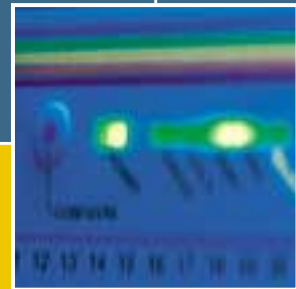
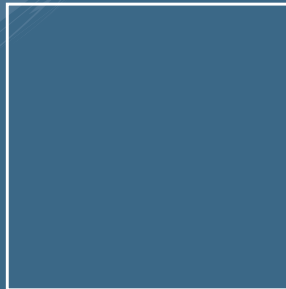
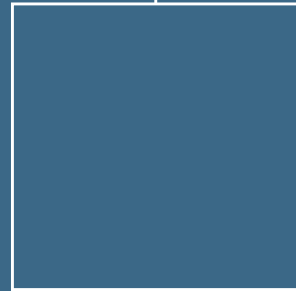


PORT INTERFACE CARD

QUICK INSTALL GUIDE



Port Interface Card Quick Install Guide
Document Number C613-04020-01 REV F.

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Models Covered By This Guide

This Quick Install Guide includes information on the following models:

- AT-AR020 PRI E1/T1
- AT-AR021 (S) BRI- S/T
- AT-AR021 (U) BRI-U
- AT-AR022 ETH
- AT-AR023 SYN
- AT-AR024 ASYN4
- AT-AR026 4ETH

Quick Install Guide updates can be found at www.alliedtelesyn.co.nz/support/support.html.

Package Contents

The following items are included with each Port Interface Card (PIC). Contact your sales representative if any items are damaged or missing.

- One PIC
- Two retaining thumbscrews
- One warranty card

The AT-AR020 PRI E1/T1 and AT-AR021(S) BRI-S/T PICs also include:

- Two jumpers

Hot Swapping

The following PICs can be hot swapped only if they are to be installed or removed from an AR040 NSM, and the AR040 is installed in a switch or router running Software Release 2.3.1 or later.

- AT-AR021 (S) BRI- S/T
- AT-AR021 (U) BRI-U
- AT-AR022 ETH
- AT-AR023 SYN
- AT-AR026 4ETH

The procedure for hot swapping PICs is described on page -6.

The following PICs cannot be hot swapped at this time.

- AT-AR020 PRI E1/T1
- AT-AR024 ASYN4

These PICs, PICs installed directly into routers (i.e., PICs not installed in an AR040 NSM), or PICs installed in any device running Software Release 2.2.3 or earlier must be installed or removed using the Standard Method (as outlined below).

To find out which software release your switch or router is running, use the command:

```
SHOW RELEASE
```

Installing a PIC

Standard Installation Method:

1. Before installing a PIC, read the safety information

For safety information, see the Safety and Statutory Information booklet for your switch or router. A copy of this booklet can also be found on the CD-ROM that came with your switch or router, or at www.alliedtelesyn.co.nz/support/support.html.

2. Gather the tools and equipment you will need

A medium-sized flat-bladed screwdriver may be useful when loosening the PIC thumbscrews.

You should also have any cables required for connecting the PIC to a wide area network or other network devices.

3. For switches and routers with NSM bays, check that an NSM is installed

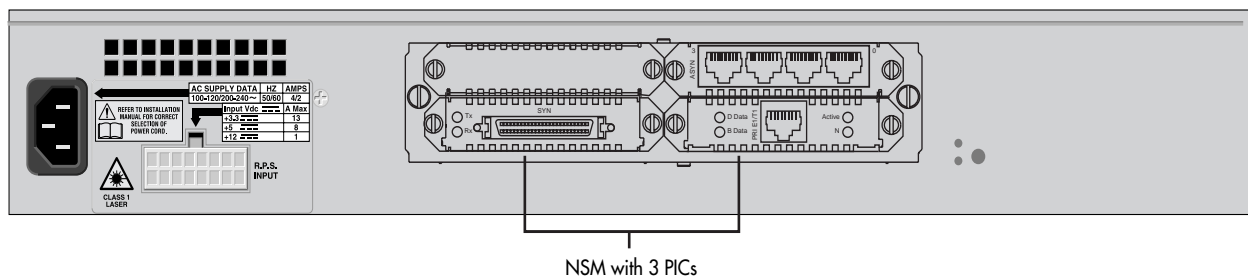
AR800 Series Switching Routers and Rapier Switches require an AT-AR040 NSM to be installed before PICs can be installed. The AR740 Router has two base-unit PIC bays, installing an AT-AR040 NSM provides four additional PIC bays.

NSMs are installed in the rear panel of AR800 Series Switching Routers, Rapier Switches, and AR740 Routers; see Figure 1. Contact your Authorised Allied Telesyn distributor or reseller for more information on how to purchase an NSM.



The AT-AR022 ETH PIC is not recommended for use with the AT-AR040 NSM.

Figure 1: An AT-AR040 NSM (with 3 PICs) installed in an AR824.



4. If connected, disconnect the switch or router from its redundant power supply

5. Disconnect the switch or router from its AC or DC power supply



Be sure to disconnect the main power supply and the redundant power supply before installing a PIC. Installing a PIC with the switch or router powered ON can damage the PIC.



For instructions on how to disconnect your switch or router, see the documentation that is bundled with each switch or router.

6. Remove the PIC-bay face-plate, NSM PIC-bay face-plate, or existing PIC

Loosen the thumbscrews to remove the face-plate or PIC.



Keep the face-plate for future use. If you remove the PIC, replace the face-plate to prevent dust and debris from entering the switch or router and to maintain proper airflow.

7. Unpack the PIC

In an antistatic environment, remove the PIC from its packing material. Be sure to observe ESD precautions.



Do not attempt to install a PIC or any other expansion option without observing correct antistatic procedures. Failure to do so may damage the switch or router, PIC, or expansion option. If you are unsure what the 'correct' procedures are, contact your authorised Allied Telesyn distributor or reseller.

8. If the PIC has jumpers, check that they are correctly set

AT-AR020 PRI E1/T1 and AT-AR021(S) BRI-S/T PICs have user-configurable jumpers. Check that all jumpers and other hardware configurations are set correctly on the new PIC (Table 1 and Table 2).

AT-AR026 4ETH PICs have user configurable links that set features such as auto-negotiation, buffer size, and MAC address aging. Descriptions of the links can be found in the *PIC Hardware Reference*.

Table 1: Functions of jumpers on the AT-AR020 PRI E1/T1 PIC board .

Jumper	Function	Default
J1	Selects ISDN NT mode (installed, test only) or TE mode (not installed).	Not installed.
J2	Selects T1 mode (installed) or E1 mode (not installed).	Not installed.



Earlier versions of the AT-AT020 PIC also have a J3 interface jumper. If present, this jumper must be installed for E1 mode and removed for T1 mode.

Table 2: Functions of jumpers on the AT-AR021(S) BRI-S/T PIC board.

Jumper	Function
J1	100Ω termination for TX.
J2	100Ω termination for RX.

For more information on PIC jumpers and hardware configurations, see the *Port Interface Card Hardware Reference*. This Reference can be found on the CD-ROM bundled with recently purchased switches or routers, or can be downloaded from www.alliedtelesyn.co.nz/support/support.html.



Do not attempt to change any jumpers, DIP switches or other hardware configurations while the switch or router is connected to a power supply, redundant power supply, or a 'live' network. Dangerous voltages may be present on some parts of the board, even if the switch or router is not turned on.

9. Slide the PIC into place

PIC bays should be filled in numerical order, starting with the lowest available bay (e.g., bay 0) followed by bays with progressively higher numbers.

10. Secure the PIC by tightening its thumbscrews

11. Apply power to the switch or router by re-attaching the power cord

12. If you disconnected a redundant power supply, reconnect it

13. Test the PIC

There are several ways to check that the PIC is installed and functioning correctly.

The SHOW SYSTEM command displays general system information about PICs and any other hardware installed, as well as memory, software release and patches loaded on the switch or router.

See the *Port Interface Card Hardware Reference* for detailed information on PIC testing.

Hot Swap Installation Method:

Only use this method if the PIC is to be installed or removed from an AR040 NSM, and the NSM is installed in a switch or router running Software Release 2.3.1 or later.



WARNING: Failure to follow this procedure when hot swapping a PIC will cause the router to crash, and may damage files stored in FLASH.

1. Gather the tools and equipment you will need

A medium-sized flat-bladed screwdriver may be useful when loosening the PIC thumbscrews.

You should also have any cables required for connecting the PIC to a wide area network or other network devices.

2. Prepare the PIC bay for hot swap

If the In Use LED (next to the NSM bay) is lit, use a pencil tip or similar object to press the recessed Hot Swap button. The In Use LED should go out and the Swap LED should light.

If the In Use LED remains lit, or if neither the In Use or Swap LED are lit, the router software release does not support hot swapping, and the Standard Installation Method must be used to install or remove the PIC.



Do not attempt to hot swap while the contents of FLASH are being modified; for instance, during FLASH compaction or when files are being loaded onto the router. If the router crashes while FLASH is being modified, configuration files, software release files, feature licences and other files may be damaged.

3. Remove the PIC-bay face-plate, NSM PIC-bay face-plate, or existing PIC

Loosen the thumbscrews to remove the face-plate or PIC.



Keep the face-plate for future use. If you remove the PIC, replace the face-plate to prevent dust and debris from entering the switch or router and to maintain proper airflow.

4. Unpack the PIC

In an antistatic environment, remove the PIC from its packing material. Be sure to observe ESD precautions.



Do not attempt to install a PIC or any other expansion option without observing correct antistatic procedures. Failure to do so may damage the switch or router, PIC, or expansion option. If you are unsure what the 'correct' procedures are, contact your authorised Allied Telesyn distributor or reseller.

5. If the PIC has jumpers, check that they are correctly set

See Step 8 of the Standard Installation Method for descriptions of jumpers and how to set them.



Do not attempt to change any jumpers, DIP switches or other hardware configurations while the switch or router is connected to a power supply, redundant power supply, or a 'live' network. Dangerous voltages may be present on some parts of the board, even if the switch or router is not turned on.

6. Slide the PIC into place

PIC bays should be filled in numerical order, starting with the lowest available bay (e.g., bay 0) followed by bays with progressively higher numbers.

7. Secure the PIC by tightening its thumbscrews

8. Return the NSM bay to use

Press the recessed Hot Swap button. The Swap LED will go out and the In Use LED will light.

If the In Use LED lights only briefly and the Swap LED then lights continuously, the software release does not support hot swapping of this type of PIC.

9. Test the PIC

There are several ways to check that the PIC is installed and functioning correctly.

The SHOW SYSTEM command displays general system information about PICs and any other hardware installed, as well as memory, software release and patches loaded on the switch or router.



See the [Port Interface Card Hardware Reference](#) for detailed information on PIC testing and the operational characteristics of hot swapped interfaces.

Where To Find More Information

Sources of further information:

- The *Port Interface Card Hardware Reference*, which provides detailed information on PICs. This Reference can be found on the CD-ROM bundled with recently purchased switches or routers, or at www.alliedtelesyn.co.nz/support/support.html.
- The installation guide or reference manual for your switch or router, which provides detailed information on the operational requirements of each switch, router, or network configuration.
- www.alliedtelesyn.co.nz.