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General information regarding operations:

This document shall help you to set your system up regarding your specific demands.

With this document we cover the items:

- connectors on the ERC-M
- different housings of the ERC-M
- DC-supply of the ERC-M
- 10 different operation-modes of ERC-M by use of different interfaces showing the possible setups in a home-station, in a contest-station in multiple operator/multiple antenna-setups or remote-stations.

We are afraid we cannot handle all possible setups in this document, so if you have any questions just contact us or use the Easy-Rotor-Control Yahoo-Group to connect to other users.

http://groups.yahoo.com/group/Easy_Rotor_Control/
1. Connectors

1.1 ERC-M USB

DC-supply

USB

Rotators

HID

1.2 ERC-M RS232

DC-supply

Rotators

RS232

HID

1.2 ERC-M LAN-option

LAN
2. Housings

ERC-M is available with different housings. A Slimline-case and a Desktop-housing

2.1 Slimline-case

2.2 Desktop-housing

The Desktop-housing is available with 2 different front-panels: AZ/EL and AZ/AZ. Electrically they have the same function and they use the same PCB but the pushbuttons and the LEDs are arranged differently.
3. DC-supply of ERC-M

There are 3 ways to supply the ERC-M.

3.1. DC-supply through the DC-connector of ERC-M

DC is supplied through the DC-connector with a DC-jack with a 2.1mm pin and 5.5mm outer diameter. The plus-pole is the centre-pin.

**Note:** The supply through the DC-connector is always needed if rotor-cards or the LAN-option is used.

The supply is 10..15VDC with a minimum of 300mA. Be sure the voltage does not drop below 10V if a rotor-card is used. Otherwise the relays may not engage properly.

The needed connector is supplied with the ERC-M.

3.2. DC-supply through USB

Without rotor-cards or LAN-option the needed current for the ERC-M is less than 100mA and can be retrieved from USB (USB-powered).

3.3. DC-supply through the rotator-control-box

Some rotators supply DC through the remote-connector of the rotator-control-box. Please check the ERC-M installation-guide if your rotator supplies a suitable DC.
4. Operation-modes of ERC-M

There are several ways to operate an ERC-M:

4.1. **ERC-M attached to a PC by RS232**

- RS232-cable supplied with ERC-M (3.5mm phone-jack to D-SUB9)

4.2. **ERC-M attached to a PC by USB**

- A COM-port needs to be assigned to the ERC-M USB (see Appendix 1)
- USB-cable supplied with ERC-M (USB-A to USB-B)

4.3. **ERC-M attached to a PC by LAN**

- An IP-address needs to be assigned to the ERC-M LAN-option (see Appendix 2).
- A COM-port needs to be assigned to the ERC-M LAN-option (see Appendix 3).
- Patch-cables are not supplied with ERC-M LAN-option
  - Crossover-cable supplied with ERC-M LAN-option
  - Patch-cable
  - Patch-cable
4.4. Single PC controls several ERC-M by RS232 or USB

Every ERC-M uses a specific COM-port. Either a RS232-port or a COM-port assigned by the USB-to-serial-adapter (FTDI) on the ERC-M USB (see Appendix 1)

4.5. Single PC controls several ERC-M by LAN

Every ERC-M uses a specific COM-port assigned to the ERC-M LAN-option (see Appendix 2 and 3)
4.6. Several PC control 1 ERC-M over LAN

On every PC a COM-port is assigned to the ERC-M LAN-option (see Appendix 2 and 3). The ERC-M LAN-option can only be connected to one PC at a time. If one PC opens the COM-port to the ERC-M, the other PCs cannot establish a connection. In the moment an existing connection is closed, the ERC-M is available again for other connections.

4.7. Several PC control several ERC-M over LAN

On every PC a COM-port is assigned to each ERC-M LAN-option (see Appendix 2 and 3). As these COM-ports are assigned locally in each PC, the COM-port-number may differ on different PCs for the same ERC-M LAN-option. An ERC-M LAN-option can only be connected to one PC at a time. If one PC opens the COM-port to the an ERC-M, the other PCs cannot establish a connection to the same ERC-M. In the moment an existing connection is closed, the ERC-M is available again for other connections.
### 4.8. ERC-M Master-Slave-Mode over RS232

This mode was developed to support remote-stations without a PC on the remote- and on the host-side.

The Master is an ERC-M RS232 with a desktop-housing (LCD, LEDs and pushbuttons).

The Slave is an ERC-M RS232 with or w/o housing.

Master and Slave needs to be configured with Service-Tool V3.0 or higher.

Master and Slave needs a Firmware V3.0 or higher.

The Master must be configured with the Service-Tool to the protocol MASTER.

The Slave must be configured with the Service-Tool to the protocol GS232B.

Master and Slave must be configured with the Service-Tool to the same Baudrate of 9600 Baud.

Master and Slave are connected either by a crossover-RS232-cable (TXD/RXD crossed), a so-called 0- or Nul-modem or by devices that convey the RS232-signals through Ethernet like a pair of Remoterig®.

If connected to such a RS232-over-Ethernet-device, the connection of TXD and RXD will be defined by the manufacturer of the device.

---

**MASTER**

---

**SLAVE**

---

### 4.9. ERC-M Master-Slave-mode over LAN

This mode was developed to support remote-stations without a PC on the remote- and on the host-side.

The Master is an ERC-M with LAN-option and a desktop-housing (LCD, LEDs and pushbuttons).

The Slave is an ERC-M with LAN-option with or w/o housing.

Master and Slave needs to be configured with Service-Tool V3.0 or higher.

Master and Slave needs a Firmware V3.0 or higher.

The Master must be configured with the Service-Tool to the protocol MASTER.

The Slave must be configured with the Service-Tool to the protocol GS232B.

Several settings have to be done to the LAN-devices. Refer to Appendix 4 for the Slave and to Appendix 5 for the Master.

Master and Slave must be configured with the Service-Tool to the same Baudrate as the serial-channel of both ERC-M LAN-options.
Master and Slave are connected either by a crossover-cable or by a hub and patch-cables.

4.10. ERC-M Master-Slave-mode over Internet

All configurations for this setup are the same as in 4.9. In addition the Slave must be made visible to the internet. Refer to Appendix 6.
Appendix 1: Assign a COM-port to ERC-M USB

- The ERC-M USB has a build-in USB-to-serial-adapter based on a FTDI-chip.
- In most cases and with most operating-systems you simply need to connect the ERC-M to the PC with the USB-cable and a COM-port will be assigned to the ERC-M.
- In all other cases you might be asked for a driver. These drivers are available on the CD in the folder Drivers.
- After a successful installation you will find a new serial-port in the device-manager.
- Open the device-manager in order to know, which COM-port has been assigned to the ERC-M.
Appendix 2: Assign an IP-address to ERC-M LAN-option

- Install the Lantronix®-Device-Installer on your PC. The setup-file is in the folder LANTRONIX on the CD delivered with our ERC-M. The name of the setup-file is setup_di_x86x64cd_n.n.n.n.exe where n.n.n.n is the current version (e.g. 4.3.0.7). Newer versions might be available on the Lantronix®-homepage at http://www.lantronix.com/device-networking/utilities-tools/device-installer.html
- Connect your ERC-M with the crossover-LAN-cable to your PC or with a patch-cable to the hub where your PC is connected to.
- Start the Device-Installer
- After start-up Device-Installer will show you the Lantronix®-devices (XPORT) connected to your PC or network.

![Lantronix DeviceInstaller 4.3.0.7](image)

- If the XPORT has not been configured yet, it will have an IP-address of 0.0.0.0.
- Mark the XPORT in the device-list.


<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Group</th>
<th>IP Address</th>
<th>Hardware Address</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>XPort</td>
<td>XPort-03/04</td>
<td></td>
<td>192.168.178.202</td>
<td>0C-23-4A-D1-63-EE</td>
<td>Online</td>
</tr>
</tbody>
</table>

- Press Assign IP from the top-menu to assign an IP-address to your specific XPORT.
- **NOTE:** The ERC-M LAN-option uses a Lantronix® XPORT. More information on the usage of the Lantronix®-Device-Installer (DI) and the XPORT is available in the SUPPORT-section of the www.lantronix.com web-site.
Appendix 3: Assign a COM-port to ERC-M LAN-option

- Install the Lantronix®-COM-Port-Redirector on your PC. The setup-file is in the folder LANTRONIX on the CD delivered with our ERC-M. The name of the setup-file is setup_cpr_x86x64cd_n.n.n.n.exe where n.n.n is the current version (e.g. 4.3.0.1). Later versions might be available on the Lantronix®-homepage at http://www.lantronix.com/device-networking/utilities-tools/com-port-redirector.html

- Connect your ERC-M with the crossover-LAN-cable to your PC or with a patch-cable to the hub where your PC is connected to.

- Start the Lantronix®-COM-Port-Redirector (CPR)

- After start-up press Search For Devices on the top-menue and CPR will show you available devices:

<table>
<thead>
<tr>
<th>IP Address</th>
<th># Ports</th>
<th>TCP Port</th>
<th>Product</th>
<th>ID</th>
<th>HW Address</th>
<th>Network Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>192.168.178.202</td>
<td>1</td>
<td>10001</td>
<td>XPort-CS/04</td>
<td>X5</td>
<td>00:20:dA:D1:63:EE</td>
<td>192.168.178.27</td>
</tr>
</tbody>
</table>

- Press Add/Remove on the top-menu and choose the COM-port-number where you want to connect your LAN-device

Double-click on the COM-port in the Com Port List and you will get this window:

- Now double-click on the device in the Device-List and the Host-IP and TCP-port will be populated automatically

- Now press the Save-button on the top-menu and you are done.

- **NOTE:** The ERC-M LAN-option uses a Lantronix® XPORT. More information on the usage of the Lantronix®-COM-Port-Redirector (CPR) and the XPORT is available in the SUPPORT-section of the www.lantronix.com web-site.

- **NOTE:** When configuring a remote ERC-M LAN-option over the INTERNET you will have to enter the IP-address manually as the Lantronix®-COM-Port-Redirector only discovers devices locally attached to your network.
Appendix 4: Settings of the LAN interface for Slave-mode

There are 2 ways of configuring an ERC-M Xport LAN Interface:
- by use of the WEB-interface programmed inside the XPORT
- by use of a Telnet-session

In appendix 4.1 you will find the configuration by the original XPORT WEB-interface and in appendix 4.2 the configuration by a Telnet-session

Appendix 4.1: Configuration by the WEB-interface

- Open the WEB-interface of the Lantronix®-Xport by typing the IP-address of the Slave in the URL-address of your browser. Example for Firefox®:

  ![Lantronix XPort Device Server](ip_address)

  192.168.178.202

- A user-name and password is requested. The default value is blank, so if you have not assigned a password yet, just press OK.
- Select Channel 1 / Serial Settings on the main-menu and make the settings as shown:

  ![Serial Settings](settings)

  - Protocol: RS232
  - Baud Rate: 9600
  - Data Bits: 8
  - Parity: None
  - Stop Bits: 1

  - Enable Packing
  - Idle Gap Time: 12 msec

  Match 2 Byte Sequence: Yes / No
  Match Bytes: 0x00 0x00

  Send Frame Immediate: Yes / No
  Send Trailing Bytes: None / One / Two

  - Flush Mode
  - Flush Input Buffer
    - With Active Connect: Yes / No
    - With Passive Connect: Yes / No
    - At Time of Disconnect: Yes / No
  - Flush Output Buffer
    - With Active Connect: Yes / No
    - With Passive Connect: Yes / No
    - At Time of Disconnect: Yes / No
- Click the OK-Button.
- Select Channel 1 / Connection on the main-menu and make the settings as shown:

  **Connection Settings**

  **Channel 1**
  Connect Protocol
  Protocol: **TCP**

  Connect Mode
  Passive Connection:
  Accept incoming: **Yes**
  Password Required: **Yes**
  Password:
  Modern Escape Sequence Pass Through: **No**
  
  Active Connection:
  Active Connect: **None**
  Start Character: **0x6D** (in Hex)
  Modern Mode: **None**
  Show IP Address After RING: **No**

  **Endpoint Configuration**
  Local Port: **10001**
  Remote Port: **0**
  Remote Host: **0.0.0.0**

  Auto increment for active connect

  **Common Options**
  Telnet Com Port Ctrl: **Disable**
  Connect Response: **None**
  Terminal Name:
  Use Hostlist: **No**
  LED: **Blink**

  **Disconnect Mode**
  On Mdm_Ctrl_In Drop: **Yes**
  Hard Disconnect: **No**
  Check EOT(Ctrl-D): **Yes**
  Inactivity Timeout: **0** (mins : secs)

- Click the OK-Button.
- Now select **Apply Settings** from the main-menu and wait until the device has rebooted.
- Close the WEB-interface and you are done.
Appendix 4.2: Configuration by a Telnet-session

- Open a "DOS Command" Window also know as a "Command Prompt", this can be done by typing "CMD" and ENTER in the COMMAND window in your start menu or selecting the "Command Prompt" from the accessory submenu in start menu.

- At the command prompt type in "telnet 192.168.178.202 9999" (where the 192.168.178.202 is the IP address of the Slave unit and 9999 is the required port number to get access) and hit ENTER .

- **NOTE:** The IP Address used in this example (192.168.178.202) is the one we used in our lab, your may change according to your settings.

- You will get the following response:
  - MAC address 00204A123456
  - Software version V6.X.X.X (12345) XPTEXE
  - Press Enter for Setup Mode

- Once you got this press ENTER

- The **ERC-M Xport LAN Interface** main menu will now come up listing all the present configuration of your **ERC-M Xport LAN Interface**:
  - Change Setup:
    - 0 Server
    - 1 Channel 1
    - 3 E-mail
    - 5 Expert
    - 6 Security
    - 7 Defaults
    - 8 Exit without save
    - 9 Save and exit Your choice ?

- Next type "0" (note this is a numeric number ZERO and not an uppercase letter O) and ENTER.

- Fill in the value like this
  - IP Address : (192).(168).(178).(202)
  - Set Gateway IP Address (Y) ?
  - Gateway IP addr (192).(168).(178).(001)
  - Netmask: Number of Bits for Host Part (0=default) (8)
  - Set DNS Server IP addr (N) ?
  - Change Telnet/Web Manager password (N) ?

- This menu is used to configure the **ERC-M Xport LAN Interface**, some of these settings like the Gateway and Netmask must be changed because there default values may not be set properly for your network. You must validate all these settings according to the specifics of the local area network where the Slave is connected.

- In this **example**: The **ERC-M Xport LAN Interface** Slave IP address was set to 192.168.178.202, with a Gateway of 192.168.178.001 and a netmask of 8 (8 is 255.255.255.000 mask also known as a Class C)

- **NOTE:** The present settings are not changed if you simply hit ENTER, and the **ERC-M Xport LAN Interface** setup menu is listed once you are done.

- for more information on the XPORT configuration please refer to the XPORT user guide in the support/Documentation section of the **WWW.LANTRONIX.COM**
Now we are ready to configure the serial port communication. In the setup menu select channel 1 by typing "1" and ENTER;

- Fill in the value like this:
  o Baudrate (9600) ?
  I/F Mode (4C) ?
  Flow (00) ?
  Port No (10001) ?
  ConnectMode (C0) ?
  Send ‘+++’ in Modem Mode (N) ?
  Show IP addr after 'RING' (N) ?
  Auto increment source port (N) ?
  Remote IP Address : (000) .(000) .(000) .(000)
  Remote Port (0) ?
  DisConnMode (00) ?
  FlushMode (77) ?
  DisConnTime (00:00) ?:
  SendChar 1 (00) ?
  SendChar 2 (00) ?

- This (See above) is what the ERC-M Xport LAN Interface Slave configuration MUST be setup to.
- **WARNING**: Do not change any of the settings from the recommended configuration as shown above, changing these values will prevent proper ERC-M Xport LAN Interface operation.
- Now you are ready to Save your configuration and Exit from the TelNet session by typing "9" (Save and Exit) and ENTER.
- You are done with your ERC-M Xport LAN Interface Slave configuration
Appendix 5: Settings of the LAN interface for Master-mode

There are 2 ways of configuring an ERC-M Xport LAN Interface:
- by use of the WEB-interface programmed inside the XPORT
- by use of a Telnet-session

In appendix 5.1 you will find the configuration by the original XPORT WEB-interface and in appendix 5.2 the configuration by a Telnet-session

Appendix 5.1: Configuration by the WEB-interface

- open the WEB-interface of the Lantronix®-Xport by typing the IP-adress of the Master in the URL-address of your browser. Example for Firefox®:

  ![WEB-interface](image)

- A user-name and password is requested. The default value is blank, so if you have not assigned a password yet, just press OK.
- Select Channel 1 / Serial Settings on the main-menu and make the settings as shown:

  ![Serial Settings](image)
- Click the OK-Button.
- Select **Channel 1 / Connection** on the main-menu and make the settings as shown:

  **Connection Settings**

  **Channel 1**
  Connect Protocol
  Protocol: **TCP**

  **Connect Mode**
  Passive Connection:
  Accept Incoming: **Yes**
  Password Required: **Yes**
  Password: 
  Modem Escape Sequence Pass Through: **Yes**

  Active Connection:
  Active Connect: **Auto Start**
  Start Character: 0xUD (in Hex)
  Modem Mode: **None**
  Show IP Address After RING: **Yes**

  **Endpoint Configuration:**
  Local Port: 10001
  Remote Port: 10001
  Remote Host: 082.143.55.123

  **Common Options:**
  Telnet Com Port Ctrl: **Disable**
  Connect Response: **None**
  Terminal Name: 
  Use Hostlist: **Yes**
  LED: **Blink**

  **Disconnect Mode**
  On Mdm_Ctrl_In Drop: **Yes**
  Check EOT(Ctrl-D): **Yes**
  Hard Disconnect: **Yes**
  Inactivity Timeout: [ ] 0 (mins : secs)

- The IP-address at the item **Remote Host** must be the IP-address of the Slave.
- Click the OK-Button.
- Select **Network** on the main-menu and make the settings as shown:

### Network Settings

**Network Mode:** Wired Only

**IP Configuration**

- **Obtain IP address automatically**
  - **Auto Configuration Methods**
    - **BOOTP:** Enable Disable
    - **DHCP:** Enable Disable
    - **AutoIP:** Enable Disable

  **DHCP Host Name:**

- **Use the following IP configuration:**
  - **IP Address:** 192.168.178.202
  - **Subnet Mask:** 255.255.255.0
  - **Default Gateway:** 192.168.178.1
  - **DNS Server:** 0.0.0.0

### Ethernet Configuration

- **Auto Negotiate**
  - **Speed:** 100 Mbps 10 Mbps
  - **Duplex:** Full Half

- **OK**

- The IP-address configuration is very important and should always have a proper MASK and GATEWAY configured.
- Your gateway in most cases should be your main ROUTER device where your FIREWALL is configured.
- Click the OK-Button.
- Now select **Apply Settings** from the main-menu and wait until the device has rebooted.
- Close the WEB-interface and you are done.
Appendix 5.2: Configuration by a Telnet-session

- Open a "DOS Command" Window also know as a "Command Prompt", this can be done by typing "CMD" and ENTER in the COMMAND window in your start menu or selecting the "Command Prompt" from the accessory submenu in start menu.

- At the command prompt type in "telnet 192.168.178.201 9999" (where the 192.168.178.201 is the IP address of the Master unit and 9999 is the required port number to get access) and hit ENTER.

- NOTE: The IP Address used in this example (192.168.178.201) is the one we used in our lab, your may change according to your settings.

- You will get the following response:
  - MAC address 00204A123456
  - Software version V6.X.X.X (12345) XPTEXE
  - Press Enter for Setup Mode

- Once you got this press ENTER

- The ERC-M Xport LAN Interface main menu will know come up listing all the present configuration of your ERC-M Xport LAN Interface:
  - Change Setup:
    - 0 Server
    - 1 Channel 1
    - 3 E-mail
    - 5 Expert
    - 6 Security
    - 7 Defaults
    - 8 Exit without save
    - 9 Save and exit Your choice ?

- Next type "0" (note this is a numeric number ZERO and not an uppercase letter O) and ENTER.

- Fill in the value like this
  - IP Address : (192).(168).(178).(201)
  - Set Gateway IP Address (Y) ?
    - Gateway IP addr (192).(168).(178).(001)
  - Netmask: Number of Bits for Host Part (0=default) (8)
  - Set DNS Server IP addr (N) ?
  - Change Telnet/Web Manager password (N) ?

- This menu is used to configure the ERC-M Xport LAN Interface, some of these settings like the Gateway and Netmask must be changed because there default values may not be set properly for your network. You must validate all these settings according to the specifics of the local area network where the Slave is connected.

- In this example: The ERC-M Xport LAN Interface Slave IP address was set to 192.168.178.201, with a Gateway of 192.168.178.001 and a netmask of 8 (8 is 255.255.255.000 mask also known as a Class C)

- NOTE: The present settings are not changed if you simply hit ENTER, and the ERC-M Xport LAN Interface setup menu is listed once you are done.

- for more information on the XPORT configuration please refer to the XPORT user guide in the support/Documentation section of the WWW.LANTRONIX.COM
Now we are ready to configure the serial port communication. In the setup menu select channel 1 by typing "1" and ENTER;

- Fill in the value like this:
  - Baudrate (9600) ?
  - I/F Mode (4C) ?
  - Flow (00) ?
  - Port No (10001) ?
  - ConnectMode (C5) ?
  - Send ‘+++’ in Modem Mode (N) ?
  - Show IP addr after 'RING' (N) ?
  - Auto increment source port (N) ?
  - Remote IP Address : (082) .(143) .(055) .(123)
  - Remote Port (10001) ?
  - DisConnMode (00) ?
  - FlushMode (77) ?
  - DisConnTime (00:00) ?
  - SendChar 1 (00) ?
  - SendChar 2 (00) ?

- This (See above) is what the ERC-M Xport LAN Interface Master configuration MUST be setup to to automatically connect to the Slave.

- Some of the differences in this configuration between the Slave and Master unit are:
  - "ConnecMode" in the Slave is set to C0 and in the Master C5, a C5 is to generate automatically a connection to the Slave address set in the "Remote IP Address" field in this menu.
  - "Remote IP Address" is used to set the IP address of the Slave so that the Master will know how to reach the Slave. In this example 082.143.055.123 is the IP address of the remote site where my Slave is installed (See note for more information)
  - "Remote Port" is very important parameter and MUST beset the same as the "Port No" on the Slave, if not the connection will never be established.

- NOTE: In the example used in this manual the "IP address" that was set in the ERC-M Xport LAN Interface Slave (192.168.178.202) was different from the "Remote IP Address" that was set in the Master (082.143.055.123).
  The reason why in some situation like this one these are different is that our remote device is in a different physical site away from our labs local LAN Network and connected via the INTERNET.
  Because of this our Internet service provider on the Slave site will supply us a IP address for our INTERNET connection (082.143.055.123) that is then used by our ROUTER and converted to the local IP address used by the Slave (192.168.178.202) in the Firewall settings of our ROUTER.
  Please refer to your ROUTER documentation and INTERNET provider for more information on this subject.

- Now you are ready to Save your configuration and Exit from the TelNet session by selecting typing "9" (Save and Exit) and ENTER.

- You are done with your ERC-M Xport LAN Interface Master configuration
Appendix 6: Make the Slave visible on the Internet

To configure your ERC-M Xport LAN Interface Master and Slave properly to communicate over an INTERNET link you must configure your networks properly. Some of the important point to always be very careful of are:

- The ERC-M Xport LAN Interface Local IP-address configuration is very important and should always have a proper MASK and GATEWAY configured. These are specific to your network and a basic knowledge of your network configuration is required.
- Your gateway in most cases should be your ROUTER device where your FIREWALL is configured.
- Now you need to make the IP-address available to the outside-world this process will be different on most router units. This would normally be done in your Router Firewall section where you would configure your firewall to point any outside request from the INTERNET to a specific IP Address or a group of IP address inside your local area network (LAN).
- On the REMOTE site, you must configure your Router so that the IP address of your ERC-M Xport LAN Interface Slave is listed on the Firewall and made available to the INTERNET.
- The following ports should also be opened in your REMOTE firewall for that IP address; 23, 80, 9999 and 10001. You may also need to make these same ports available on the ROUTER of the site where your ERC-M Xport LAN Interface Master is installed
- This section of the firewall router configuration is often known as a DMZ (demilitarized Zone) please refer to your ROUTER documentation or manufacturer support web site for more information on your ROUTER Firewall or DMZ settings.

- Most typical internet-user don’t have a fixed-IP, this may cause you some problems since INTERNET service providers will change your INTERNET IP address on regular basis, anywhere from a few weeks, days or even hours and for the ERC-M Xport LAN Interface Master to connect to the ERC-M Xport LAN Interface Slave you MUST know the IP Address for the ERC-M Xport LAN Interface Slave.
- INTERNET Service Providers will NOT give you STATIC INTERNET IP Address unless you pay extra for this service.
This means your remote IP Address may change on a regular basis, tools like http://whatismyipaddress.com/ if you run them on the remote site will help you figure out what is your IP address has changed to, problem here is that you most likely won't be on the remote site.

- other services like DYNDNS or http://www.no-ip.com/ will offer you a fix DNS that will adapt itself to your changing INTERNET Service provider IP address, their web site will offer you support in setting this up.