Installing and Configuring the OS/2 Classical IP Driver

An addendum to *TURBOWAYS 100 ATM Micro Channel Adapter Installation and Testing Instructions*, GC30-3761.

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1 Installing and Configuring the OS/2 Classical IP Driver Automatically Using MPTS or LAPS

The following procedure describes the device driver installation procedure using either the Multi-Protocol Transport Services (MPTS) program or the LAN Adapter and Protocol Support (LAPS) program.

Note: In most cases, the drivers can be fully installed using this procedure. In cases where an automatic installation is not possible, you must follow the procedure contained in *TURBOWAYS 100 ATM Micro Channel Adapter Installation and Testing Instructions*.

1.1 Installing the OS/2 Classical IP Driver

1. Determine whether your OS/2 system includes an MPTS or LAPS program. Most OS/2 systems that are used for LAN-based communication have a previously installed version of one of these programs. For example, OS/2 Warp Connect, IBM TCP/IP for OS/2, IBM LAN Server, and PC/3270 for OS/2 all include one of these programs.

   If your system has one of these programs installed, go to step 3.

   Note: The directions that follow use MPTS as the example installation program. The procedure for LAPS is similar. Refer to your MPTS or LAPS documentation for more information.

2. If your system does not have an MPTS or LAPS program installed, you have two choices:

   - Install an MPTS or LAPS program (refer to your MPTS or LAPS documentation for information on installing the program) and continue with step 3.
   - Perform the manual driver installation procedure described in *TURBOWAYS 100 ATM Micro Channel Adapter Installation and Testing Instructions*.

3. Start MPTS by double-clicking on the MPTS icon or executing MPTS at the command line. MPTS is usually found in the IBMCOM directory of the OS/2 boot drive. The Multi-Protocol Transport Services panel appears.

4. Select **Install**. The Install Additional Network Drivers panel appears and asks you for the source of the adapter Network Information Files (.NIF files).

5. Insert the OS/2 Classical IP diskette in your computer's drive A (or any other 3.5-inch diskette drive) and direct the program to the path containing the OS/2 Classical IP driver (usually A:\). Select **OK**.

When a message appears stating that the driver is installed, select **OK** again. The Multi-Protocol Transport Services panel reappears.

1.2 Configuring the OS/2 Classical IP Driver

1. From the Multi-Protocol Transport Services panel, select **Configure** to integrate the adapter's device driver with the protocol drivers. The Configuration panel appears.
2. Make sure that the LAN adapters and protocols radio button is selected and then select **Configure**. The LAPS Configuration panel appears.
3. From the Network Adapters group box, select **TURBOWAYS 100 OS/2 Classical IP Adapter**, and then select **Add**. The adapter name should appear in the Current Configuration group box.
4. From the Current Configuration group box, ensure the adapter is highlighted and select **Edit**. The Parameters panel, which displays all the driver parameters that you can edit, appears.
5. Type the IP address of the adapter.

   The IP address is the internet address of the adapter's network interface. It is a unique number in the format *xxx.xxx.xxx.xxx*, where *xxx* is a decimal number from 1 to 255 (for example, 11.253.4.112).

   Note: Make sure that this is the same address that was used to configure your IP stack.
6. Type the IP subnet mask of the adapter.

   The IP subnet mask is the template that identifies the bits of the host address that are to be used for routing for specific subnets. It is a specific number in the format *xxx.xxx.xxx.xxx*, where *xxx* is a decimal number from 1 to 255 (for example, 231.153.4.78).

   Note: Make sure that this is the same mask that was used to configure your IP stack.
7. Type the ARP server ATM address.

   The ARP server ATM address is the 40-character, hexadecimal address of the ARP server that provides address resolution services to your workstation.

   To define your system as an ARP server, enter the following 40 characters in this field:

   (a) The first 26 characters of the ATM address of the switch to which the ARP server is attached.
   (b) The 12-character MAC address of the ARP server.
   (c) The two characters 04.
8. If you want to use a locally administered address instead of the universally administered MAC address, type the 12-character, hexadecimal address that you want to use in the Locally Administered Adapter address field. If you want to use the universally administered address, leave this field blank.
9. The remaining parameters have default values assigned. If you want to change the default parameters for the adapter, type the appropriate parameter values.

   Note: The defaults are set to maximize performance for most installations; changing them is not required. Change the defaults only if you know that you have a specific need to alter their values.

10. When you have finished editing the driver parameters, select **OK**. The Configure Workstation panel reappears.

11. In the Protocols list box (upper right-hand corner of the panel), select the protocols used by your network application by highlighting each protocol and selecting **Add**. If you are not sure which protocols to use, select IBM IEEE 802.2 and IBM NetBIOS protocol drivers or ask your network administrator.

12. If necessary, edit the default parameters for the protocols by highlighting each protocol and selecting **Edit**. Enter or change any of the parameter values if needed. Select OK and the LAPS Configuration panel reappears.

13. Select **Close** on the Configure panel and then select **Exit**. The CONFIG.SYS Updates panel appears.

14. Make sure that the disk drive shown on the panel is the same as the disk drive that contains the CONFIG.SYS file. Select **Exit**. When the MPTS program has finished updating the CONFIG.SYS file, select **OK**. The Exiting MPTS panel appears.

15. Select **Exit** to exit the MPTS program.

16. Shut down your OS/2 system and restart your computer to complete the driver installation.

17. At system startup, check for the following conditions to determine whether the adapter is working correctly and whether you have successfully installed the adapter device driver:

    - The device driver files are loading successfully. There are no error messages.
    - You are able to log on and communicate with the network.

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2 Classical IP Configuration Parameters for OS/2

This section lists the configuration parameters that are supported by the TURBOWAYS 100 adapter, with a brief explanation of each parameter.

2.1 NDIS MAC Driver Parameters in PROTOCOL.INI

For Classical IP, the parameters supported by the NDIS MAC driver are described in Table 3.

Table 3. NDIS MAC Driver Parameters in PROTOCOL.INI

Parameter	Explanation
ADAPTER_TYPE	The type of adapter. Type: Decimal number Value: 3
ARPSRV_ATM_ADDR	The ATM address of the ARP server. This parameter is required and must be set to the ARP server's actual (non-0) ATM address. Type: Hexadecimal string Value: A 40-character, hexadecimal address
BEST_E_PK_RATE	The peak rate for best-effort (data) connections

	(Kbps). Type: Decimal number Value: 1000 to 155 000, in increments of 100 (Default = 25 600)
CNTRL_P_PK_RATE	The peak rate for the control plane (signalling and ILMI) connections (Kbps). Type: Decimal number Value: 1000 to 100 000, in increments of 100 (Default = 25 600)
Drivername	AT100IP$
IP_ADDR	The unique IP address for the adapter. Type: Dotted-decimal number Value: Four numbers (0 to 255), separated by periods Note: 0.0.0.0 is not a valid address.
IP_MASK	The specific IP subnet mask of the adapter. Type: Dotted-decimal number Value: Four numbers (0 to 255), separated by periods Note: 0.0.0.0 is not a valid value.
MAC_ADDR	The MAC address for the adapter. The adapter can be known on the network by its universally administered address (encoded in the adapter memory at the factory) or a locally administered address (a unique, user-assigned address). The universally administered address is the default. The address appears on the adapter bracket. If you use a locally administered address, it should appear with this parameter. Omit this parameter if you use a universally administered MAC address. Type: Hexadecimal string Value: 400000000000 to 7FFFFFFFFFFF
MAX_CONNECTIONS	The maximum number of connections. Type: Decimal number Value: 16 to 1024 (Default = 260)
MAX_FRAME_SIZE	The maximum AAL-5 service data unit (SDU) size of a data frame that can be transmitted or received. Type: Decimal number Value: 1514 to 20000 (Default = 9180)
UNI_VERSION	Which version of the ATM Forum User Network Interface (UNI) specification is used by the driver, or whether the driver uses ILMI to determine the appropriate UNI version. Type: Character string Value: UNI3.0, UNI3.1, AUTO (Default = AUTO)