



Product Type: Aries®

Reference: AN1064

Date: 6/22/05

Subject: ASC/2M Ethernet Connection Using Control DeviceMaster RTS

GENERAL

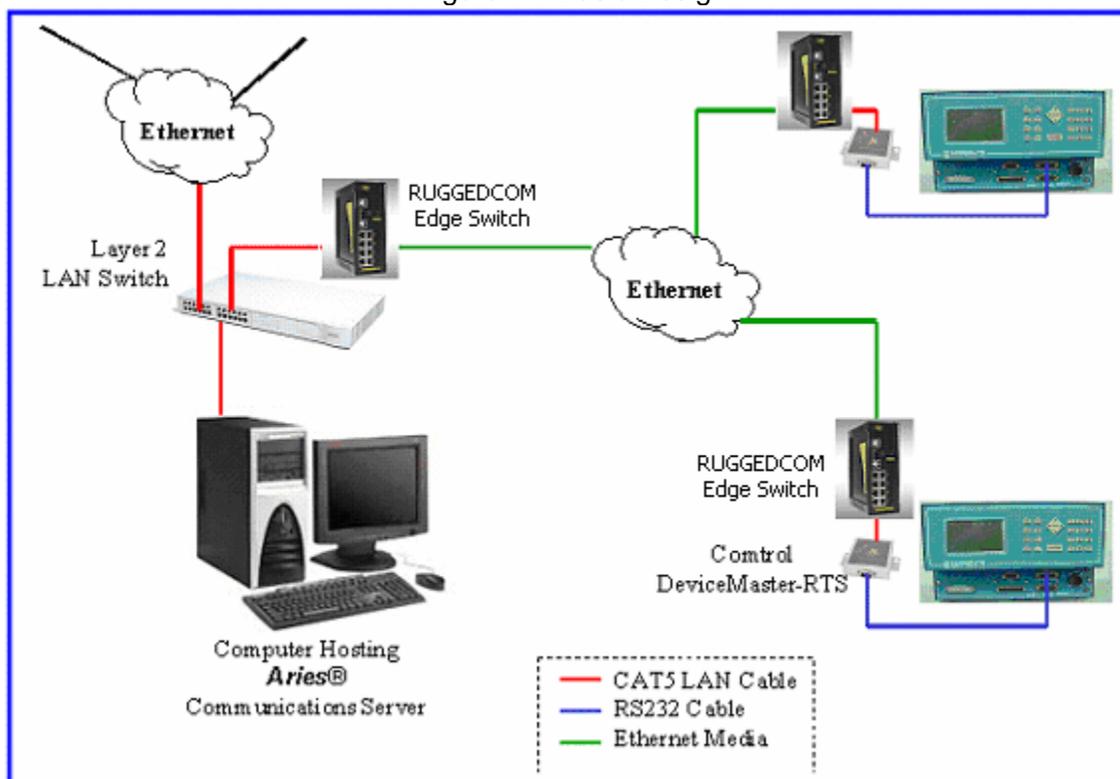
This application note describes a method and the required hardware components to implement an Ethernet type communications connection between an **Aries** Communication Server computer and an ASC/2M Master Controller.

Ethernet type communications between an ASC/2M Master and Local Intersection controllers **is not** supported in any manner or form.

There are many factors involved in a successful implementation of an Ethernet type Communications Network. Most of these are beyond the scope of this Application Note and will not be discussed. It is assumed that the reader is knowledgeable with the various Microsoft Windows® operating systems, administrative functions, and general LAN/WAN terminology and topologies.

Figure 1 shows the basic design discussed in this document.

Figure 1 – Basic Design





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HARDWARE

The **Aries** Communications Server function supports only Dial-up and Direct Connection type of communications to an ASC/2M Master. The core component of the Ethernet design shown in Figure 1 is the Single Port, Device Master – RTS unit from Control Corporation, www.comtrol.com.

The Device Master unit in conjunction with its Driver software, NS-LINK, allows configuring a remote COM Port accessible via an Ethernet connection. The remote port appears as and is accessed as a local hardware COM Port from Windows. This design provides the equivalent of a basic direct connection between the server computer and the ASC/2M Zone Master.

Following is a complete list of the hardware components and their function as shown in Figure 1.

- **Computer:** This unit is the typical **Aries** computer. It may be either a standalone “server” hosting the **Aries** Communications Server function as may be found in a Networked **Aries** system or a single-computer **Aries** installation.
- **Layer-2 LAN Switch:** This device is a typical LAN Switch. It may be either a managed type or un-managed. Units are available from a variety of manufactures such as 3Com, etc. and come in a variety of port configurations (4, 8, 16 and 32-port units are most common). Allow one port for the **Aries** Communications server computer, and one or more ports for connections to the field (depending on LAN design) and additional ports for other computers.
- **Media Converter:** In general, Category-5 LAN cabling is limited to a maximum distance of 100-meters (~300 feet). A variety of methods are available to extend a LAN over greater distances such as twisted-pair, Wireless and Fiber Optics.
- **Device Master-RTS:** The Device Master unit is available in a variety of configurations including single, 4, 8 and 16-port units. Each unit is supplied with a separate plug-in power supply. The Device Master unit **does not** meet the NEMA temperature range specification, however it is temperature hardened for operation from –20C to +60C. The unit supports both 10base-t and 100base-tx Ethernet speeds and auto negotiates the correct duplex operation. RS232 connections to the Master are accomplished via a DB-9, male type connector.

LAN DESIGN CONSIDERATIONS

The preferred method of addressing the Device Master unit is via its MAC address. This is the simplest and most reliable method. If the LAN design incorporates Routers or other devices that perform Layer 3 switching it will be necessary to configure the unit with and address it via a TCP/IP address.



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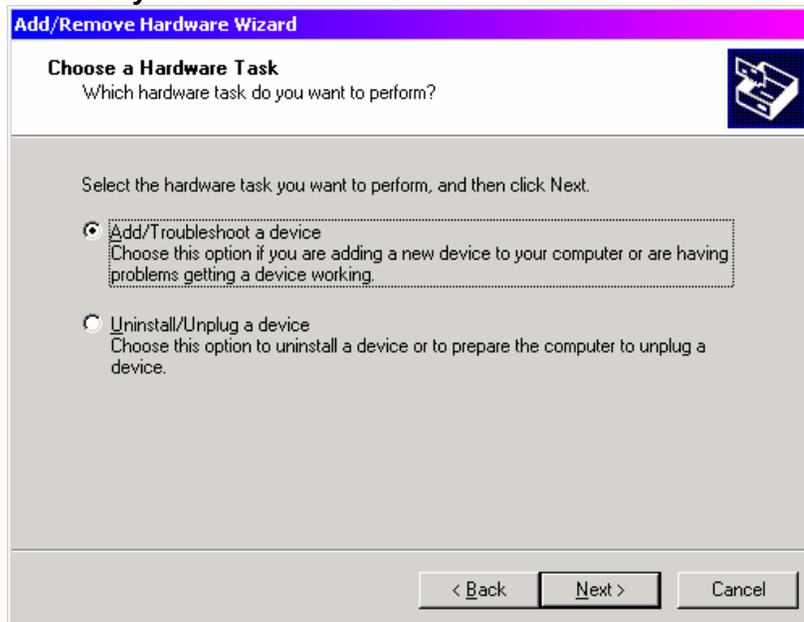
Device Configuration: (Device Master RTS-Aries®-ASC/2M)

- **Install Driver for the Device Master RTS**

1. In the Windows Control Panel - Select **Add Hardware**



2. Select **Add or I've Already connected the hardware**

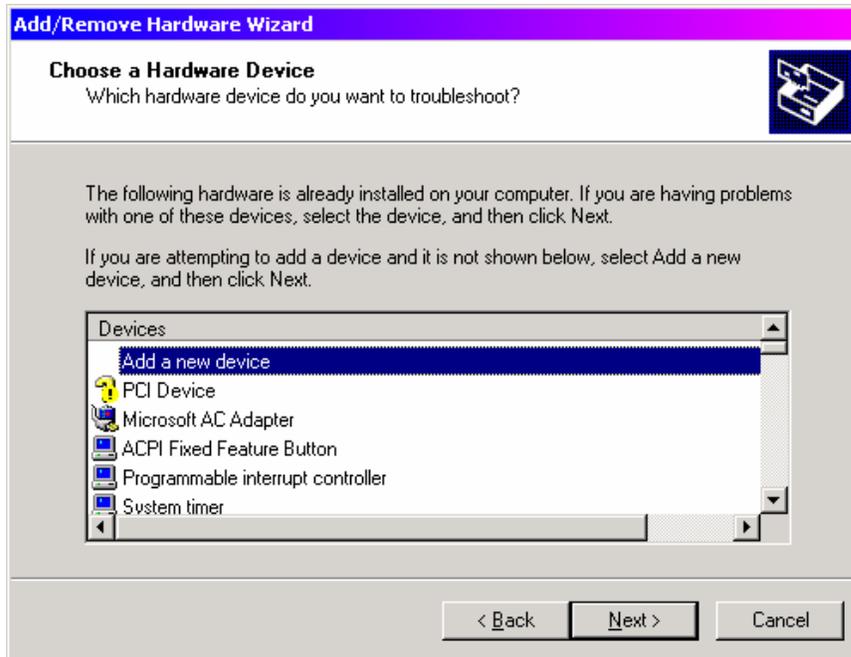




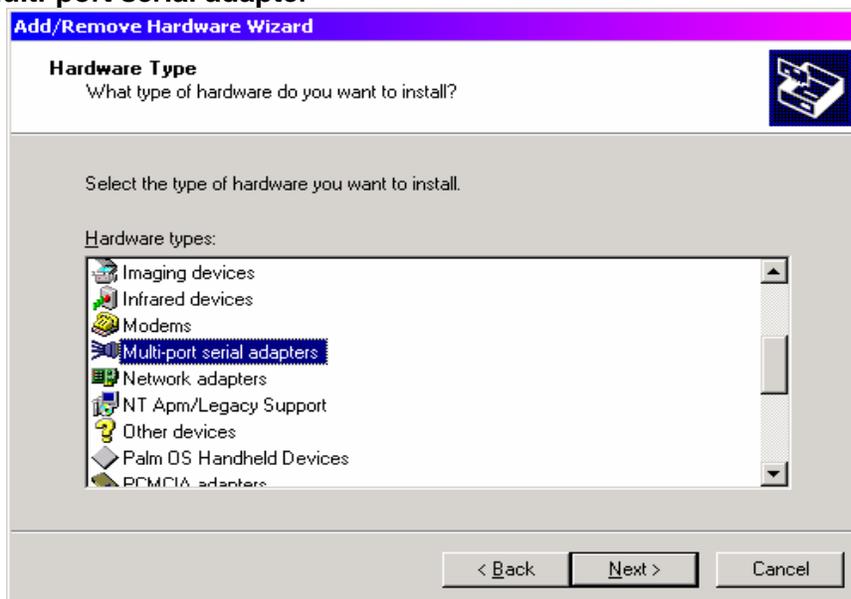
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3. Select Add a new device



4. Select the Multi-port serial adapter

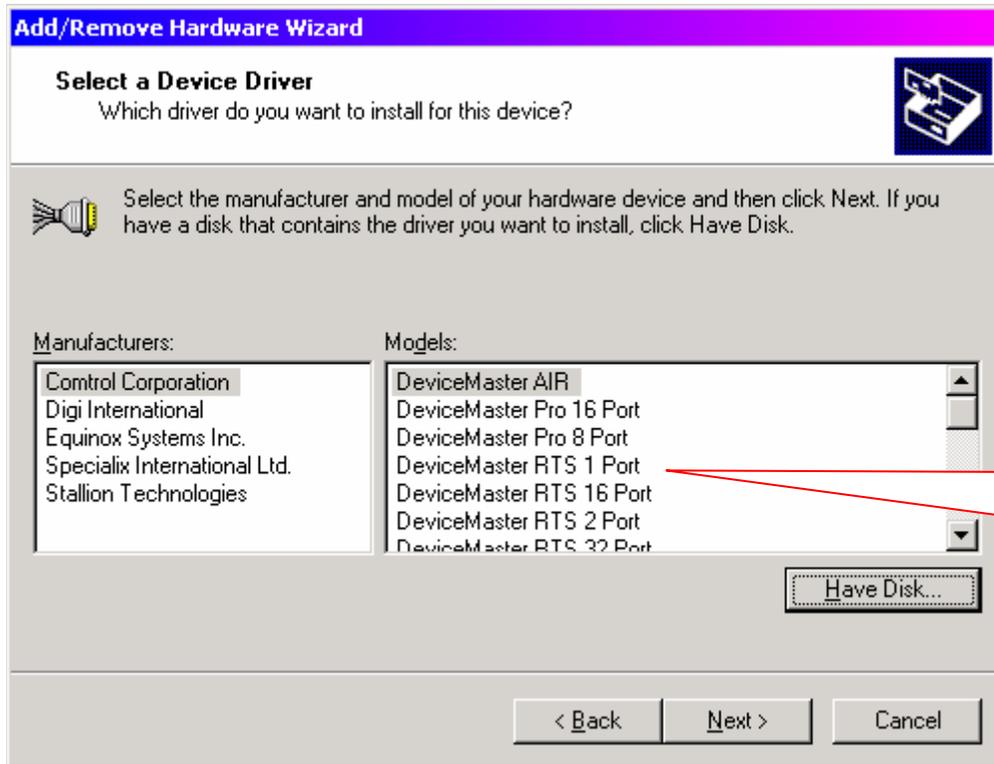




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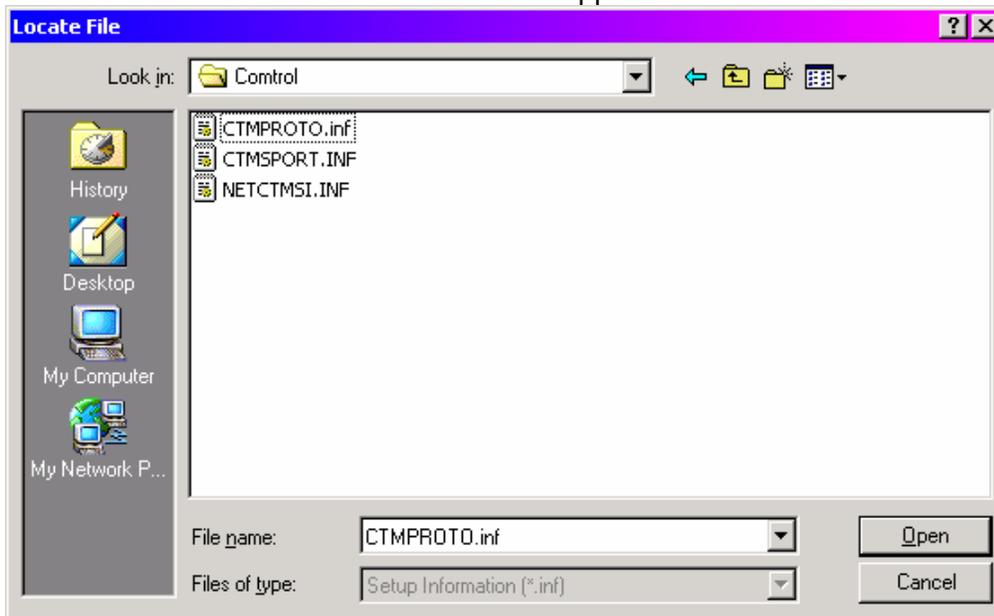
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5. Select Have Disk



This screenshot shows a system that had drivers previously installed.

6. Use the Browse button to locate the unzipped installation files and select **Open**



*It is not necessary to select a file, just browse to the directory and select **Open***



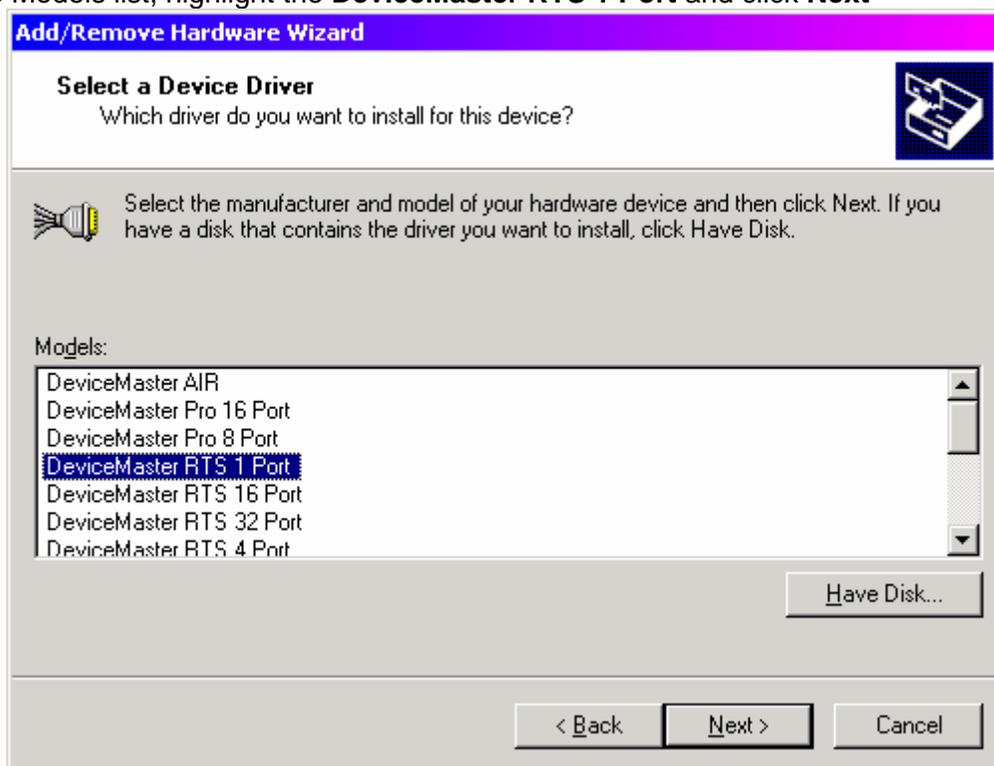
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7. Select OK



8. From the Models list, highlight the **DeviceMaster RTS 1 Port** and click **Next**

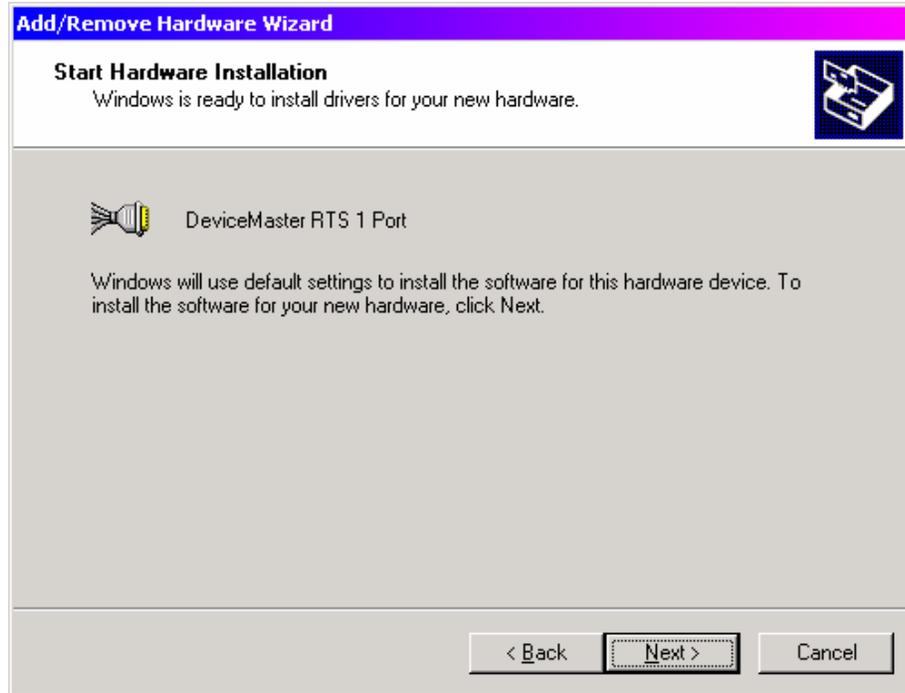




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9. Start Hardware Installation, click **Next**



10. Select the **Finish** button to complete the driver installation process

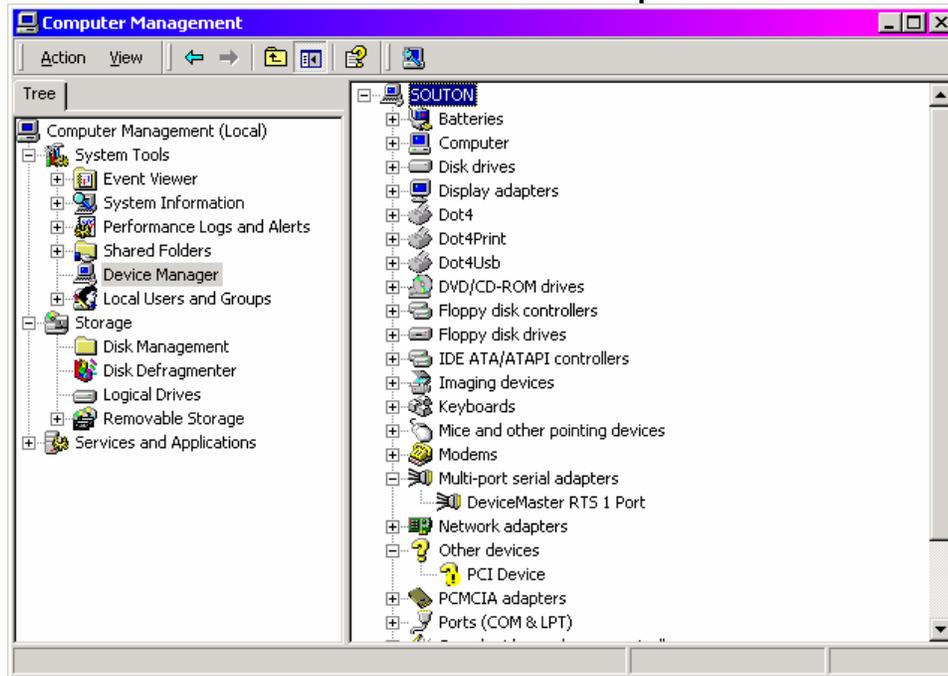




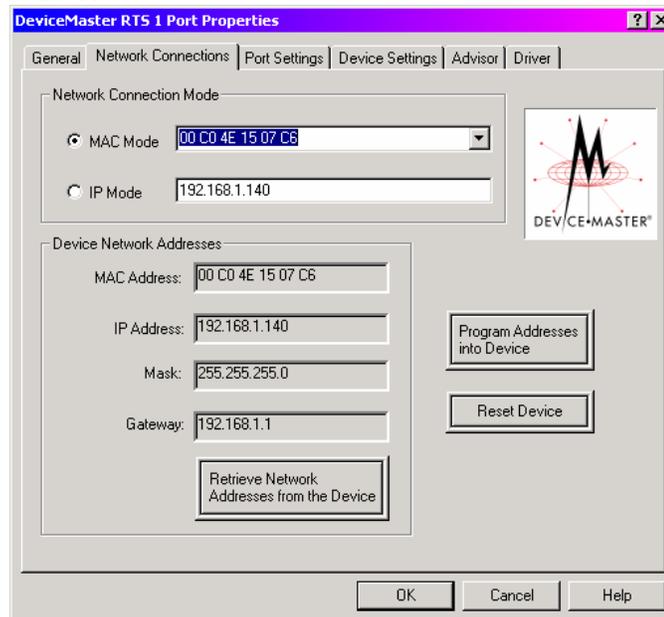
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11. Right click on **My Computer** and select **Manage**
12. Right click on the **DeviceMaster RTS 1 Port** and select **Properties**



13. Select **MAC MODE** and select the MAC address of the unit (The MAC address is listed on the back of the RTS 1 unit)
14. **Program Address into Device**



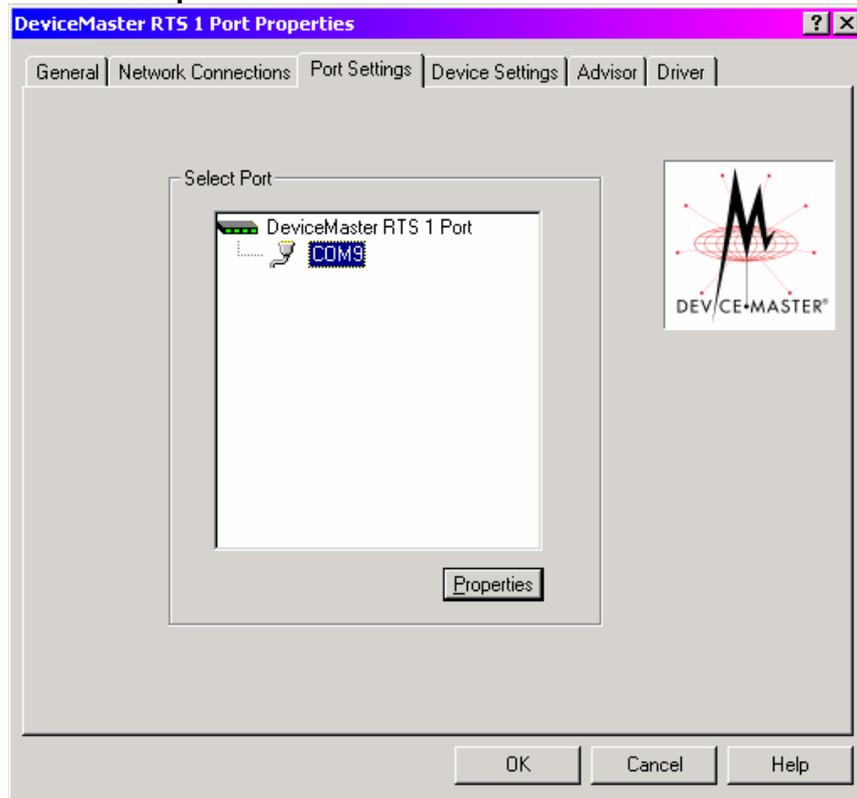


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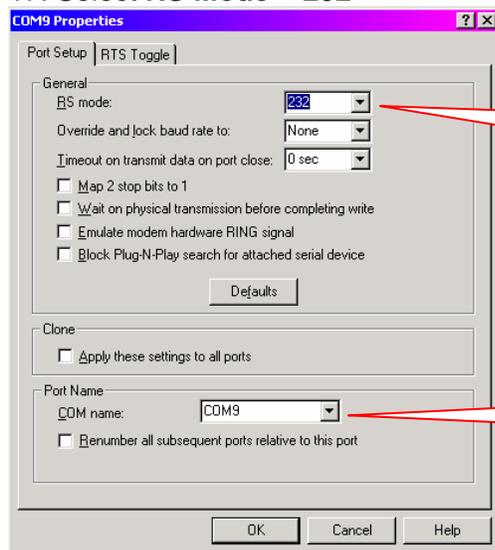
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15. Select the **Port Settings** tab

16. Click **Properties**



17. Select **RS Mode = 232**



Click on the pull down and select RS232 communications.

This is your virtual comm port that the driver created.

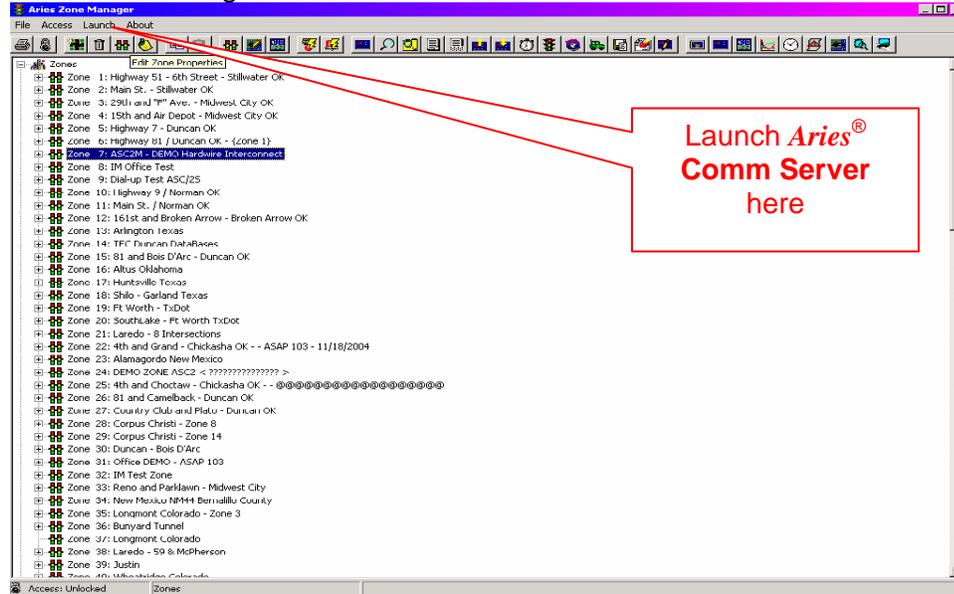


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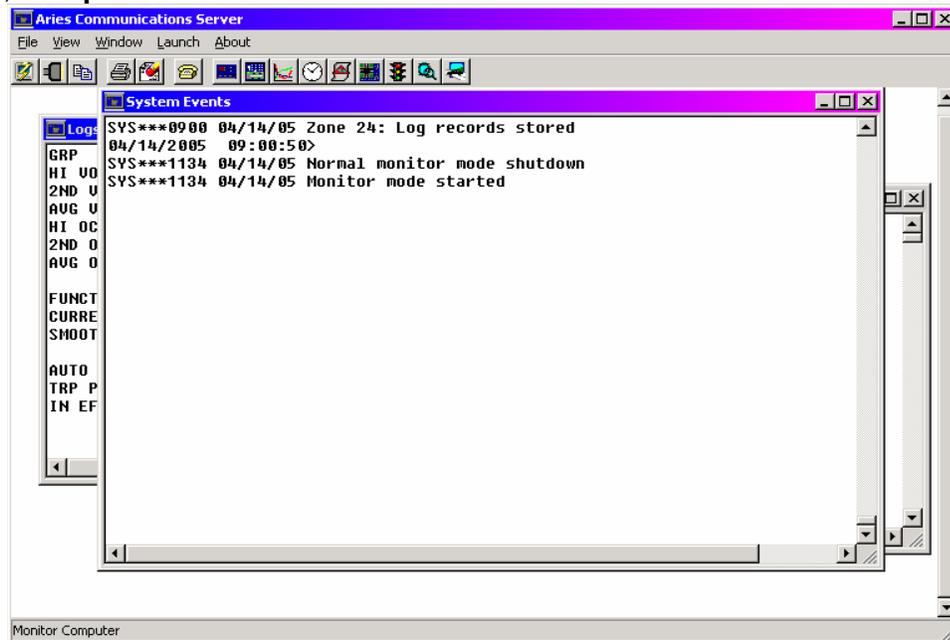
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- Setup Aries® Communications Server

1. From the Aries Zone Manager – Launch the Communications Sever



2. Select File, Setup and Wizard

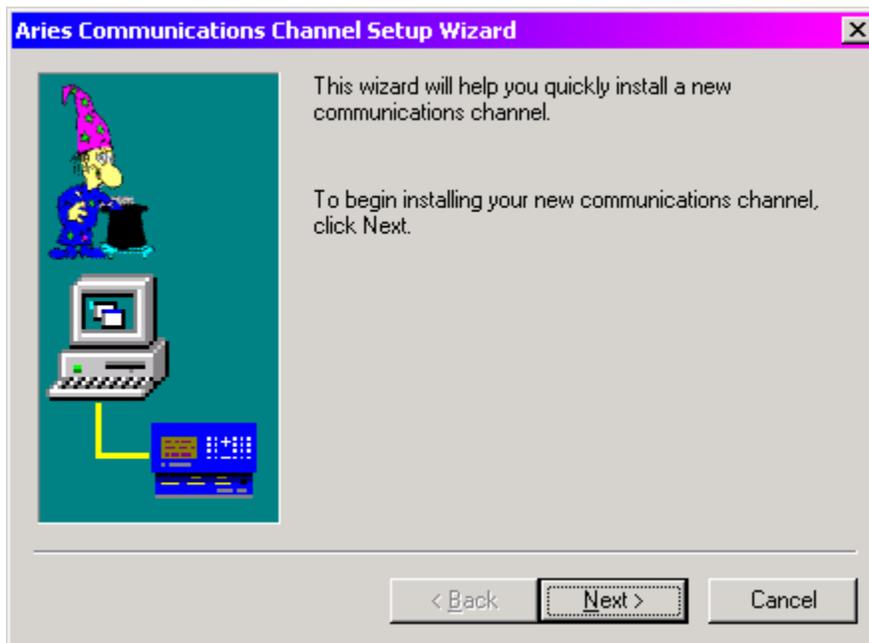




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3. Select Next



4. Select an unused **Aries®** channel

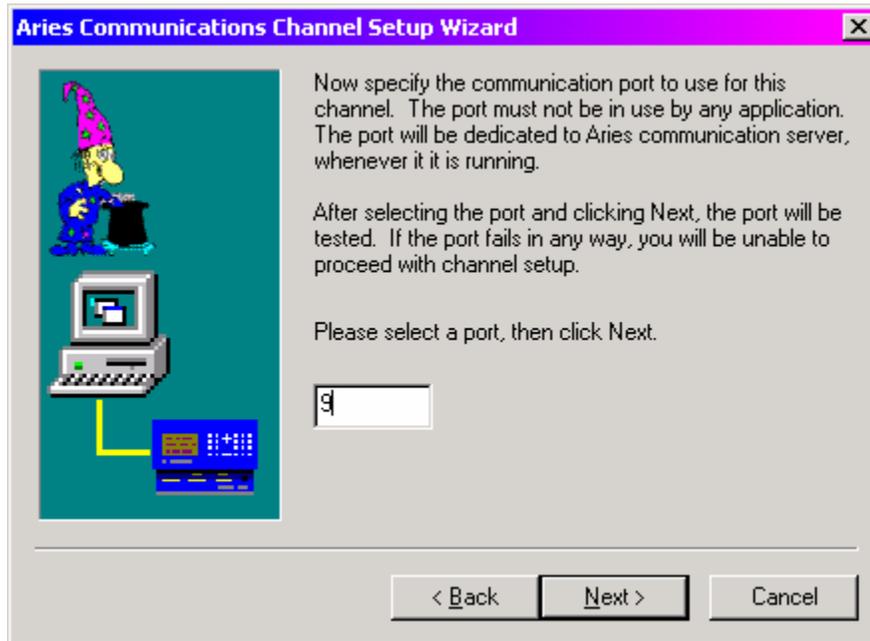




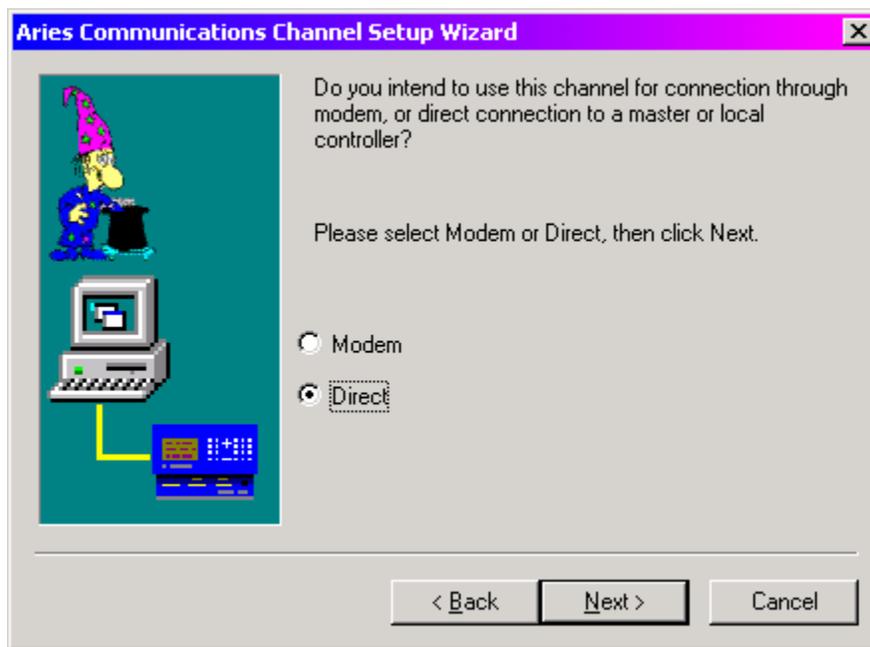
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5. Enter your **Virtual Comm Port Number**, created by NS Link Driver for the DeviceMaster RTS 1 Port.



6. Select **Direct**

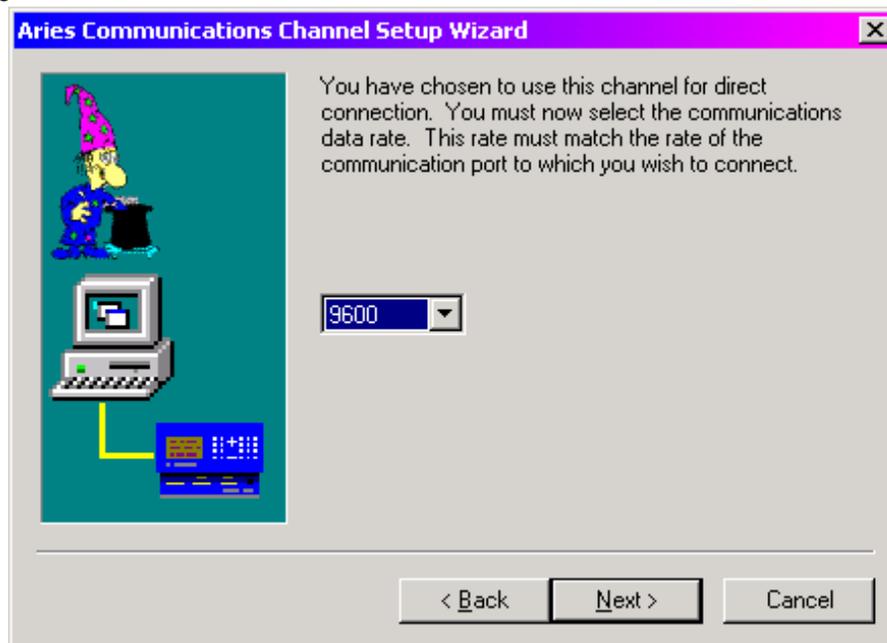




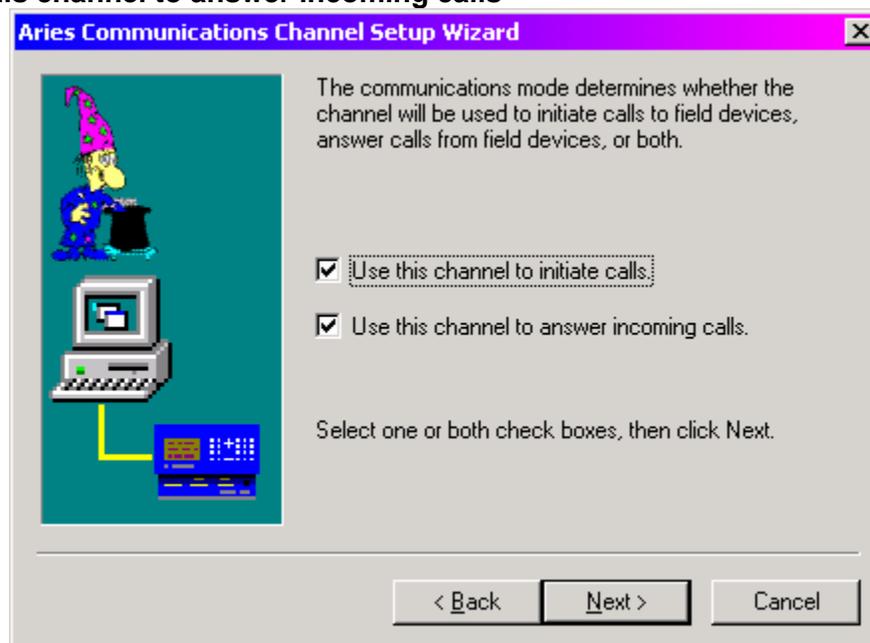
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7. Select 9600



8. Select **Use this channel to initiate calls** and
Use this channel to answer incoming calls

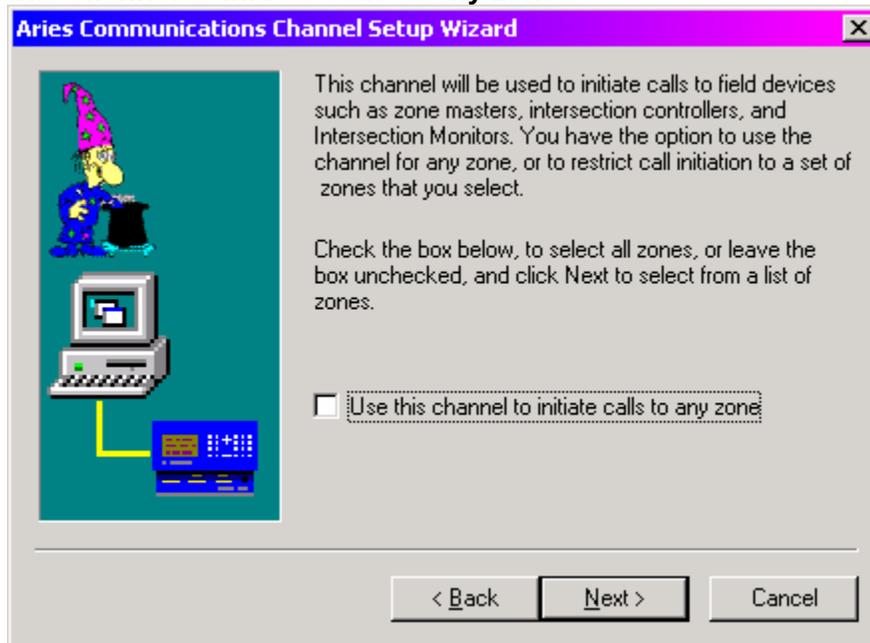




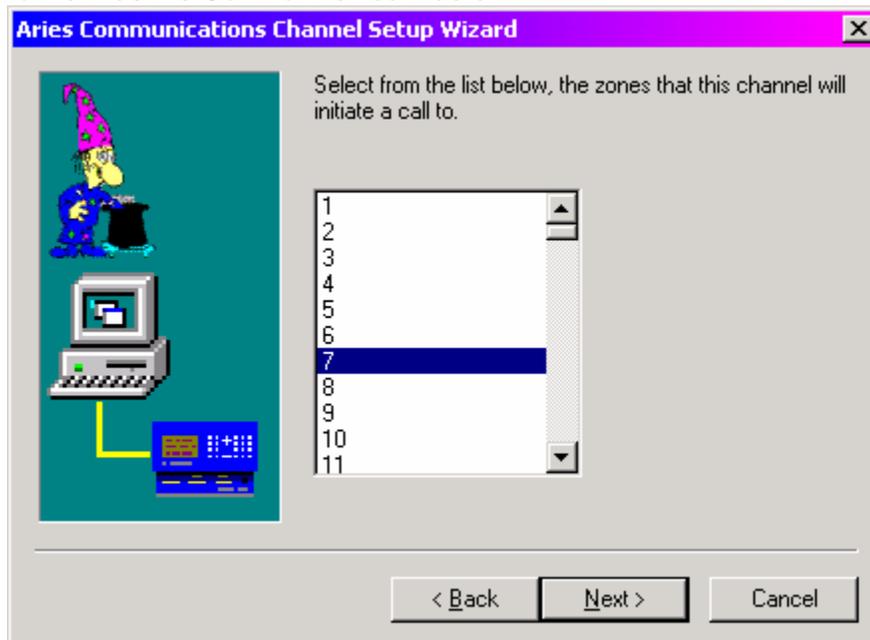
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9. Deselect Use this channel to initiate calls to any zone



10. Select the Zone that has the Control Device Master

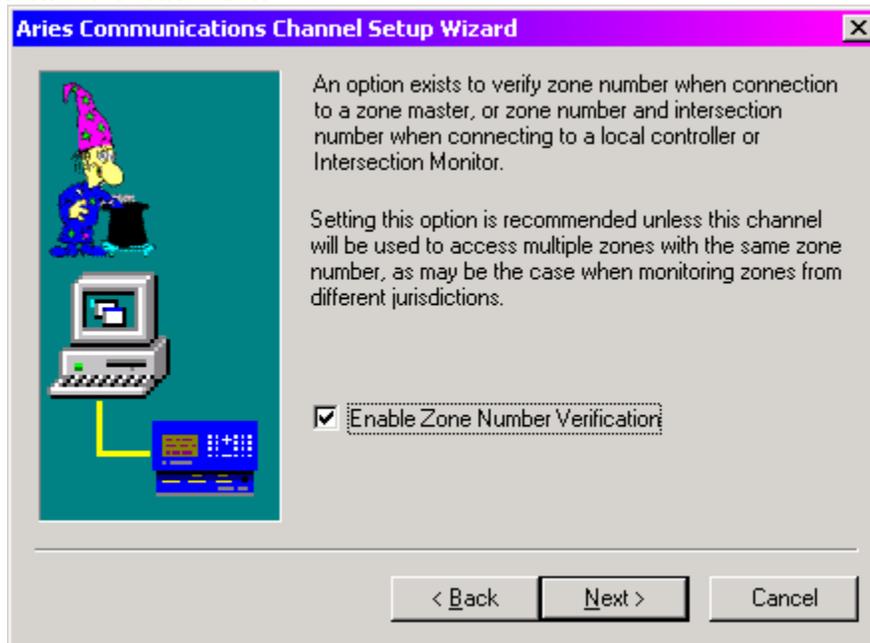




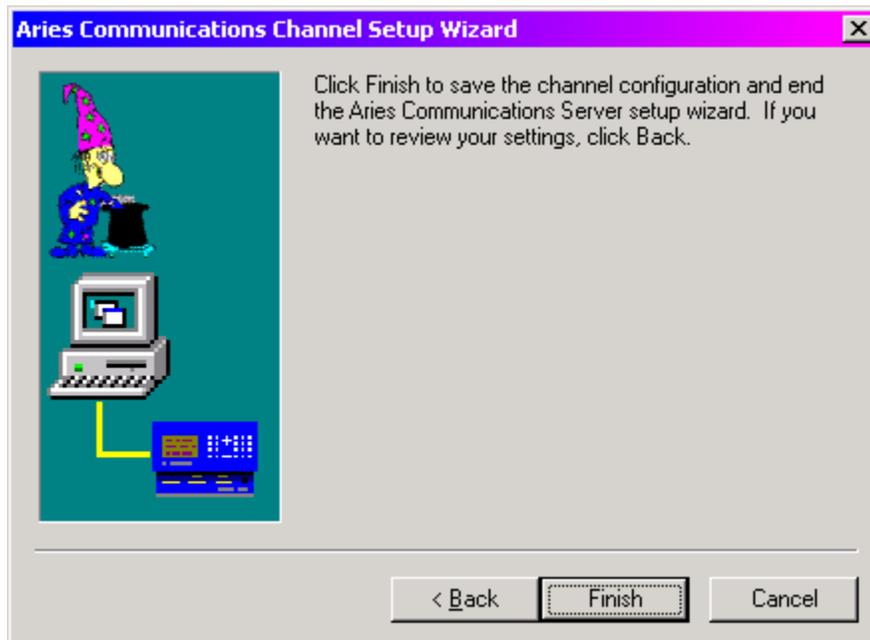
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11. Select Zone Number Verification



12. Select Finish



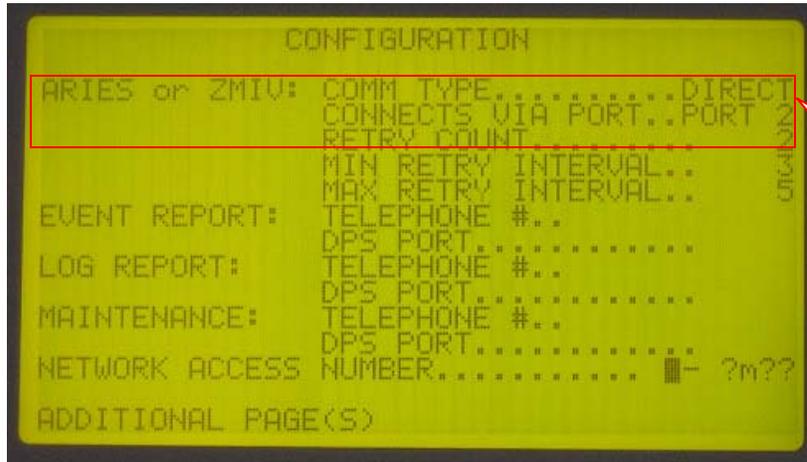


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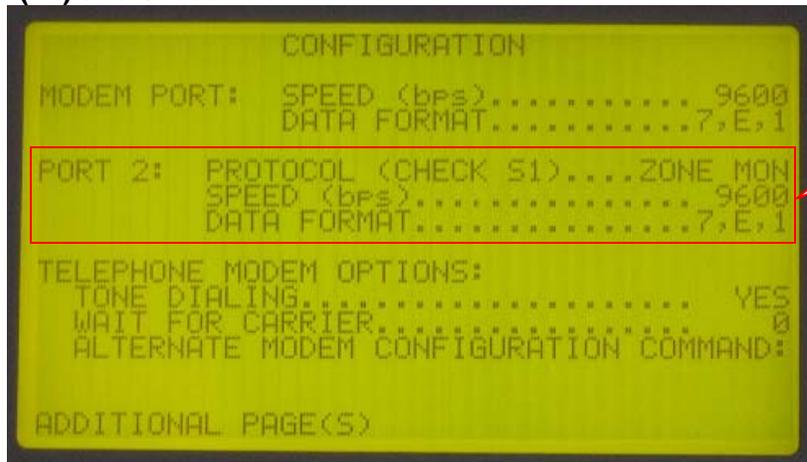
- Setup ASC/2M-1000 master controller

1. MM 1,0,6



COMM TYPE=DIRECT
CONNECTS VIA=PORT 2

2. Select Next Screen (F2) and Cursor Down Arrow



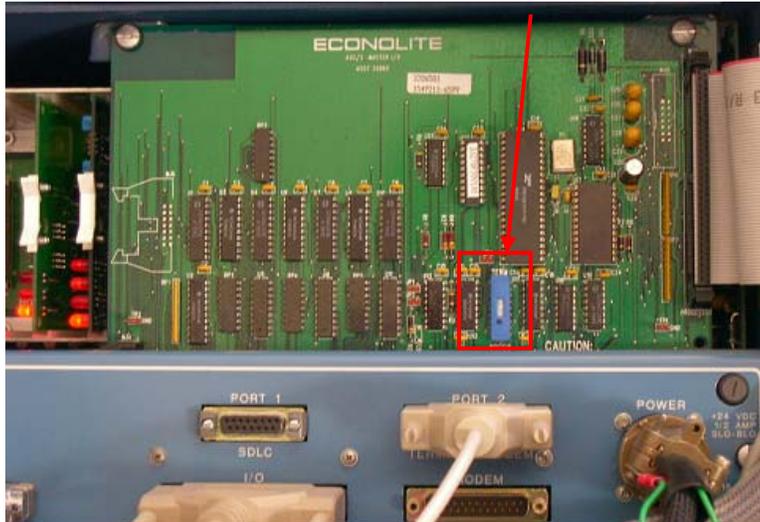
SPEED (bps) = 9600
DATA FORMAT = 7,E,1



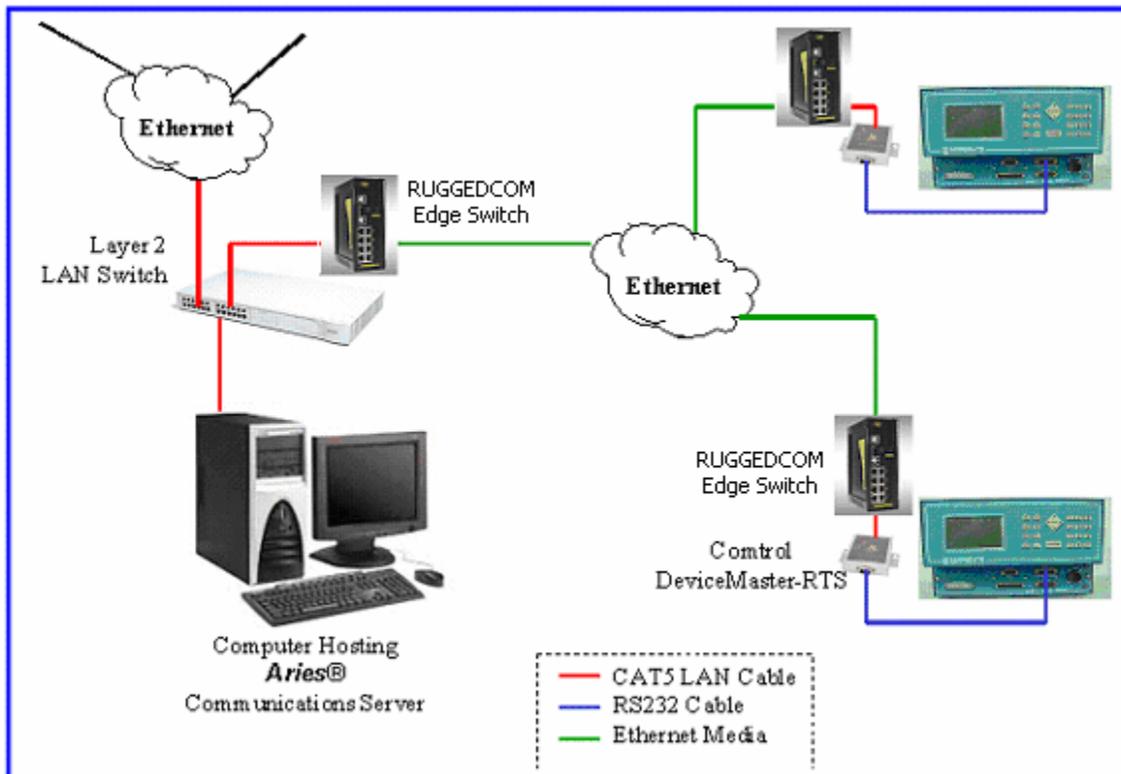
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2. Open door on ASC/2M and set **Switch S1** to **TERM**



3. Plug a standard Straight thru DB9F RS232 cable from the Control RTS 1 Port to the ASC/2M PORT 2 DB25M.
4. Plug a CAT 5 cable into the RJ45 of the Control RTS Port 1 to the Ethernet switch.



For further information, contact Econolite Technical Support
800-225-6480 / support@econolite.com