

PF-1U-FA

Operation and Maintenance Instructions

Rev A

Precision Filters, Inc.
240 Cherry Street
Ithaca, NY 14850

www.pfinc.com
pfinfo@pfinc.com

Revision Level History		
Rev Level	Date	Description
-	7/18/2012	Initial release
A	3/12/2013	Added Option 3, LEMO inputs with programmable single-ended or balanced differential inputs.

Safety Notices

Important, please read and understand the section, *Site Preparation, Installation and Maintenance* before installing and operating the PF-1U-FA System. The information and procedures in this section are designed to prevent damage to property and harm to the user.

CAUTION

A **CAUTION** statement describes a hazard. It calls attention to a procedure, practice or condition that if not correctly performed or adhered to could result in damage to the product or loss of data. Do not proceed beyond a **CAUTION** statement until the conditions are fully understood and met.

WARNING

A **WARNING** statement describes a hazard. It calls attention to a procedure, practice or condition that if not correctly performed or adhered to could result in personal injury or death. Do not proceed beyond a **WARNING** statement until the conditions are fully understood and met.

Safety Symbols



Chassis Ground



Signal Ground



Refer to manual for additional safety information



On supply



Off supply

Table of Contents

1 PF-1U-FA OVERVIEW	1-1
INTRODUCTION	1-1
Operation.....	1-3
Front Panel Controls, Indicators and Connections	1-3
INPUT Connectors	1-3
OVERLOAD Indicators	1-3
TEST Input Connector	1-3
WARNING Indicator.....	1-3
POWER Switch and Indicator.....	1-3
Ethernet Connector.....	1-3
Rear Panel Connections	1-4
POWER IN Connector	1-4
CHASSIS GROUND and SIGNAL GROUND Posts.....	1-4
MONITOR Output Connector.....	1-4
OUTPUT Connectors	1-4
ACCESSORIES.....	1-4
Mounting	1-4
External Power Supply	1-4
LEMO Mating Connectors.....	1-4
Power Supply Mating Connectors.....	1-4

2 SITE PREP, INSTALLATION & MAINTENANCE	2-1
INTRODUCTION	2-1
SITE PREPARATION	2-1
Environmental Requirements.....	2-1
Power Requirements	2-2
PF-1U-ACDC2 External Power Supply	2-2
Location Requirements	2-2
Cooling Requirements	2-2
UNPACKING.....	2-3
Shipping Container	2-3
Chassis Inspection.....	2-3

STORAGE, TRANSPORT AND SHIPMENT	2-3
Storage Requirements	2-3
Transport Requirements	2-3
Shipment Requirements	2-4
SERVICE AND REPAIR.....	2-4
RACK MOUNT	2-4
NON-SKID FEET KIT.....	2-5
CABLE CONNECTIONS	2-5
Input Connectors	2-5
BNC Input Connector - Option I.....	2-6
LEMO Input Connectors - Option 3	2-6
Output Connectors	2-6
Ethernet Cable.....	2-6
Direct Connection	2-7
Network Switch Connection	2-7
Corporate Network Connection (Not Recommended)	2-8
Dual Corporate Network Connection (Recommended)	2-9
Examples of Network Interface:.....	2-9
TEST Connector	2-10
MONITOR Connector	2-10
POWER Connection	2-10
PF-1U-ACDC2 External Power Supply.....	2-10
MAINTENANCE.....	2-11
INSTALLING SYSTEM FIRMWARE	2-11
ADJUSTMENT PROCEDURES	2-13

1 PF-1U-FA OVERVIEW

1.1 INTRODUCTION

The PF-1UA-FA series is a multi-channel programmable filter/amplifier system in a compact rack mountable or bench top package. Fully programmable 8-channel and 16-channel configurations are available in high performance or standard configurations with a selection of input connector configurations, either BNC or LEMO input connector.

For units with BNC input connectors, an optional programmable current source is provided on each channel to interface the PF-1U to IEPE transducers. For applications requiring balanced twisted/shielded cable inputs, a LEMO connector input option is available. Fully programmable input configuration (single-ended or differential) is supported for systems configured with LEMO input connectors.

Applications for the PF-1U-FA include:

- Spectral analysis
- Time domain wave analysis
- Transient shock measurements
- Anti-aliasing filters with programmable amplifiers
- Automatic test equipment
- Data acquisition
- Signal conditioning
- Production test equipment
- Reconstruction filters
- Industrial process control
- Programmable band-pass filter

The standard PF-1U-FA configuration offers 4-pole low-pass filters with five programmable cutoffs and gain programmable to $\times 1,024$.

The high performance PF-1U-FA offers a choice of 4 or 8-pole low-pass and band-pass filters with cutoffs programmable from 1 Hz to 204.6 kHz. The high performance PF-1U-FA has an upgraded wideband (500 kHz) low-noise amplifier with transducer DC suppress capability. Gain is programmable to $\times 8,192$.



Figure 1.1 PF-1U-16FA Front Panel

The low-pass filters may operate in either a “flat” mode for maximally flat pass-band amplitude response with sharp roll-off or in a “pulse” mode for low phase distortion and optimized transient response.

The “flat” mode provides passband characteristics nearly identical to a Butterworth filter while providing a much sharper roll-off. This mode is a good choice for applications such as spectral analysis. The “pulse” mode has time domain response similar to the Bessel filter yet provides superior amplitude response characteristics. The “pulse” mode is ideal for time domain applications including transient (shock) measurements and waveform analysis.

Gain is distributed both before and after the filter to provide protection from large out-of-band energy or transients that could cause clipping before the filter, distorting the data. The post-filter gain has resolution of better than 0.05% to enable system scaling of the outputs to match the full-scale input of the external recording device. Overload detectors alert the user to over-voltage conditions.

Other features of the PF-1U-FA include a test input for injection of calibration signals into the channel input and a monitor output that allows for convenient monitoring of any channel output via a single BNC.

The system includes an Ethernet remote interface and is supplied with a Windows based Graphical User Interface (GUI) for local control.

Available 16-Channel PF-1U-FA High Performance systems include*:

- **PF-1UC-16FA-LP4FP-IZ** 16-channel filter/amp with 4-pole low-pass filters
- **PF-1UC-16FA-LP8FP-IZ** 16-channel filter/amp with 8-pole low-pass filters

- **PF-1UC-16FA-HP8F-IZ** 16-channel filter/amp with 8-pole high-pass filters
- **PF-1UC-16FA-HP4F/LP4FP-IZ** 16-channel filter amp with programmable bandwidth 8-pole band-pass filters

Available 16-Channel PF-1U-FA Standard Performance systems include*:

- **PF-1UC-16FA-FX01-LP4FP-I** 16-channel filter/amp with 4-pole low-pass filters
- **PF-1UC-16FA-FX02-LP4FP-I** 16-channel filter/amp with 4-pole low-pass filters

Available 8-Channel PF-1U-FA High Performance systems include*:

- **PF-1UC-8FA-LP4FP-IZ** 8-channel filter/amp with 4-pole low-pass filters
- **PF-1UC-8FA-LP8FP-IZ** 8-channel filter/amp with 8-pole low-pass filters
- **PF-1UC-8FA-HP8F-IZ** 8-channel filter/amp with 8-pole high-pass filters
- **PF-1UC-8FA-HP4F/LP4FP-IZ** 8-channel filter amp with programmable bandwidth 8-pole band-pass filters

Available 8-Channel PF-1U-FA Standard Performance systems include*:

- **PF-1UC-8FA-FX01-LP4FP-I** 8-channel filter/amp with 4-pole low-pass filters
- **PF-1UC-8FA-FX02-LP4FP-I** 8-channel filter/amp with 4-pole low-pass filters

*All of the above models are available with either Option I or Option3:

- **Option I** = BNC inputs with IEPE Current Source
- **Option 3** = LEMO inputs with programmable single-ending or differential input configurations

1.1.1 Operation

The PF-1U-FA system may be controlled remotely via the interactive PF1U-LCS Command Line Interpreter that allows the PF-1U-FA to function as a server on the network.

Alternatively the PF-1U-FA system can be controlled via the Ethernet interface using the supplied spreadsheet-style PF1U-Graphical User Interface (GUI) application running on a Windows PC. The GUI supports control of all channel and system features for up to eight PF-1U-FA system chassis.

Instructions for operating the PF-1U-FA System using either the PF1U-GUI or the PF1U-LCS programs are provided in the accompanying *PF1U-Graphical User Interface & PF1U-LCS Command Line Interpreter Operation Instructions* manual.

Up to four setup configurations can be defined and saved internally in the PF-1U-FA. Settings are restored on power-up or after a power interruption. The settings are retained when the computer is disconnected even after a power-down and up. This allows the unit to be pre-configured for an application in which a computer may not be available for control.



Figure 1.2 Power Switch, TEST Connector, Warning Indicator and Ethernet Connector

1.1.2 Front Panel Controls, Indicators and Connections

INPUT Connectors

The PF-1U-16FA front panel provides sixteen input coaxial BNC connectors or LEMO connectors, depending on the model number, for channels CH 0 through CH 15. The PF-1U-8FA front panel provides eight input coaxial BNC connectors or LEMO connectors, depending on the model number, for channels CH 0 through CH 7.

OVERLOAD Indicators

An Overload LED above each input connector is lit to indicate an input overload condition.

TEST Input Connector

A coaxial BNC connector is provided to connect an external test signal to the PF-1U-FA test bus.

WARNING Indicator

The front panel WARNING LED is lit to indicate a system fault such as over temperature or a power supply voltage that is not in specification.

POWER Switch and Indicator

The front panel POWER switch is used to turn power on or off for the system. The POWER indicator is lit when power is applied to the system.

Ethernet Connector

The front panel Ethernet connector is used to provide the control link to the host computer.

1.1.3 Rear Panel Connections

POWER IN Connector

The POWER IN connector is used to connect power from the supplied external DC power supply.

CHASSIS GROUND and SIGNAL GROUND Posts

Use the rear panel CHASSIS GROUND and SIGNAL GROUND to tie chassis ground to signal ground.

MONITOR Output Connector

A coaxial BNC connector is provided for connecting to the PF-1U-FA monitor bus.

OUTPUT Connectors

The PF-1U-16FA rear panel provides sixteen output coaxial BNC connectors for channels CH 0 through CH 15. The PF-1U-8FA front panel provides eight output coaxial BNC connectors for channels CH 0 through CH 7.



Figure 1.3 Power Entry, Ground Binding Posts and MONITOR Output Connector

1.2 ACCESSORIES

Accessories for the PF-1U-FA include:

Mounting

- **1U-RM 19-inch Rack Mount Kit** (supplied with system) consisting of two handles and four 10-32x1/4 PF Phillips flat head screws
- **PF-1U Rubber Feet Kit** (supplied with system) provides non-skid feet for desk or table top installation.

External Power Supply

- **PF-1U-ACDC2-120W Power Supply** AC to DC external 120 W power supply 110 to 240 VAC, 47-63 Hz with combo-D connector; CE/UL approved (included with system).

LEMO Mating Connectors

- **IN-LEMO3xx:** PF pn A10861 consisting of LEMO pn FGG.1B.303.CYB.D??(where ?? indicates ferrule size). A set of ferrules for cable O.D. 0.06 to 0.22 inches is provided. Crimp pins accommodate 20, 22 or 24 gage wire (AWG).

Power Supply Mating Connectors

For alternative power sources, a DC mating connector is available.

- **Power Supply Mating Connector** is a three pin Combo-D mating connector. PF pn A11328G1.

2 SITE PREP, INSTALLATION & MAINTENANCE

2.1 INTRODUCTION

This section contains instructions for installing and maintaining the PF-1U-FA System.

Important, please read and understand this section, *Site Preparation, Installation and Maintenance* before installing and operating the PF-1U-FA System. The information and procedures in this section are designed to prevent damage to property and harm to the user.

A **CAUTION** statement describes a hazard. It calls attention to a procedure, practice or condition that if not correctly performed or adhered to could result in damage to the product or loss of data. Do not proceed beyond a **CAUTION** statement until the conditions are fully understood and met.

A **WARNING** statement describes a hazard. It calls attention to a procedure, practice or condition that if not correctly performed or adhered to could result in personal injury or death. Do not proceed beyond a **WARNING** statement until the conditions are fully understood and met.

2.2 SITE PREPARATION

This section describes the preparations and requirements of the location where the PF-1U-FA System will be installed and must be adhered to before installing the system.

2.2.1 Environmental Requirements

CAUTION:

Do not install or operate s PF-1U-FA System and/or components in a location with heavy dust, high or low temperatures or high humidity.

Refer to Table 2.1 Operating Environment Requirements for operating temperature and relative humidity ranges.

Table 2.1 Operating Environmental Requirements	
Max Temperature	40° C
Min Temperature	0° C
Relative Humidity	Less than 90%, non-condensing

2.2.2 Power Requirements

Power is supplied to the PF-1U-FA from either the external PF-1U-ACDC2-120W, included with each system, or a direct power source. The input power supply requirements are 12 VDC to 24 VDC, 75 W typical, and is applied at the rear panel POWER IN connector. Power supply mating connectors are available for custom applications. See Accessories, Section 1.2.

PF-1U-ACDC2 External Power Supply

The compact PF-1U-ACDC2-120W AC to DC external power supply carries the CE/UL listing marks. One PF-1U-ACDC2-120W is supplied with each PF-1U-FA system.

Table 2.2 External PS Power Requirements	
Input Voltage, Frequency	100-240 VAC, 47 to 63 Hz
Current	3.2 amp, 100-120 VAC, 2 amp, 220-240 VAC

2.2.3 Location Requirements

The PF-1U-FA can be bench or rack mounted. The PF-1U-FA frame has a standard 1U by 19 inch RETMA front panel and is 19 inches deep (20 inches deep with rack mount handles installed). The rack should be at least 24 inches deep to provide room for rear panel connections.

The PF-1U-16FA with rack mount weighs 11 lb. 6 oz. The PF-1U-8FA with rack mount weighs 10 lb. 2 oz. PF-1U-ACDC2 External power supply weighs 2 lb. 8 oz.

2.2.4 Cooling Requirements

CAUTION

Do not install a system in a place with poor ventilation. A minimum of three inches (76.2 mm) of clearance is required on both sides of the unit for proper cooling. Never block the intake air vents or the exhaust vents.

The PF-1U-FA frame is cooled by an integral forced air system. The chassis incorporates a set of three fans located inside the frame with vents on each side of the chassis. The fans draw air in through the vents on the left side of the chassis, across the filter/amplifier modules and motherboard, across the power supply and the controller circuitry, then out through the vents on the right side of the chassis.

2.3 UNPACKING

Before shipment this unit was free of electrical and mechanical defects. It was fully tested and burned in.

2.3.1 Shipping Container

Inspect the shipping containers immediately upon receipt for evidence of mishandling during transit. If a shipping container has been damaged in any way, have the carrier's agent present when the equipment is unpacked.

If the equipment is damaged, file a claim with the carrier and forward a copy to Precision Filters. Retain the shipping container and packing material for the carrier's inspection or for reuse.

2.3.2 Chassis Inspection

Make a visual check of the system mainframe to ensure that there are no broken controls, handles, or connectors and that the panel surfaces are free of dents and scratches.

2.4 STORAGE, TRANSPORT AND SHIPMENT

CAUTION

Do not store, transport or ship the equipment in environments with heavy dust, high or low temperatures or high humidity.

Table 2.3 describes the environmental conditions which must be maintained during storage, transport, or shipment of the system.

Table 2.3 Environmental Requirements: Storage, Transport, and Shipment	
Max Temperature	85° C
Min Temperature	-25° C
Relative Humidity	Less than 80%, non-condensing

2.4.1 Storage Requirements

The mainframe can be stored or remain in an equipment rack. For prolonged storage, protect the system with a cover to prevent dust accumulation. The storage area should be free of dust and must meet the environmental conditions described in Table 2.3.

2.4.2 Transport Requirements

The system may be transported as a unit over a short distance if vibration and shock are held to an absolute minimum. Before transport, remove cables. The environmental conditions in Table 2.3 must be maintained.

2.4.3 Shipment Requirements

Always use the original packing materials to ship system components. A new container can be purchased from Precision Filters. The environmental conditions described in Table 2.3 must be maintained during shipment.

2.5 SERVICE AND REPAIR

If equipment is being returned to Precision Filters for service or repair contact the factory for a Return Authorization Number.

To obtain a Return Authorization Number contact Precision Filters.

Phone: (607) 277-3550

Fax: (607) 277-4466

E-mail: customer-service@pfinc.com

Include the following information with the equipment:

- Owner's name, company, address and telephone number.
- A detailed description of the service or repair.
- The instrument model and serial numbers.
- The Return Authorization Number issued by Precision Filters clearly marked on the outside of the shipping container.

Equipment should be shipped in the best available packing materials. Factory packaging is available. Contact Precision Filters for more information.

2.6 RACK MOUNT

CAUTION

Only use the supplied 10-32 x 1/4 PF flat head Philips Screws when installing the mounting ears. The use of longer screws will damage the system hardware.

The 1U-RM Rack Mount Kit consists of a pair of mounting ears and four flat head Phillips screws (PF pn 10-32X1/4 PF).

The PF-1U-FA frame side panels are pre-drilled and tapped to accept the hardware supplied with the mounting ears.



Figure 2.1 Rack Mount Handles

2.7 NON-SKID FEET KIT

The PF-1U Non-Skid Feet Kit consists of a alcohol cleaning swab and four non-skid feet (PF pn A10748).

CAUTION

When using the saturated cleaning swab follow the Caution Statement on the package.

The non-skid feet are attached to the bottom cover of the frame. Before attaching the feet clean the area where the feet will be installed with the alcohol cleaning swab. Refer to Figure 2.2 for the non-skid foot locations.

2.8 CABLE CONNECTIONS

2.8.1 Input Connectors

CAUTION

Do not exceed the maximum input level listed below.

- **Maximum input level:**

(AC + DC + Common Mode)

$\pm 10 \text{ Vpk}$ for $f \leq 200 \text{ kHz}$

$\pm 10 \text{ Vpk} \times (200 \text{ kHz}/f)$ for $f > 200 \text{ kHz}$

- **Input protection:**

25 V continuous (power on)

60 Vpk transient (1 ms pulse, 50% duty cycle)

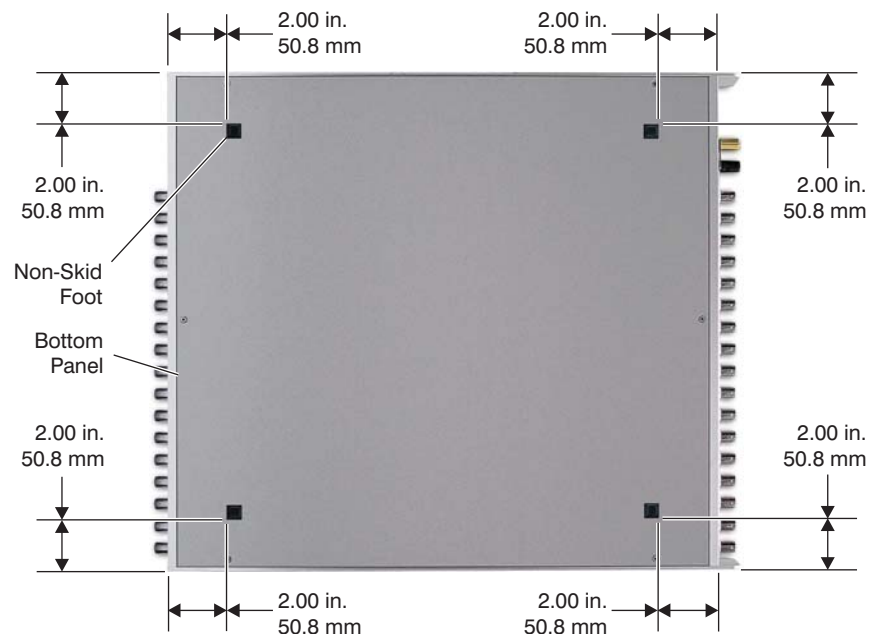


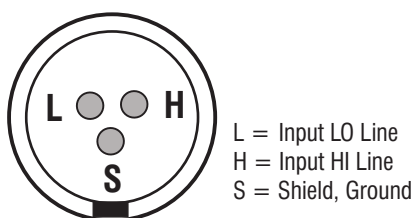
Figure 2.2 Non-Skid Feet Locations

BNC Input Connector - Option I

The PF-1U-16FA with Option I provides sixteen coaxial BNC input connectors at the front panel labeled CH 0 through CH 15. The PF-1U-8FA with Option I provides eight coaxial BNC input connectors at the front panel labeled CH 0 through CH 7.

LEMO Input Connectors - Option 3

The PF-1U-16FA with Option 3 provides sixteen 3-pin LEMO input connectors at the front panel labeled CH 0 through CH 15. The PF-1U-8FA with Option 3 provides eight 3-pin LEMO input connectors at the front panel labeled CH 0 through CH 7.



2.8.2 Output Connectors

The PF-1U-16FA provides sixteen coaxial BNC output connectors at the rear panel labeled CH 0 through CH 15. The PF-1U-8FA provides eight coaxial BNC output connectors at the rear panel labeled CH 0 through CH 7.

- **Maximum output**
 ± 10 Vpk, ± 10 mA pk

2.8.3 Ethernet Cable

The Ethernet connector is located at the right end of the front panel.

There are four configurations for establishing an Ethernet connection between either a 28000 system or a PF-1U-FA system and the host computer. Precision Filters recommend the Direct Connection, the Network Switch Connection and the Dual Corporate Network Connection as the most reliable connection methods. The Corporate Network Connection is not recommended and may result in an unexpected interruption of an ongoing test. Each method is described below.

Refer to the *PF1U-Graphical User Interface & PF1U-LCS Command Line Interpreter Operation Instructions* manual for troubleshooting information.



Figure 2.3 Front Panel Ethernet Connector

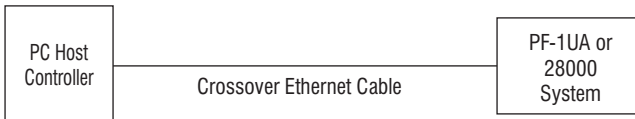
Direct Connection

The direct connection between a PC host controller and a PF-1U-FA System is the simplest configuration and a reliable method.

In this configuration, only one system is connected to the PC host controller.

A network crossover cable may be required although most Ethernet interfaces can automatically cross or uncross cable connections.

The user must manually configure the PC host computer for the IP address of the connected system.



Direct Connection

Figure 2.4 Direct Connection Diagram

Network Switch Connection

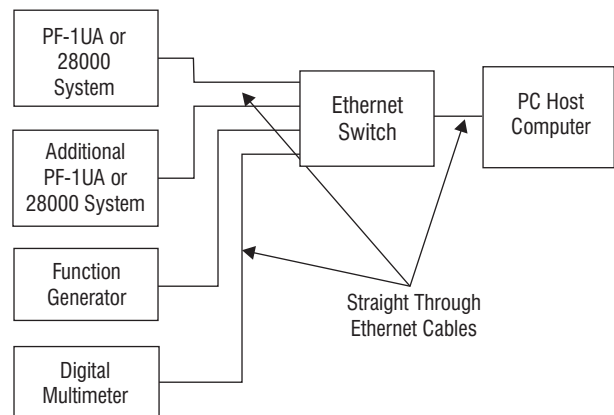
The network switch connection provides a simple and reliable connection between the PC host computer and one or more PF-1U-FA Systems, 28000 Systems and/or Subtest equipment using a Ethernet switch.

In this configuration, the PC host computer controls multiple Systems and Subtest equipment.

Standard “straight through” Ethernet cables are used. (A network crossover cable is not required.) Most Ethernet switches will automatically cross or uncross the connections as required.

The user must manually configure the PC host computer for the IP address of the connected Systems and test equipment.

An advantage of this interconnection method is that the Ethernet switches feature connection status LEDs that can be used to verify proper system operation.



Network Switch Connection

Figure 2.5 Network Switch Connection Diagram

Corporate Network Connection (Not Recommended)

The typical corporate network connection where each System and Subtest equipment is connected directly to the corporate Ethernet network, is not recommended. Other networked equipment such as DAS, servers, computer and phone systems can cause high data traffic across the Ethernet network resulting in the possibility of an unexpected interruption of an on going test.

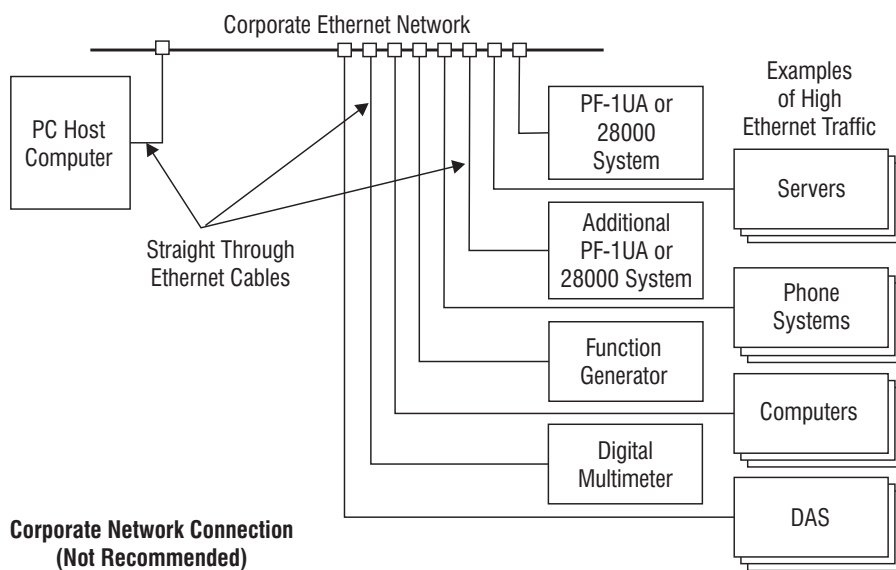


Figure 2.6 Typical Corporate Network Connection Diagram
(Not Recommended)

Dual Corporate Network Connection (Recommended)

The dual corporate network connection is recommended for the reason that the the PF-1U-FA, 28000 Systems Systems and/or the Test Subsystem equipment are connected to the PC host computer by a separate Ethernet connection.

By not connecting directly to the corporate Ethernet network, the systems and equipment are separated from networked equipment that can cause high data traffic across the network resulting in the possibility of an unexpected interruption of an on going test.

To setup a dual corporate network connection, the PC host computer is installed with an additional network interface. The 28000 Systems, the PF-1U-FA systems and the Test Subsystem equipment are connected to the host computer via an Ethernet switch and the additional network interface. The other network interface is used to connect the PC host computer to the corporate Ethernet network.

Standard “straight through” Ethernet cables are used. (A network crossover cable is not required.) Most switches will automatically cross or uncross the connections as required.

The user must manually configure the PC host computer for the IP address of the connected Systems and test equipment.

Examples of Network Interface:

- Network Interface Card (PCI)
- USB to Ethernet adapter
- PCMCIA to Ethernet adapter (laptop computers)

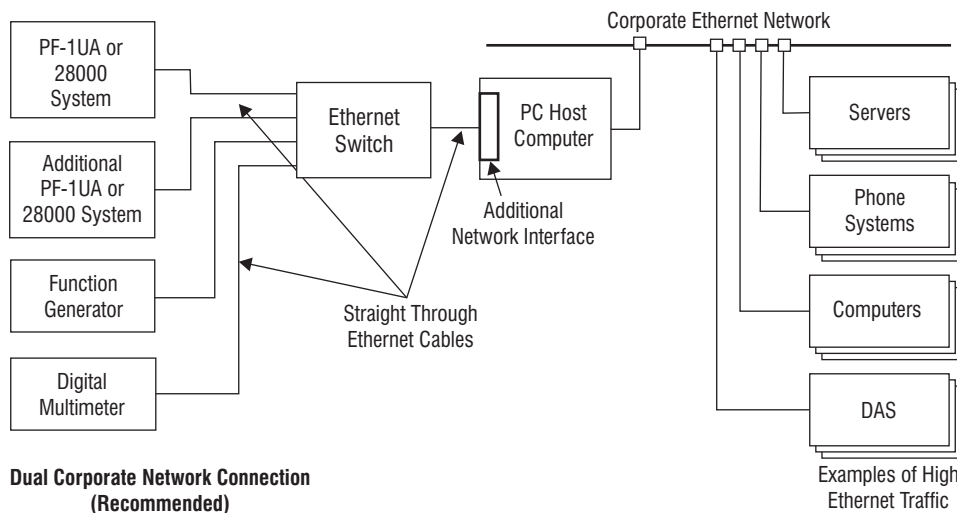


Figure 2.7 Dual Corporate Network Connection Diagram (Recommended)

2.8.4 TEST Connector

The TEST connector is located on the front panel, to the left of the power switch.

2.8.5 MONITOR Connector

The MONITOR Connector is located on the rear panel.

2.8.6 POWER Connection

CAUTION

Do not force the power connect into the power connector, ensure the connector is in the correct orientation.

CAUTION

Do not exceed the maximum voltage input level of 30 VDC.

The input power connector is located at the left side of the rear panel.

The PF-1U-FA requires input power of 12-24 VDC, 75 W typical, applied at the rear panel POWER IN connector.



Figure 2.8 Power Entry, Ground Binding Posts and MONITOR Output Connector

PF-1U-ACDC2 External Power Supply

CAUTION

To insure proper cooling, leave adequate space for air movement around the top and rear ventilation louvers.

For safety concerns, operate the power supply sitting flat on its base. Do not turn the power supply over during installation or normal operation.

One PF-1U-ACDC2 External external switching power supply is provided with each PF-1U-FA system.

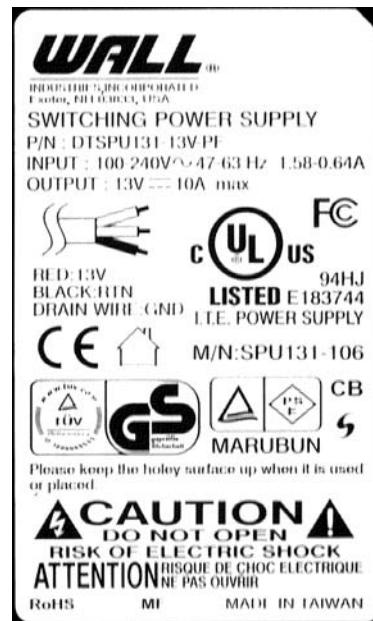


Figure 2.9 PF-1U-ACPS2-120W Power Supply Markings

2.9 MAINTENANCE

The PF-1U-FA does not have any user replaceable parts.

2.10 INSTALLING SYSTEM FIRMWARE

Note: A PC with an RS-232 serial port is required to install system firmware.

The PF-1U-FA supports field upgrade of the controller firmware. A distribution disk provided with the PF-1U-FA includes the appropriate programs and files.

The Rabbit Field Utility program (Copyright 2001, ZWorld, Inc) is used to install the firmware. Use the following procedure to update controller firmware.

Step 1 Create a folder on the host computer to contain PF-1U-FA Utilities software. Copy the contents of the PF-1U-FA Utilities CD-ROM to the new folder.

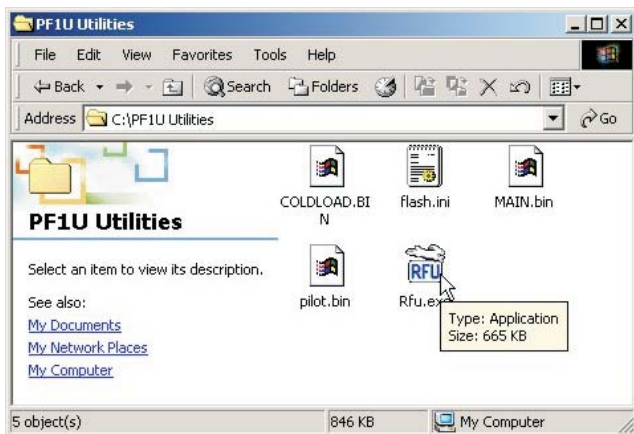


Figure 2.10 PF-1U Utilities Folder

Note: Do not delete or rename COLDLOAD.BIN, Flush.ini or pilot.bin. They are needed by Rfu.exe.

Step 2 Remove power from the system with the front panel POWER switch.

Step 3 Remove the PF-1U-FA bottom cover by remove the six flat head Phillips screws that secure the panel to the frame.

Step 4 Connect an RS-232 cable between the system controller and the RS-232 connector on the motherboard. The connector is located on left front side of the motherboard.

Step 5 Apply power to the PF-1U-FA system.



Figure 2.11 Connection to Programming Port

Step 6 Open the Rfu.exe program.

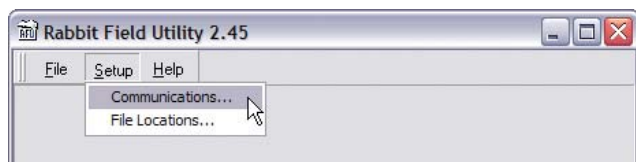


Figure 2.12 Rfu.exe Window

Step 7 Select Communications from the Setup drop-down menu. The Communications Options window is displayed. Enter the baud rate and Com port for your control PC as illustrated, then click 'OK'.

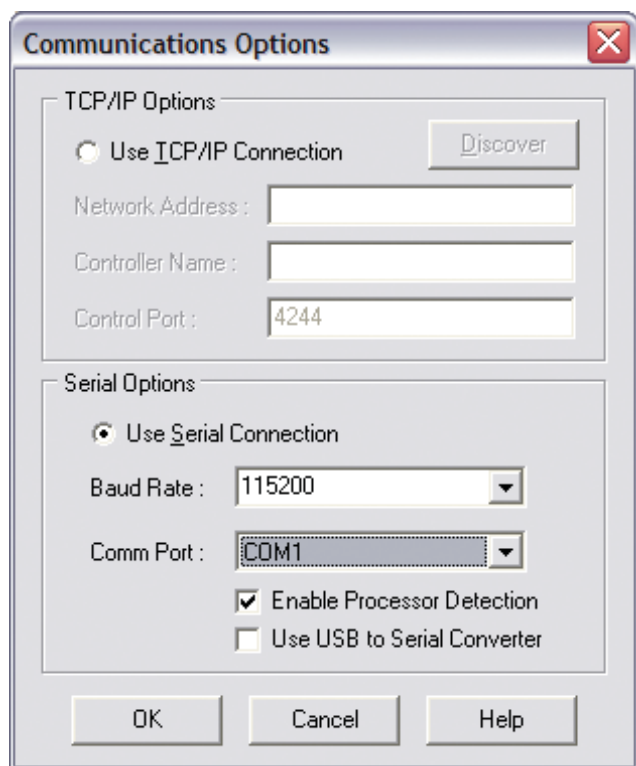


Figure 2.13 Utilities Com Port Setup

Step 8 In the Rabbit Field Utility window, select File Locations from the Setup drop-down menu. In the Choose File Location window, verify that the file locations for the COLDLOAD.BIN, Pilot.BIN and FLASH.INI matches the location of the new folder created in Step 1.

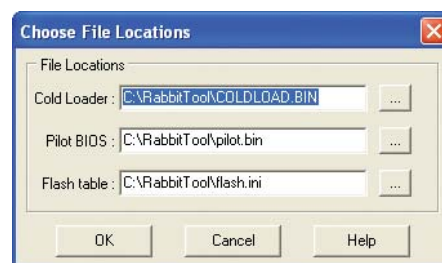


Figure 2.14 Choose File Location

Step 9 In the Rabbit Field Utility window, select the Load Flash Image command from the File drop-down menu.

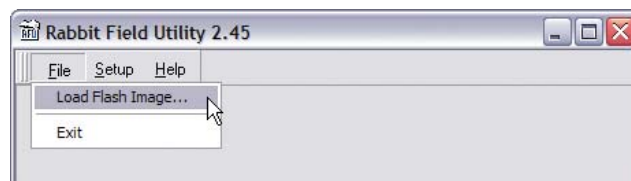


Figure 2.15 Utility File Selection

Step 10 In the Choose Flash Image window, enter the file location if known, or click on the “...” button to browse for the location.

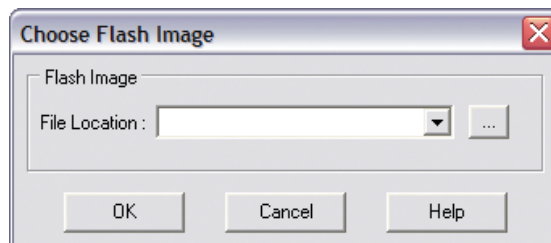


Figure 2.16 Choose Flash Image Panel

Step 11 In the Open window, highlight the binary file to be loaded (i.e., MAIN(version).BIN), and click on 'Open'.

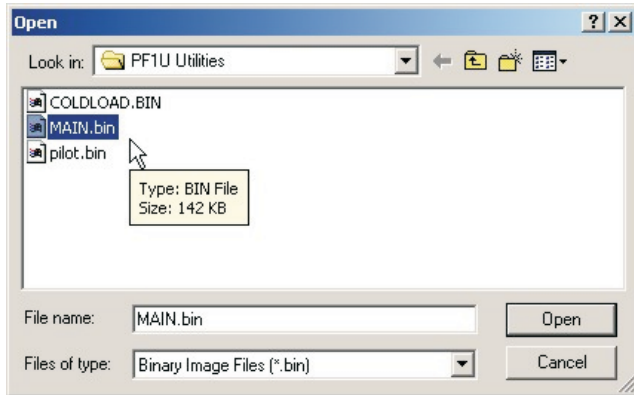


Figure 2.17 Open Window

Step12 In the Choose Flash window the binary file is highlighted. Press 'OK' to initiate the transfer.

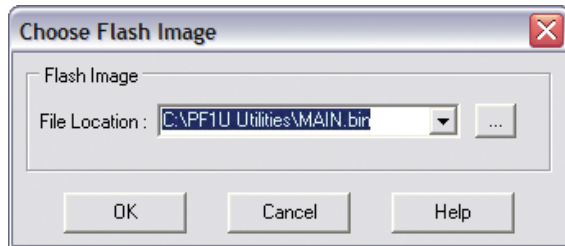


Figure 2.18 Choose Flash Image Panel

Step 13 When the flash image is fully loaded turn the system power off.

Step 14 Remove the RS-232 cable from the Programming connector.

Step 15 Install the bottom cover to the chassis.

Step 16 Apply power to the system.

2.11 ADJUSTMENT PROCEDURES

There are no recommended user adjustments for the PF-1U-FA system.

This page intentionally blank.