

# MTA 6328-2Re

## *Install Guide*



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# **Section 1**

## **MTA 6328-2Re Introduction**

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### **Overview**

The MTA 6328-2Re uses your broadband connection to deliver voice quality and features equivalent to those of the PSTN. It is compatible with any standard analog telephone set, and it is very easy to install and configure.

In addition to providing quality voice services, MTA 6328-2Re's NAT & DHCP functionalities allow users to share a single broadband connection throughout their home network by either connecting a PC or a hub into the MTA downlink port.

### **Features and Advantages**

#### **Product Features and Values**

Encompasses value-added features available in traditional PSTN networks, advanced IP telephony, as well as simple broadband router features:

- CLASS feature support
- Fax
- Caller ID
- NAT capabilities provide simultaneous Internet access for up to 3 PCs
- The built-in DHCP server automatically assigns IP addresses to devices on the network.
- The web-based interface allows configuration of the MTA 6328-2Re to handle IP routing and port forwarding for various services such as FTP and Telnet, and other applications, such as gaming and remote PC access.

### **Package Contents**

The InnoMedia MTA 6328-2Re comes with the following items:

- 1 MTA
- 1 AC / DC Power Adapter
- 1 Telephone Cable
- 1 Ethernet Cable



## Section 2

### MTA 6328-2Re Setup

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#### Overview

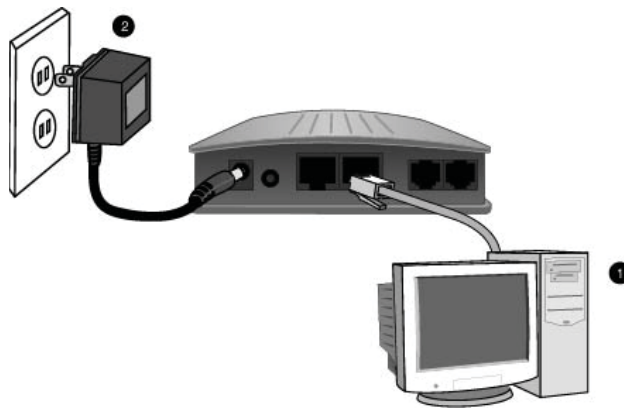
This section provides a step-by-step procedure to install the MTA 6328-2Re and setup the system for connecting to your ISP.

*NOTE: These steps must be performed BEFORE connecting to your broadband Internet connection. Before proceeding, make sure that the MTA is powered on and your PC is connected to the LAN port. Do not connect any device to the WAN port at this time.*

#### Setting up Your Computer

You will need to use a PC that has an Internet browser and a network interface card (NIC) properly installed.

1. Using a network cable, connect your PC's NIC to the MTA's LAN port.
2. Connect the power adapter included with your MTA, to the port marked PWR.
3. Wait until the MTA is completely initialized. You will know that the MTA is ready when the RUN light is solid green.



## **Using DHCP**

Your MTA 6328-2Re's LAN is setup for DHCP as the default. It will automatically assign your PC an IP address if the PC is configured to use DHCP.

We recommend that you reference your Operating System manual for instructions on how to configure your PC for DHCP. An example of how to do this with Windows 2000 appears below:

### **Setting up Your Computer**

1. Click Start on your Taskbar.
2. Click Settings.
3. Click Control Panel.
4. Click Network.
5. Right-click on Local Area Connection.
6. Choose Properties.
7. Double Click on TCP/IP.
8. Write down the current settings before making any changes in case you need to restore your original settings.
9. Select the Obtain an IP address automatically option, then select the Obtain DNS server address automatically option.
10. Click OK.
11. Restart your PC if prompted.
12. Your PC should now have automatically obtained an IP address from the MTA's built-in DHCP server.
13. Verify this by typing "ipconfig" at the command prompt. Your PC should have an IP address in the default range of 192.168.99.100 to 192.168.99.199.



## Section 3

### MTA 6328-2Re Configuration

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#### Overview

Setup and Configuration of the MTA 6328-2Re are managed via a Web Browser interface. In order to access this interface, your PC must be configured properly as outlined in Section 2. If you have not completed the steps outlined in Section 2, please do so before proceeding with this part of the installation.

#### Configuring MTA 6328-2Re

#### Logging In

To login to the Web User Main page, follow these steps:

1. Open your web browser and enter the IP address of the MTA.  
http://192.168.99.1 is the default address.
2. Enter your Username and Password. The default Username is: **User**  
The default Password is: **password**.
3. You should now see the browser interface of the MTA 6328-2Re.

*Note: The virtual interface is meant to provide access to the MTA in an isolated network environment. If you have multiple MTA's connected to the same network, you must verify that you are connected to the correct device. Please confirm that the MAC address displayed on the page matches the one on the bottom of the MTA that you are connecting to.*



The screenshot displays the web interface for the MTA 6328-2Re. On the left is a blue navigation menu with the following items: Home, Information, System Messages, VoIP, Management, and IP Networks. The main content area is titled "MTA 6328-2Re" and "Version Information". It lists the following details:

- MAC Address : 00:10:99:Ee:de
- Firmware Version : V4.2.67
- BBS Version : V7.3.32
- Controller Code Version : V4.2.67 6328-2Re Fri Jun 19 14:43:00 2009
- DSP Code Version : V2.4.33 08/01 18:30 2007
- Last Successful Provisioning : Last provisioning failed
- Date and Time : SNTP is not ready! It'll try again later
- System Up Time : 00hours, 06minutes, 20seconds ago



## Configuring IP Addresses for your MTA

MTA 6328-2Re needs two IP addresses, one is for WAN(External Port) and one is for LAN(Internal Port.)

The IP address used by the "WAN" is the IP assigned by your ISP. This address may be assigned in a number of ways, including:

- DHCP—Usually used with Cable Modem connections
- Static IP—Used on both Cable Modem and ADSL connections
- PPPoE—Usually used with ADSL connections

Please check with your ISP to determine which method is used for your connection. You will need to know this before you can proceed with configuring the MTA 6328-2Re.

The screenshot shows the web interface for the MTA 6328-2Re. The page title is "Configure Network Setting". The interface includes a sidebar menu on the left with the following items: "Logout", "Information", "VoIP", "Management", "IP Networks", "IP Settings", "Processing Setting", "QoS Setting", "SNMP Setting", "NAT Port Map", "Voice QoS Setting", "Access Filtering", "SNCP Server", "MAC Cloning", "PPPoE Setting", "PPPoE Status", "QoS Setting", and "Auto Interface Setting". The main content area contains the following settings:

- External Port** (dropdown menu)
- MAC Address**: 00:10:99#ec.de
- IP Setting** (header)
- Enable DHCP**
- IP Address**: 172.16.0.192
- Subnet Mask**: 255.255.0.0
- Default Gateway**: 172.16.0.1
- DNS #1**: 172.16.0.2
- DNS #2**: 192.168.0.2
- FQDN**: (empty field)
- Link Speed** (header)
- Auto Speed**  100Mbps  10Mbps
- Link Mode** (header)
- Auto Duplex**  Full Duplex  Half Duplex
- Save & Reboot** and **Reset** buttons

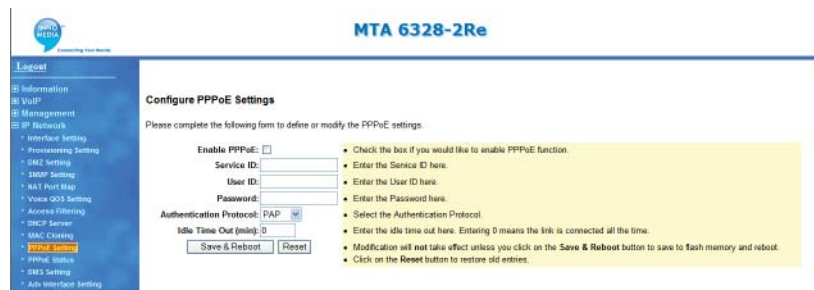


## Configuring PPPoE Settings - For External IP

If your ISP provides your external IP address using PPPoE, then you will need to configure your MTA 6328-2Re so that it will be able to establish a PPPoE connection.

1. Open your web browser and connect to your MTA. (See Logging In on page 7 for more details.)
2. Click on IP Network, then PPPoE Settings.
3. Click Enable PPPoE Driver to enable the service.
4. Enter your Service ID if provided by your ISP. Otherwise, leave this field blank.
5. Enter your User ID, sometimes referred to as Username. (A sample User ID has been entered for your reference)
6. Enter your Password.
7. Choose the Authentication Protocol.
8. Click Save & Reboot to save your settings and reboot the MTA. The system will take a few seconds to connect to your ISP when you reboot.

*NOTE: Your ISP will supply you with your User ID, Password, and Authentication Protocol.*



The screenshot shows the web interface for the MTA 6328-2Re. The page title is "Configure PPPoE Settings". On the left is a navigation menu with categories like "Information", "VoIP", "Management", and "IP Network". The "IP Network" section is expanded to show "PPPoE Settings". The main content area contains a form with the following fields and options:

- Enable PPPoE:** A checkbox.
- Service ID:** A text input field.
- User ID:** A text input field.
- Password:** A text input field.
- Authentication Protocol:** A dropdown menu with "PAP" selected.
- Idle Time Out (min):** A text input field with "0" entered.

Below the form are two buttons: "Save & Reboot" and "Reset". To the right of the form is a yellow box containing instructions:

- Check the box if you would like to enable PPPoE function.
- Enter the Service ID here.
- Enter the User ID here.
- Enter the Password here.
- Select the Authentication Protocol.
- Enter the idle time out here. Entering 0 means the link is connected all the time.
- Modification will not take effect unless you click on the Save & Reboot button to save to flash memory and reboot.
- Click on the Reset button to restore old entries.





## PPPoE Status

The PPPoE Status link allows you to manage your connection with your DSL provider. When you power on your MTA, it normally will auto-connect to your DSL using PPPoE. If you ever wish to manually disconnect and/or reconnect to your DSL internet connection, simply click the appropriate button on the PPPoE Status page.



## **Section 4**

### **Connecting for the first time**

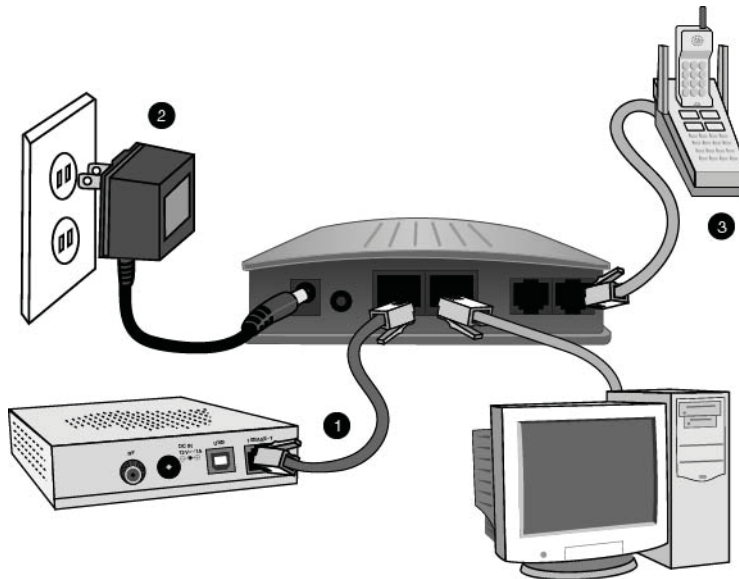
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Now that you have set up your MTA 6328-2Re, you are ready to connect to your voice service. Just a few more steps, and you'll be ready to start making phone calls.

#### **Connecting to Your Voice Service**

In order for your MTA 6328-2Re to connect to your voice service, follow these steps:

1. With the MTA 6328-2Re powered OFF, connect a network cable from the port marked WAN on the MTA to the port marked Ethernet on your broadband access device (cable modem or DSL modem).
2. Plug the power adapter into an outlet, then plug the power into the MTA.
3. Plug any standard phone into the ports marked <phone> on the MTA, and start making calls!



## Section 5

### MTA 6328-2Re Advanced Configuration

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#### Overview

By now you have configured your MTA 6328-2Re's basic settings and are making phone calls and surfing the internet as usual. This guide will show you how to manage the other features available with the MTA 6328-2Re

#### Setting up

Before proceeding with the features described in this guide, you must have completed the steps outlined in sections 2 and 3. If you have not done so, please complete the steps in sections 2 and 3 before moving on.

#### Logging In

To login to the Web User Main page, follow these steps:

1. Open your web browser and enter the IP address of the MTA.  
http://192.168.99.1 is the default address.
2. Enter your Username and Password. The default Username is: **User**  
The default Password is: **password**
3. You should now see the browser interface of the MTA 6328-2Re

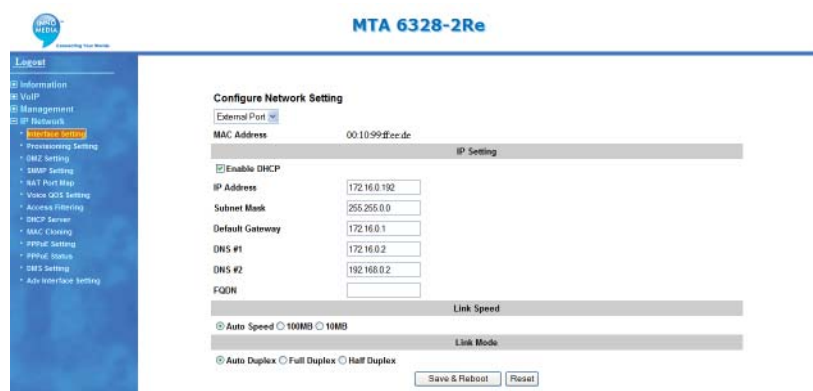


## Configuring DHCP Server Information

At this point, your PC is already running with a valid IP address and is able to surf the web on the same connection that you are making phone calls with. The IP address assigned to your PC is a result of the DHCP server on the MTA 6328-2Re. The default address pool is a range from 192.168.99.10 to 192.168.99.15. If you check your PC's IP address, you will see that it falls within this range. The default settings should be fine for most users.

If you wish to change the range, or if you opt to assign your own static IP address to your PC rather than have it auto-assigned by the DHCP server, then you will need to access the browser interface to change some settings by following the steps below.

1. Open your web browser and connect to your MTA at <http://192.168.99.1>.
2. Click on IP Network, then DHCP Server.
3. Click on Enable DHCP Server, to enable the feature, or uncheck it if you want to use static IP for your PC.
4. Enter the IP address ranges, Subnet Mask, and DNS information. The DNS addresses must be supplied by your ISP.
5. You may also change how long your PC may keep its current IP address before the MTA will reassign it another address from the pool. For most users, the default times (in seconds) are appropriate and should not be modified.
6. Click on Save & Reboot to let your new settings take effect.



The screenshot displays the web interface for the MTA 6328-2Re. The page title is "Configure Network Setting" and the "External Port" is set to "External". The "MAC Address" is "00:10:99:0e:de". The "IP Setting" section is expanded, showing the "Enable DHCP" checkbox checked. The "IP Address" is set to "192.168.192", the "Subnet Mask" is "255.255.0.0", the "Default Gateway" is "172.16.0.1", the "DNS #1" is "172.16.0.2", and the "DNS #2" is "192.168.0.2". The "FQDN" field is empty. The "Link Speed" section has "Auto Speed" selected, and the "Link Mode" section has "Auto Duplex" selected. At the bottom, there are "Save & Reboot" and "Reset" buttons.



## Configuring NAT Port Mapping

Port mapping is an advanced configuration in which the router forwards incoming protocols to computers on your local network. You will need to determine which type of service, application or game you'll provide and the IP address of the computer that will provide each service. This feature only works with a static IP assigned to your PC.

To configure the NAT Port Mapping, do these steps:

1. Open your web browser and connect to your MTA.
2. Click on IP Network, then NAT PortMap.
3. Enter External Source Port number that you want to redirect to another unit.
4. Choose either TCP/IP or UDP protocol.
5. Enter The IP address of the PC that is running the application or game that uses this source port and protocol.
6. Enter the Internal Source Port you want to send it to. If the application or service only uses one port, then the Internal Source Port will be the same as the External Source Port.
7. Alternatively, you may select an Application in the drop-down box. The well-known port used for that application will be assigned automatically.
8. Save the settings by clicking on Save.

*Note: Ports 6024, 6026, 6028 and 6030 are reserved for voice and cannot be configured in this feature.*

The screenshot shows the web interface for configuring NAT Port Mapping on an MTA 6328-2Re. The page title is "Configure NAT Port Map Database". Below the title, there is a table with columns: Delete, External Source Port, Protocol, Internal Source IP, Internal Source Port, and Application. The table contains five rows, each with a checkbox in the Delete column, an empty input field for External Source Port, a dropdown menu for Protocol (all set to UDP), an empty input field for Internal Source IP, an empty input field for Internal Source Port, and a dropdown menu for Application (all set to User Defined). Below the table are "Save" and "Reset" buttons. To the right of the table, there is a yellow box containing instructions: "Enter a new entry in any empty entry.", "Select an Application to set the default Port and Protocol.", "Check the box to the left of an entry and click Save to delete the entry.", "An example of Internal source IP address is 192.168.99.100", "Modification will not take effect unless you click Save button to save to flash memory.", "External port number with RED box indicates that the port is preserved by MTA and can't be mapped.", and "Click Reset button to restore old entries." Below the table, there is a NOTE: "NOTE: For best results, a port should only be mapped to an Internal Source IP that is static. Therefore, you should assign a static IP address to the PC or PCs that will be forwarded any traffic by the port maps above."



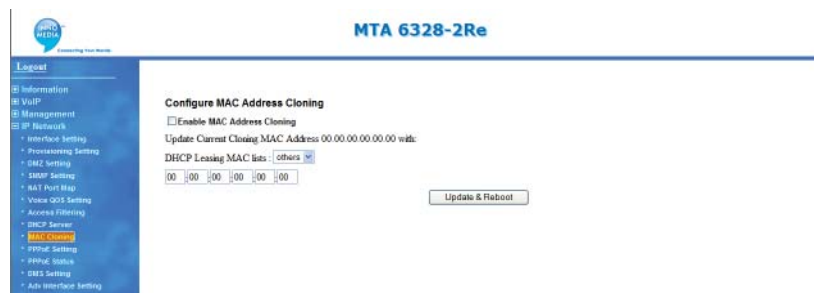
## Configuring MAC Cloning

In some cases, your broadband service provider might restrict internet connections only to the original PC that you installed with the cable or DSL modem. The network restricts this by reading the hardware address (MAC) of your PC's network card.

In this type of network, your MTA would not be allowed to connect to the network since its MAC is different from your PC's MAC. The MAC Cloning feature is used to let the MTA appear to have the MAC of your original PC.

To configure MAC Cloning:

1. Open your web browser and connect to your MTA's address. The default is `http://192.168.99.1`
2. Click on IP Network, then MAC Cloning
3. Check the box to Enable MAC Address Cloning
4. Enter the MAC address of the network card for the PC that was originally connected to your broadband connection.
5. Click on Save and Reboot to save the cloned MAC and reconnect to the network.



## Troubleshooting

Problem: Telephone has no dial tone

Solution:

1. Ensure that all cables (power, Ethernet, telephone) are properly connected to the MTA (see Page 11) and your broadband access device. Ensure that MTA's AC/DC power adapter is plugged in, and PWR and WAN indicator lights are ON (see Front Cover Picture).
2. Pick up telephone handset (phone off-hook), check for PHONE 1 indicator light to be ON and RUN indicator light blinking (see Front Cover Picture). If not, please disconnect MTA power cable, and then reconnect it again.
3. If previous steps fail, report the failure to your VoIP service provider for attention.

## Specifications

Telephone Interface	2 FXS voice port
Network Interface	10/100 Base-T RJ-45 Uplink and Downlink ports
Dimensions	1.18 in (H) x 4.60 in (W) x 5.12 in (D)
	30 mm (H) x 117 mm (W) x 130 mm (D)
Power Supply	Output: DC 12V, 1A / Input: AC 120V, 60Hz, 200mA
Power Consumption	Idle: 12V/0.19A (2.28W) / Talking: 12V/0.28A (3.36W)
Operating Temperature	32°F to 104°F (0°C to 40°C)



## LED Status Summary

LED	Blinking State	MTA 6328-2Re State
PWR	Steady Green	The device powered is on.
	Off	The device powered is off.
RUN	Blinking Red	The device failed to download a configuration file or an image file.
	Blinking Orange-Red	The device is actively downloading a configuration file or a firmware update.
	Steady Green	The device has been configured successfully and is running normally.
	Off / Other	The device is malfunctioning.
WAN	Blinking Green (10 Base T) Blinking Amber (100 Base T)	PC or voice data is being transferred.
	Steady Green (10 Base T) Steady Amber (100 Base T)	The device is connected to a broadband network.
	Off	The device is not connected to a broadband network.
LAN	Blinking Green (10 Base T) Blinking Amber (100 Base T)	PC Data is being transferred.
	Steady Green (10 Base T) Steady Amber (100 Base T)	The device is connected to an external PC, device, or a network on its LAN side.
	Off	The device is not connected to any external PC or equipment.





## LED Status Summary

LED	Blinking State	MTA 6328-2Re State
VOIP	Steady Green	The VoIP module is internally initialized, at least one line is registered, and the unit is ready to make calls.
	Off	Unit failed to register with both lines.
PHONE1 / PHONE2	Blinking Amber	The connected telephone handset is on the hook (not in use), and there are new voice mail messages.
	Blinking Green	The connected telephone handset is off the hook.
	Steady Green	The connected telephone handset is on the hook (not in use), and there are no new voice mail messages.
	Steady Amber	The connected telephone handset is on the hook (not in use), and the line is not registered.
	Off	The line is disabled.



