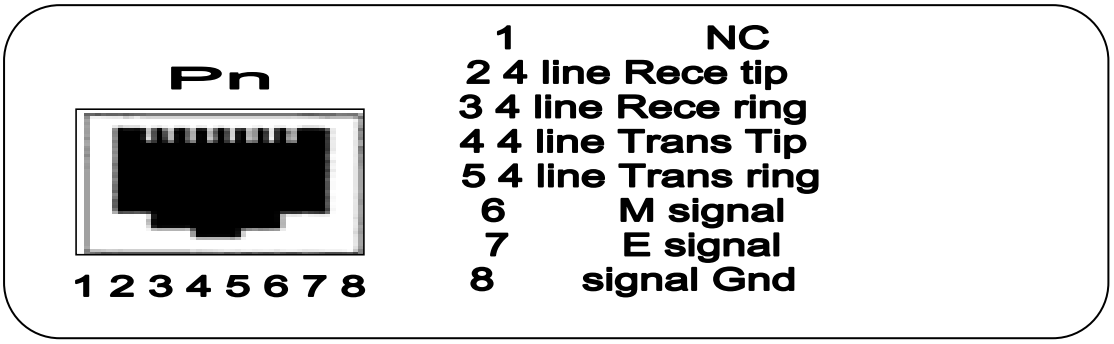
interface, you can insert it into telephone directly.

PIN defined as follows:

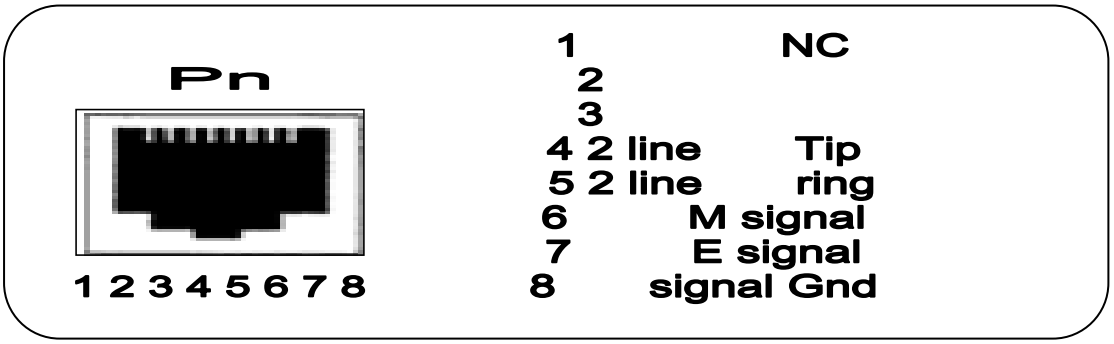
FXO/FXS Pin define:



EM4 Audio Pin define:



EM 2 Audio Pin define:



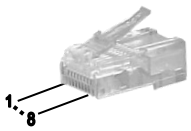
Ethernet Interface

2Channel Ethernet can be optional. Support 10/100M, half/full duplex auto- negotiation and AUTO-MDIX (crossed line and straightly connected line self-adaptable)

LNK	Green	ON	Ethernet is connected
		OFF	Ethernet is not connected
SPD	Green	ON	Ethernet rate is 100M
		OFF	Ethernet rate is 10M

RJ45 Connector and Crystal head PIN order as follows:

10/100M Ethernet Interface



Crystal head PIN order

Straightly connected line order

A end Crystal head PIN		B end crystal head PIN	
Twisted Pair Color	PIN order	PIN order	Twisted Pair Color
White and Orange	1	1	White and Orange
Orange	2	2	Orange
White and Green	3	3	White and Green
Blue	4	4	Blue
White and Blue	5	5	White and Blue
Green	6	6	Green
White and Brown	7	7	White and Brown
Brown	8	8	Brown

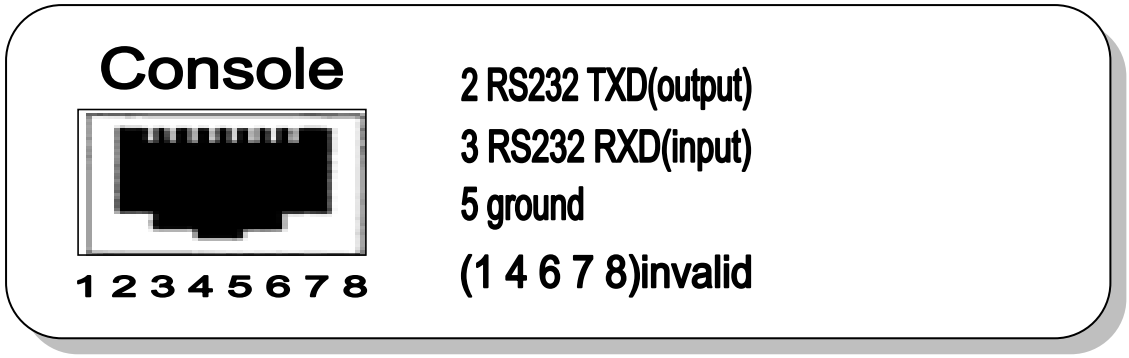
Crossed line order

A end Crystal head PIN		B end crystal head PIN	
Twisted Pair Color	PIN order	PIN order	Twisted Pair Color
White and Orange	1	1	White and Green
Orange	2	2	Green
White and Green	3	3	White and Orange
Blue	4	4	Blue

White and Blue	5	5	White and Blue
Green	6	6	Orange
White and Brown	7	7	White and Brown
Brown	8	8	Brown

Description: Crossed line A end "1" connects with "3"; A end "2" connects with "6".When the connected Ethernet line is very long, you should be sure that "1"and "2" "3"and"6"are a pair line of Twisted Pair.

Console Manager



This is for PC hyper-terminal control.

Use DB9 cable to connect the PC's COM port with CONSOLE port;

Run the "hyper terminal" program under WINDOWS system, or run other third-party serial port connection software, set the default parameters as following:

Baud rate: 9600;

Data byte: 8;

parity check: none;

Stop bit: 1;

Flow control: none;

Press "ENTER" continuously for several times, enter system's CLI interface

and begin management work.

```
======================== Main Menu ========================
== 1.Loop up current device information,  Please input '1'
== 2.Config device setting,  Please input '2'
== 3.Language Switch(Chinese or English)!Please input '3'
== 4.System reset, Please input '4'
== 5.Restore the factory settings, Please input '5'
===========================================================
[FCT /]:
```

Submenu introduction

1. Query current Ethernet settings information，input'1'

```
[FCT /]:1
Information of Device Settings:
   Source IP           :192.168.0.148
   Destination IP   :192.168.0.149
   Gateway             :192.168.0.1
   Subnetmask          :255.255.255.0
   Source MAC          :00:00:00:fc:fc:00
   Source Port         :30000
   Destination Port:30000
   Buffer Depth        :4
   Frame Length        :2

Information of Device Messages:
   Source IP           :192.168.0.148
   Destination IP :192.168.0.149
   Gateway             :192.168.0.1
   Subnetmask          :255.255.255.0
   Source MAC          :00:00:00:fc:fc:00
   Destination MAC:00:00:00:00:00:00
   Source Port         :30000
   Destination Port:30000
   Buffer Depth      :4
   Frame Length      :2

Information of Port Status:
   port1-link: UP
   port2-link: DOWN


======================== Main Menu ========================
```

```
== 1.Loop up current device information,  Please input '1'
== 2.Config device setting,  Please input '2'
== 3.Language Switch(Chinese or English)!Please input '3'
== 4.System reset, Please input '4'
== 5.Restore the factory settings, Please input '5'
============================================================
[FCT /]:
```

2. Enter settings menu，input'2'

```
[FCT /]:2

====================== Config Menu ======================
== 1.Config local IP Address, Please Input '1'
== 2.Config local MAC Address, Please Input '2'
== 3.Config TDMIP Setting, Please Input '3'
== 9.Inquire Current Config, please input '9'
== 0.Back To Previous Menu, please input '0'
============================================================
[FCT /]:
```

You need to configure the source IP address and mac address, destination IP address, gateway, and subnet mask of the machine after the new device or factory reset.

Example 1: The local IP address is set to 192.168.0.145, the MAC address is set to 00: 00: 00: fc: fc: 11, to communicate with the 192.168.0.30 computer, the gateway is 192.168.0.1, the subnet mask for 255.255.255.0. Set as follows:

Under "Config Menu", input 1, to "Config local IP Address" menu

set 0 192.168.0.145 (local IP Address Config, press enter to effect)

set 1 255.255.255.0 (local Netmask Config, press enter to effect)

set 2 192.168.0.1 (local Gateway Config, press enter to effect)

input 0, press enter, to "Config Menu"

Under "Config Menu", input 2, to "Local MAC Config Menu"

set 00.00.00.fc.fc.11 (Local MAC Config, press enter to effect)

input 0, press enter, to "Config Menu"

Under "Config Menu", input 3, to "TDMIP Setting" Menu

ds tip 192.168.0.30 (destination IP address, press enter to effect)

input 0, press enter, to "Config Menu"

input 9, confirm all setting succeed, repower device to take effect.

Example 2: Increase the cache depth when the network quality is poor to absorb the packet transmission delay, adjust the cache depth. Set as follows: buf 8 (numbers from 1 to 15)

Under "Config Menu", input 3, to "TDMIP Setting" Menu

buf 8 (buffer_depth setting, buffer depth: 1<=buf<=15, press enter to effect)

input 0, press enter, to "Config Menu"

input 9, confirm all setting succeed, repower device to take effect.

Telnet Manager

Telnet address is local IP address, default ip address 192.168.0.148.

User name is admin, and password is admin;

Telnet menu like console menu, please refer to "Console Manager".

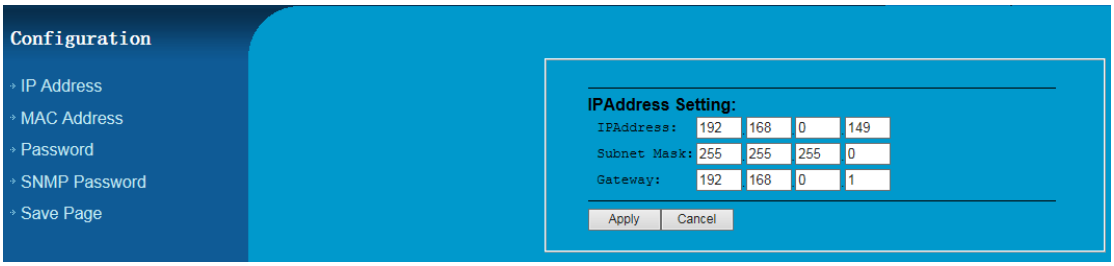
Web Manager

1. Enter the IP address:192.168.0.148

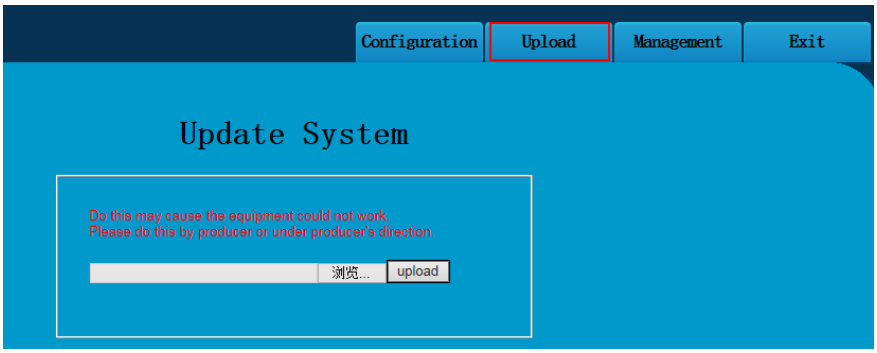
User name is admin, and password is admin;

2. Enter user name and password: admin, then choose the language.

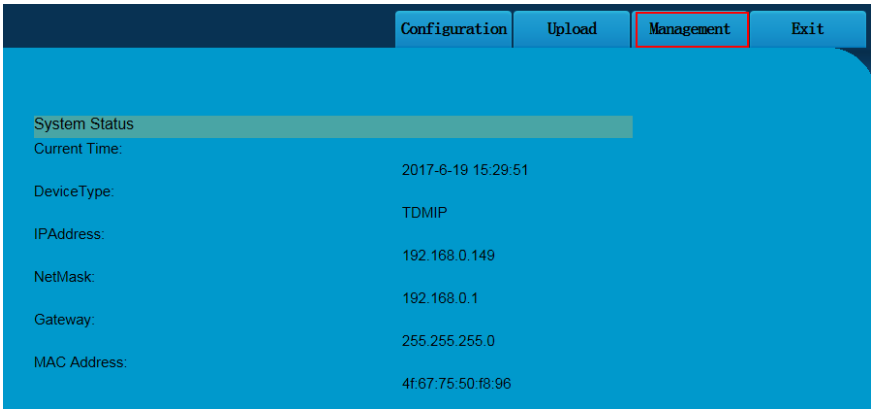
3.Enter the web page can be configured.



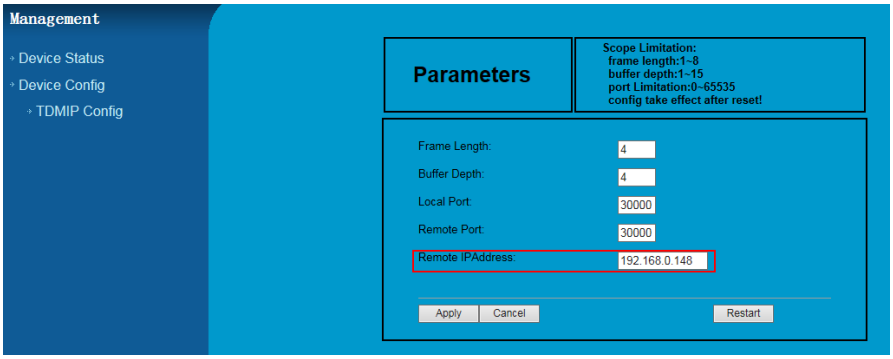
4.Click here can upgrade the firmware.



5.Click device management can view the device status.



6.Here can modify the target IP address and require the opposite IP keep consistent.



7.Click on the "Restart", setting up completed successfully.

Power

Dual power supply: AC220V and DC-48V：

AC220V socket: input voltage range AC 90V～265V；Please insert power wire as the attachment;

DC-48V socket: input voltage DC-36V ~-72V. If the power of DC-48V is used, the positive and negative terminal can be optional because there is the self-test circuit for the polarity inside the fiber optical multiplexer.

Normal Connect way

"FG" connect earth；

"-48V" connect the power negative；

"+48V" connect the power positive；

After-sales Service

The series of our Fiber Media Converter products, our company promises three-years warranty. During product warranty time, our company provides free repair service, but if the following cases, we will charge the cost of materials.

1. Damage due to not complying with the manual.
2. Tear down the device without authorization, which leads to bad situations.
3. Lightning, fire and inevitable natural disasters.
4. Our products don't match with other company products because of bad design to cause damage.

Company Statement

1. As we are adopting new technology, if our product technical parameters are changed, we won't notice you.
2. The final interpretation right of this manual belongs to our company.