

### Overview

The NXF CardFrame (FG2001) accommodates a NetLinx Master (or Hub) card, up to twelve NetLinx Control cards, and provides a back plane to distribute power and data to/from the cards (FIG. 1).



FIG. 1 NXF CardFrame - front panel (with faceplate)

The NXF CardFrame provides terminals on the rear panel for connection to the control cards, and to a system power supply. A DIP switch on the rear panel sets the CardFrame's base device number. For detailed product information on the NXF CardFrame, and the NetLinx Control Cards, refer to the *NetLinx CardFrame, Control Cards, and NetModules* Instruction Manual on-line at [www.amx.com](http://www.amx.com).

### Front/Rear Panel Components

FIG. 2 shows the front and rear panel components of the NXF CardFrame:

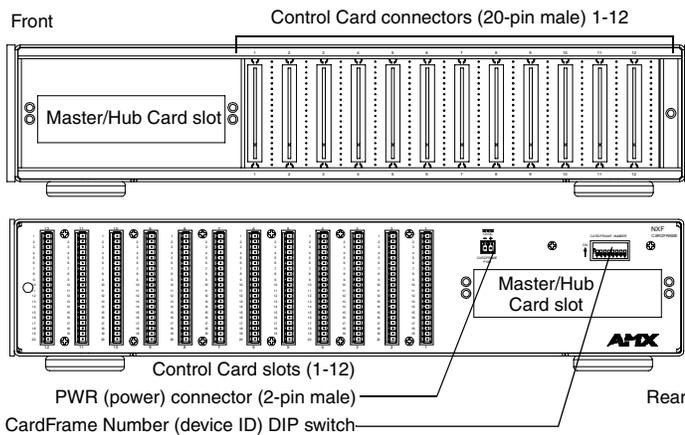


FIG. 2 NXF CardFrame - Front/Rear Panel Components

Specifications	
Dimensions (HWD):	3.5" x 17.0" x 9.6" (8.90 cm x 43.20 cm x 22.50 cm)
Weight:	9.1 lbs. (4.1 kg)
Power Requirement:	+12 VDC

### Master/Hub Card Slot

The Master/Hub Card slot houses a NetLinx Master or Hub Card. The card mounts in a horizontal position, through the master card slot on the rear panel of the NXF enclosure. To install a Master or Hub Card in an NXF:

1. Discharge the static electricity from your body by touching a grounded object.
2. Disconnect the power, and unplug all connectors from the NXF.
3. Remove the two screws that hold the front plate on the Master Card, and remove the front plate.
4. Align the edges of the card with the guide slots inside the Master Card slot on the NXF.
5. Slide the card about halfway into the slot.
6. Inside the Master Card slot on NXF, locate the 4-pin control cable connector.
7. Plug the connector from the NXF into the 4-pin terminal on the Master Card. This connector is keyed to ensure correct orientation.
8. Once the control cable is connected, gently slide the card all the way in until you can screw the card in place.
9. Re-apply power and other connections as necessary.

### Compatible NetLinx Master Cards

For use as a master controller, the NXF CardFrame accepts the following NetLinx Master Card:

NetLinx Master Card	
NXC-ME260	Master-Ethernet Card/Module

### Compatible NetLinx Hub Cards

For use as a hub device, the NXF CardFrame accepts the following NetLinx Hub Cards:

NetLinx Hub Cards	
NXC-NH	ICSNet Hub Card (FG2060)
NXC-HS	ICSHub Server Card (FG2061)
NXC-HE	ICSHub Expander Card (FG2062)

### Control Card Connectors

1. 12 card slots for the NXC Control Cards that control devices connected to the CardFrame. To install NXC Control Cards in the NXF CardFrame:
2. Remove the magnetic front faceplate/viewing window from the CardFrame.
3. Align the edge of the Control Card with a slot in the CardFrame. Slide the card into the CardFrame and press until you feel the Card seat in the back-plane connector.
4. Put the magnetic faceplate back on the CardFrame. Secure with mounting screws (if necessary).

### Compatible NXC Control Cards:

The NXF CardFrame accepts the following NetLinx Control Cards:

NetLinx Control Cards	
NXC-COM2	Dual COM Port Control Card (FG2022)
NXC-I/O10	Input/Output Control Card (FG2021)
NXC-IRS4	4-Port IR/S Control Card (FG2023)
NXC-REL10	Relay Control Card (FG2020)
NXC-VAI4	Analog Voltage Control Card (FG2025)
NXC-VOL4	Volume Control Card (FG2024)

### +12 VDC PWR Connector:

On the rear panel, the 2-pin green (male) connector is for connecting a 12 VDC power supply. The CardFrame can be powered either via the Master Card (default), or by an external power supply connected to the CardFrame's PWR connector. If a power supply is connected to the PWR connector, the CardFrame power automatically switches to the connected power supply. In that case, the Master/Hub Card and CardFrame are independently powered.

### CardFrame Number DIP Switch:

The 8-position CardFrame Number DIP switch, located on the rear of the CardFrame (FIG. 3), sets the starting address (the device number in the D:P:S specification) for the Control Cards you install into the CardFrame. The address range is 12-3060.

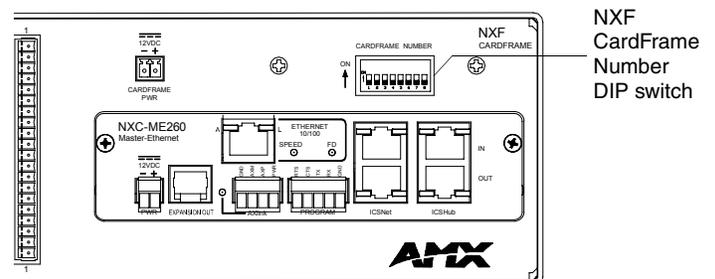


FIG. 3 CardFrame Number DIP switch (8-position)

The formula for setting the starting address is:

$$(\text{DIP switch address} \times 12) + \text{Card slot Number (1-12)} = \text{Card address}$$

For example, if you set the CardFrame DIP switch to 2, the first Control Card address would be 25. The calculation would look like:

$$(2 \times 12) + 1 = 25.$$

For a sample DIP switch setting of **00010101**:

$$(0 + 0 + 0 + 0 + 96 + 0 + 384 + 1536) + \text{SLOT \# (ex: 1)} = 2017.$$

A card in slot number 7 would be device address 2023.

#### To set the CardFrame's starting address (Device ID)

1. Set the CardFrame Number DIP switch based on the information listed in the table below.
2. Recycle the power for approximately 5 seconds, so that the system can read the new device number settings.

CardFrame Number DIP Switch	
Position	Value
1	12
2	24
3	48
4	96
5	192
6	384
7	768
8	1536

## Device:Port:System (D:P:S)

A device is any hardware component that can be connected to an AXLink or NetLinX (ICSNet) bus. Each device must be assigned a unique number to locate that device on the bus. The NetLinX programming language allows numbers in the range 0-32,000. Device 0 (zero) refers to the master, and numbers greater than 32,000 are reserved.

NetLinX requires a Device:Port:System (D:P:S) specification.

This D:P:S triplet can be expressed as series of constants, variables separated by colons, or as a DEV structure. For example:

```
STRUCTURE DEV
{
  INTEGER Number // Device number
  INTEGER Port   // Port on device
  INTEGER System // System device belongs to
}
```

The D:P:S notation is used to explicitly represent a device number, port and system. For example, 128:1:0 represents the first port on the device TP on this system.

If the Port and System numbers are omitted, Port #1 and System #0 (zero) are assumed. Here's a syntax sample:

```
NUMBER:PORT:SYSTEM
```

where:

- NUMBER: 6-bit integer representing the device number
- PORT: 6-bit integer representing the port number (in the range 1 through the number of ports on the Controller or device)
- SYSTEM: 6-bit integer representing the system number (0 = this system)

## NetLinX Device Number Conventions

NXF CardFrames typically occupy the device number range from 301 to 3072, starting at CardFrame number  $(25 \times 12) + 1$ .

