Precise Time and Frequency, Inc

ptf 1226 Auto Switch

Operation and Maintenance Manual

Document # 11323
Revision A

Certificate of Conformance

This certificate confirms that the following equipment:

Unit type: ***ptf*** 1226 Auto Switch

Serial Number: _____

has successfully passed a FINAL ACCEPTANCE TEST and conforms in all respects of form, fit, and function to current specifications, including regulatory requirements and certifications.

Inspected and verified by: Date:

_____ _____

For Precise Time and Frequency, Inc

Declaration of Conformity

This certificate confirms that the following equipment:
Unit type: ***ptf* 1226** Auto Switch with Distribution
is in conformity with the relevant provisions of the following standard(s)
or other normative document(s):

EU EMC Directive 89/336/EEC:

EN55022	Limits and methods of measurements of radio disturbance characteristics of information technology equipment
EN61000-3-2 (2001)	Limits for harmonic current emissions (equipment input current up to and including 16A per phase)
EN61000-3-3 (1995)	Limitation of voltage fluctuations/flicker in low voltage supply systems for equipment with rated current # 16A
EN55024 (1998)	Information technology equipment – immunity characteristics - Limits and methods of measurement
EN61000-4-2 (1995)	Electrostatic discharge immunity
EN61000-4-3 (1997)	Radiated, radio frequency, electromagnetic field Immunity
EN61000-4-4 (1995)	Electrical fast transient/burst immunity
EN61000-4-5 (1995)	Surge Immunity
EN61000-4-6 (1996)	Immunity to conducted disturbances, induced by radio frequency fields
EN61000-4-8 (1994)	Power frequency magnetic field immunity
EN61000-4-11 (1994)	Voltage Dips, short interruptions and voltage variations immunity

EU Low Voltage Directive 72/23/EEC:

EN 60950-1 (2000)	Safety of Information Technology Equipment, including electrical business equipment

Introduction

Congratulations on your purchase of the ***ptf*** 1226 Auto Switch with Distribution unit, with a comprehensive remote Monitor/Control interface!

This product meets the highest standards of quality and reliability, and Precise Time and Frequency, Inc wants to insure that you enjoy the maximum benefits and functionality that this unit can provide.

The technology within this unit uses the decades of experience in time and frequency applications of our engineering team, to provide a unit that is highly advanced, and gives a very powerful feature set in an inexpensive and compact package,

Operation of the unit is straightforward and the contents of this manual are designed to provide a basic understanding of the product, set-up and functionality, and procedures for maintenance and repair.

If you have any questions or concerns, please do not hesitate to contact our technical service department who will be pleased to provide assistance.

Please help us to live up to our stated objectives, our company motto is:

KNOW THE NEEDS AND EXPECTATIONS OF YOUR CUSTOMER...THEN DELIVER!

Once again, thank you for purchasing our product, and we look forward to you utilizing Precise Time and Frequency, Inc. for your future time and frequency instrumentation needs.

President
Precise Time and Frequency, Inc.

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1. *ptf* 1226 Auto Switch with Distribution - Technical Overview

The ptf 1226 is an extension on the prvious ptf 1226A, and adds additional inputs capability, additional output capability, and enhanced monitoring and control. The unit is configurable according to application requirements and can house up to 3 channel pairs of auto switch input, and up to 36 distribution outputs all housed in one, 2U high rack mounting unit.

The input signals accommodate either a 13dbm RF sine wave (1volt RMS), a TTL digital input (usually 1PPS), or IRIG B amplitude modulated time code. The channel characteristics are factory configured before shipment.

Each Switching Channel selects the primary input and routes it to a distribution module to provide the required number of outputs. Detection logic embedded in an on-board CPLD on the auto switch modules determines if there is a fault condition on the primary input and then, if so, automatically switches to the backup input, provided the backup input is in a “healthy” condition.

In addition, the unit continuously monitors all switching channel inputs and distribution outputs, and provides a summary fault indication (change over relay contacts) if any one of the primary or backup inputs or any of the distribution outputs is reporting a fault.

The Auto Switch normally outputs the primary channel input signals, and automatically switches to the back-up channel based on health status of the measured inputs

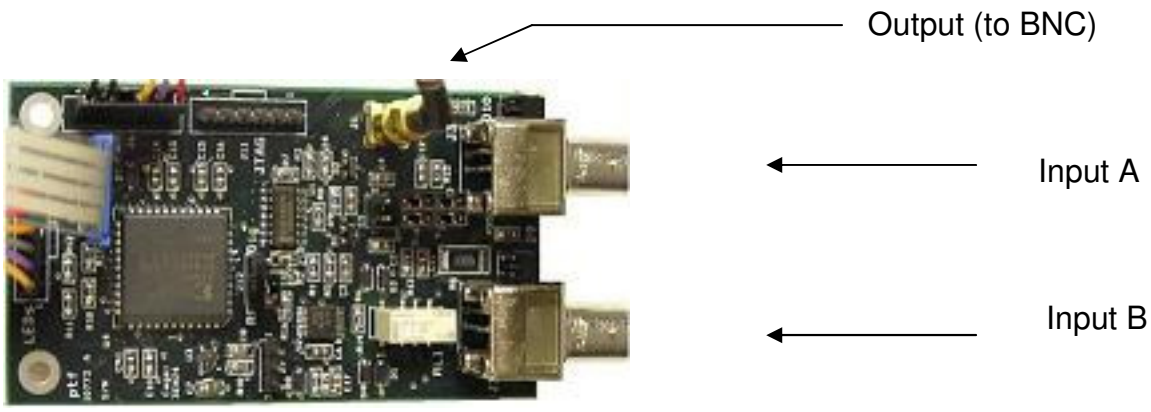


Figure 1. Photograph of internal Auto Switch Module

If the unit is fitted with RF distribution, it will also provide an indication of the analog rms output level. This is derived by means of an RF to analog level converter which is then routed to an on-board A/D converter to be read by the processor module and output via the Monitor/Control interface.

The remote Monitor/Control interface monitors all channel inputs and outputs, and provides a remote Ethernet TCP/IP interface (via telnet), an SNMP interface, and an RS232 serial interface. In addition to monitoring status of the unit, the remote Telnet and Serial interfaces can be used to control individual channel modes (Auto or Manual) and to select channel inputs (Primary or Backup).

2. *ptf* 1226 Auto Switch/Distribution - Specifications

2.1.1. Electrical

RF Inputs – 2 per RF channel*

Frequency Range	900kHz to 20MHz
Level	1V rms/ 13dBm (nominal)
Load Impedance	50Ω
Connectors	BNC

Digital Inputs – 2 per Digital channel*

Frequency Range	0.01 Hz to 10MHz
Levels	TTL low (<0.5V) TTL High(>3V)

Time Code Inputs – 2 per Time Code channel*

Frequency Range	100 Hz to 1MHz
Level	3v pk-pk nominal (High) 1V pk-pk nominal (Low)

Note: Maximum number of input channel pairs (any combination) is 3

Switching

A/B Input Isolation	> 50dB
Switching	automatic < 3ms
Alarm	Front panel Red LED Summary alarm on change over relay.

Distribution Outputs

RF Outputs*

Frequency Range	900kHz to 20MHz
Level	1 V rms/13dBm (nominal) – will accept 0 to 15 dBm
Load Impedance	50Ω
Connectors	BNC

Digital Outputs*

Frequency Range	0.01 Hz to 10MHz	
Levels	TTL low (<0.5V)	TTL High(>3V)
Load Impedance	50Ω	
Connectors	BNC	

IRIG B Time Code Outputs*

Frequency Range	100Hz to 1MHz	
Level	3V pk-pk nominal(high)	1V pk-pk nominal (low)
Load Impedance	50Ω	
Connectors	BNC	

***Note:** Up to a total of 36 outputs maximum of any combination of above in groups of 4.
Example configurations:

Configuration 1	12 RF, 12 Digital, 12 IRIG B
Configuration 2	36 RF
Configuration 3	24 RF, 8 Digital, 4 IRIG B

2.1.2. Power Input

Standard AC power input:

Input voltage	85 to 264 V AC
Input Frequency range	45 to 65 Hz

DC power input:

Input voltage	120 to 270 V DC
Optional DC Supply: (in place of AC input)	18 to 72 VDC

2.1.3. Dimensions

ptf 1226 2U Chassis (HxWxD)	3.5 x 17 x 12 inches

2.1.4. Weight

Chassis	<15 pounds (dependent upon configuration)

2.1.5. Environmental

Operating Temperature:	0º C to +55º C
Storage Temperature:	-40º C to +70º C
Relative Humidity	up to 95% RH non-condensing

3. Unpacking/Inspection/Installation

3.1. Unpacking/Inspection

The ***ptf*** 1226 Auto Switch together with accessories is shipped in a custom designed package. Upon receipt the equipment should first be visually inspected for any signs of visible damage.

If visible damage is apparent immediate notification should be given to both Precise Time and Frequency, Inc., and the carrier responsible for shipment. Do not discard the shipping container, which should be made available for inspection by the carrier.

For purposes of unit reference, the unit serial number located on the rear panel of the unit should be quoted in all communications.

3.2. Chassis Installation

The ***ptf*** 1226 chassis is supplied with rack ears ready for simple installation into a standard 19-inch rack frame/cabinet.
For adequate support when mounted into the rack, a rear supporting bar or tray should be used as the rack ears are designed to secure the unit in the rack, NOT to support the full weight of the unit.

Attention should be given to the internal rack environment to insure the unit operates within it's specified operating temperature range of 0 to 50 deg. C also noting that the unit relies upon convection for cooling, so there should be sufficient air flow to accommodate this.

3.3. Power Connection

Power is supplied by connecting the supplied ac power cable to and AC source, at 120 or 230 V AC, +/-15%. The AC input is a universal input – no range switching is required.

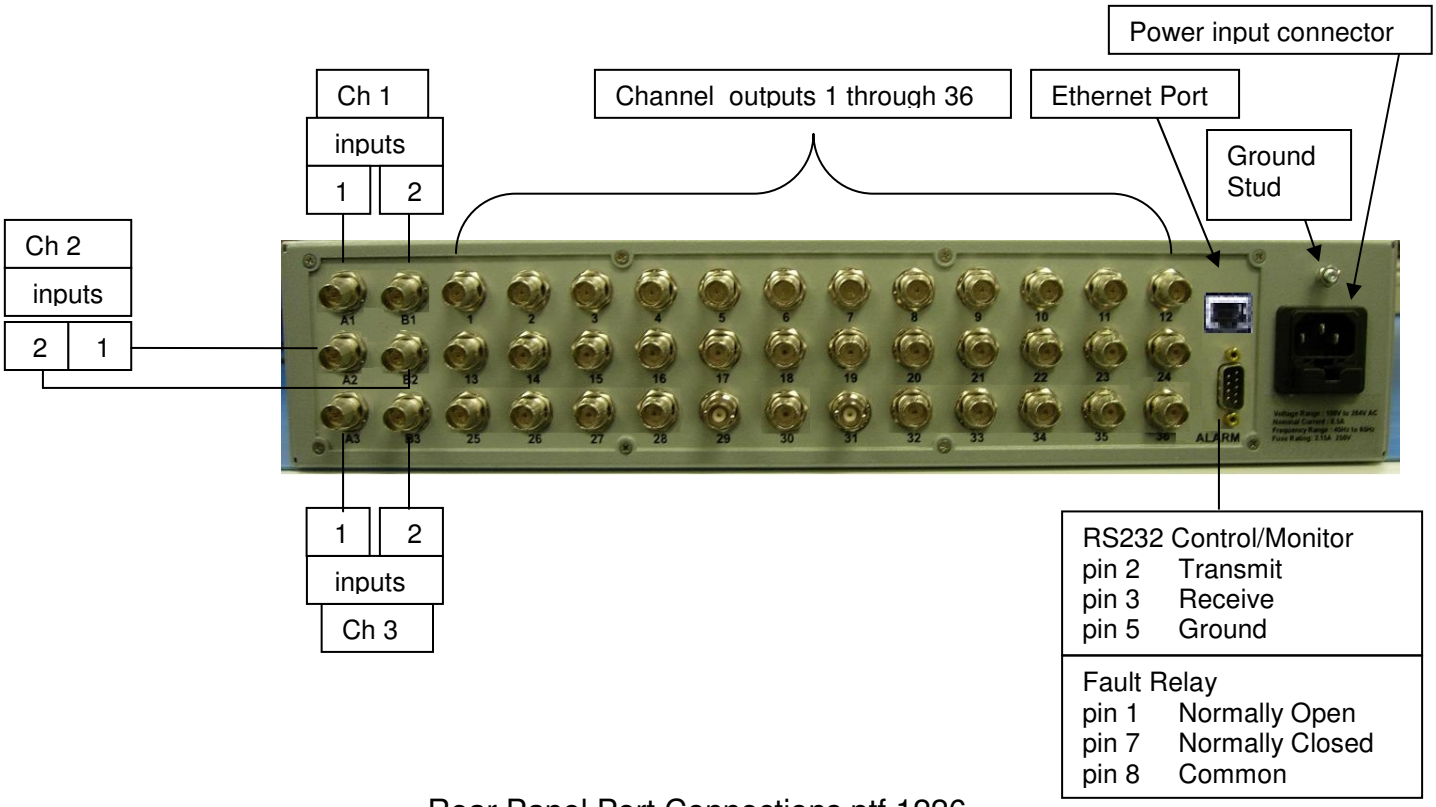
3.4. Input/Output Connections

BNC connectors are provided for the standard ***ptf*** 1226 inputs and outputs.

Connections are shown in the following section.

4. ***ptf*** 1226 – Operation

Operation of the ***ptf*** 1226 is extremely straightforward. Once all of the required input and output connections have been made power can be applied for the unit.



Rear Panel Port Connections ptf 1226

5. Monitor / Control Interfaces

5.1. Telnet

5.1.1. Command Format

The telnet interface is designed as a machine interface, and therefore characters sent to the unit are not echoed as this imposes undue difficulties on the transmitting device. Command format is of the form :

[Command][Space][Data][Enter]

Where;

Command is in the form DXX e.g. D01

Space is ASCII 32(decimal)

Data can be numbers, or characters according to the command

Enter is line feed/CR combination (ASCII 10 dec. and 13 dec.)

All entered characters are converted internally to UPPER CASE, therefore either upper or lower case characters can be used

Some commands are “locked” when the correct conditions are not set, e.g. the CH X input commands can only be executed when the desired channel mode is selected as Manual.

There are also several special commands that are of the form;
[Command][Enter] e.g. the Status command.

Available commands are shown in section 5.1.3

In addition typing ;

[HELP][SPACE][COMMAND][ENTER]
or typing
[COMMAND][SPACE][?][ENTER]

Will display additional help information on the selected command.

5.1.2. Login

To login to the unit via the telnet interface, it is necessary to provide a user name and password. The user name is user definable, e.g. Admin. The password can be numbers only and the default password is 123456.

5.1.3. Commands

Command	Description	Type	Range	Comments
D01	CH1 Input	String	Primary / Backup	Locked when in Auto
D02	CH1 Mode	String	Auto / Manual	
D03	CH2 Input	String	Primary / Backup	Locked when in Auto
D04	CH2 Mode	String	Auto / Manual	
D05	CH3 Input	String	Primary / Backup	Locked when in Auto
D06	CH3 Mode	String	Auto / Manual	
D07	Reserved			
D08	Reserved			
D09	Reserved			
D10	Reserved			
D11	Reserved			
D12	Reserved			
D13	Reserved			
D14	Reserved			
D15	Reserved			
D16	Reserved			
D17	Date (UTC)	String	MM/DD/YYYY	Only valid dates (Manual or NTP)
D18	Time (UTC)	String	HH:MM:SS	24 hour format (Manual or NTP)
D19	IP	xxx.xxx.xxx.xxx	IP address	
D20	NET MASK	xxx.xxx.xxx.xxx	Net Mask	
D21	GATEWAY	xxx.xxx.xxx.xxx	Gateway	
D22	DHCP	String	ON / OFF	
D23	PASSWORD	Number	1 > 2147483647	
D24	Set Default	Password		
D25	Reserved			
D26	Reserved			
D27	Baud Rate	Number	9600 19200	Baud rate for serial port

			57600	
D28	IP SNMP MGR	xxx.xxx.xxx.xxx	IP	IP address of SNMP manager
D29	SNMP Traps	String	On / Off	
D30	IP NTP SERV	xxx.xxx.xxx.xxx	IP	IP address of NTP server
D31	NTP u/d int	Integer	0 to 100000(seconds)	0 = no timeout
D32	Man Timeout	Integer	0 to 100000(seconds)	0 = no timeout
D33	TNET Port	Integer	1 to 65536	Telnet port number
D34	TNET Timer	Integer	0 to 100000(seconds)	0 = no timeout
D48	o/p Act.	Integer	1 to 36	Set output active
D49	o/p Inact.	Integer	1 to 36	Set o/p inactive
LOGOUT	Telnet	String	Logout	Logs out telnet session
HELP	Print Help	String	Help	Prints help menu
VERS	Version	String	Vers	Displays s/w version
Macno	Macno	String	Macno	Display unit MAC #
Reset	Unit Reset	String	Reset	Restarts unit
Status	Unit Status	String	Status	Give channel status
OPSTAT	Digital Status	String	OPSTAT	
ANSTAT	Analog Stat.	String	ANSTAT	Analog o/p values
D34	Reserved			
D35	Reserved			
D36	Reserved			
D37	Reserved			
D38	Reserved			
D39	Reserved			
D40	Reserved			
D41	Reserved			
D42	Reserved			

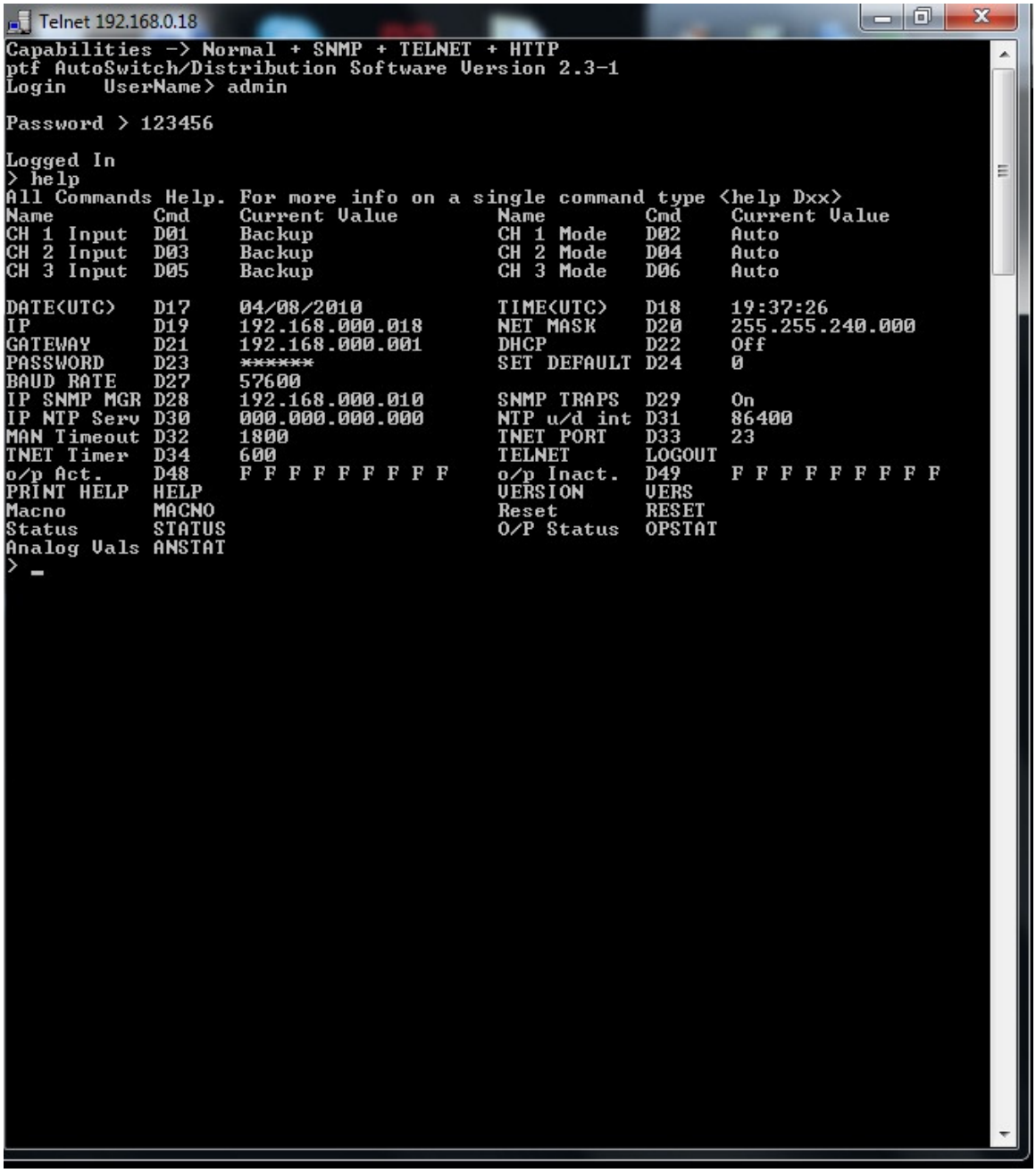
5.1.4. Help Screens

When used with a standard interface such as Hyper terminal, it can be helpful to be able to quickly see available commands and their formats.

The unit includes both a summary help screen, that provides a quick reference for available commands, and reports the currently set values of the various parameters, and also multi-line help for each of the commands.

The summary screen is accessed by typing;
[HELP][ENTER]
at the command prompt and the multi line help for a single command is accessed by typing either;
[HELP][SPACE][COMMAND][ENTER] or
[COMMAND][SPACE][?][ENTER]

Examples of the help screens as displayed using the windows telnet utility are shown below;

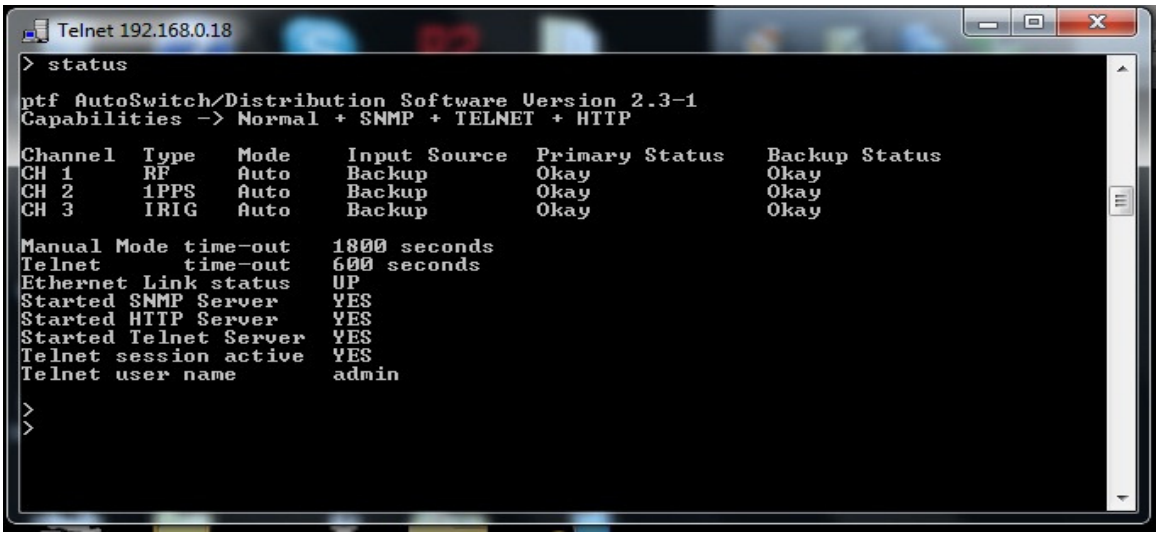


Summary Help Screen

Expanded help on specific commands

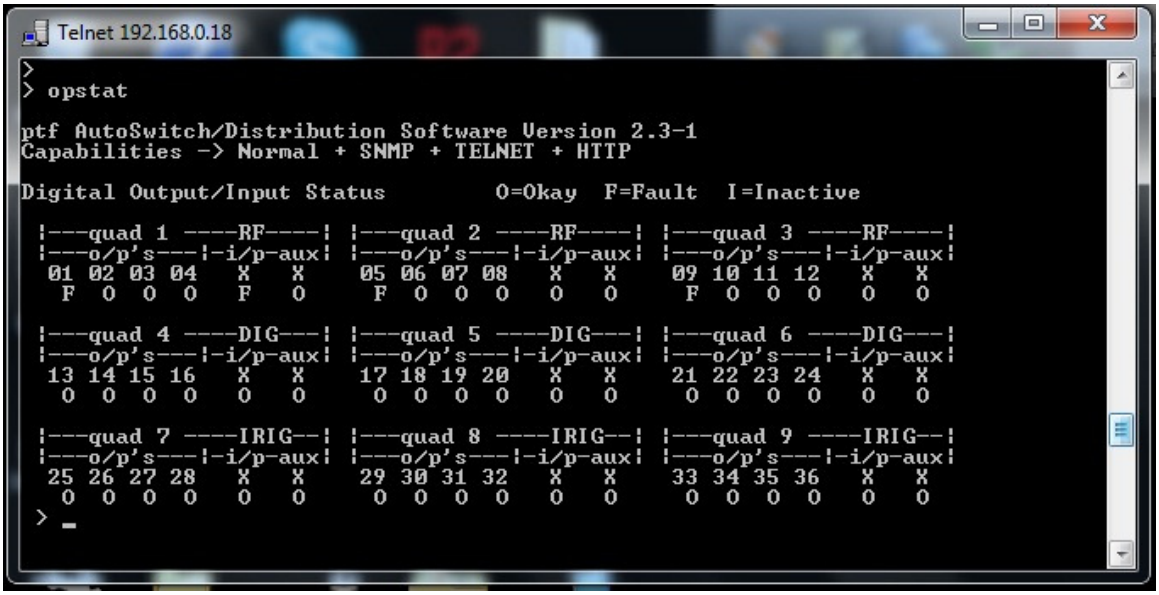
5.1.5. Status, Opstat, and Anstat Commands

The **Status** command is provided as a means of obtaining a quick summary of the status of the unit, and provides summary information on each of the Auto switch channels, together with other settings such as the Manual mode and telnet timeouts, Ethernet status etc.



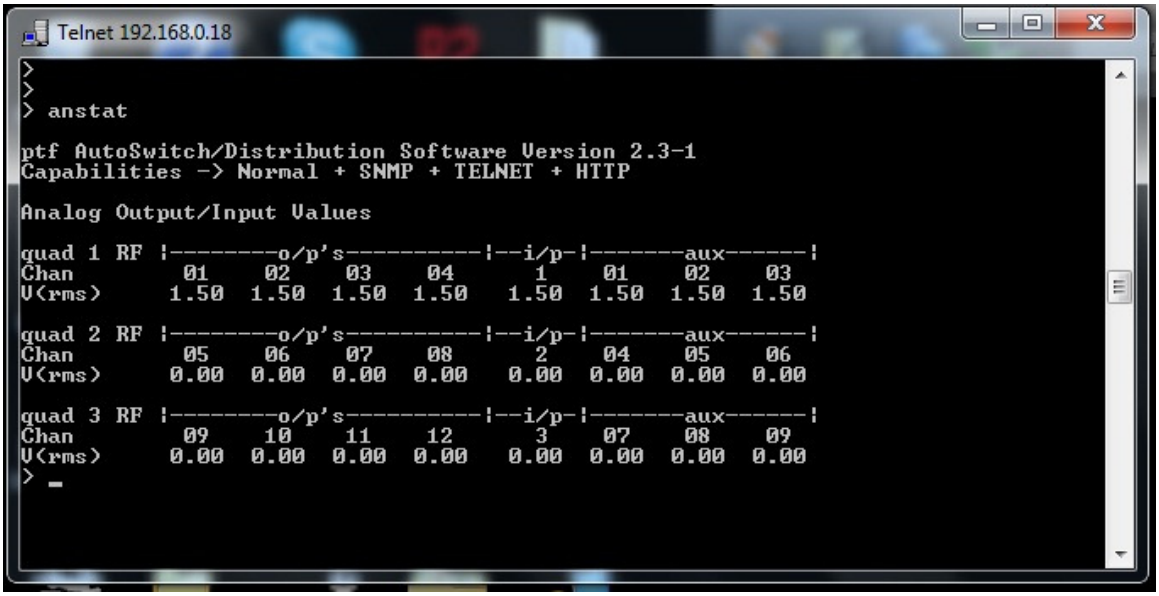
Status Screen

The **OPstat** command is provides a summary of the status of the Digital Outputs, and provides summary information on each of the output channels.



Opstat Screen

The **Anstat** command is provides a summary representation of the analog RF output values for each of the RF channel inputs and outputs.



Anstat Screen

Note:

Internally the outputs are provided through individual modules referred to as “Quad Blocks”, providing 4 outputs (either RF, Digital, or Time Code) per module.

The unit is also divided into three rows of 12 outputs, the top row being referred to as Row A, the middle as row B, and the bottom as row C. Typically Quad Blocks of the same type will be fitted in the same row, with the maximum number of Quad Blocks per row being three. Standard configuration practice is to fit RF Quad Blocks in row A, Digital in row B, and Time Code in row C, however some configurations may not permit this i.e. if the unit is configured with 24 RF outputs (6 RF quad blocks), 4 Digital outputs(1 Digital quad block), and 4 Time Code outputs (1 Time Code quad block), the RF quad blocks would be fitted in rows A and B, and the Digital and Time Code quad blocks would be fitted in row C.

5.2. RS 232

5.2.1. Configuration

The RS232 port factory default setting is 57600-8N1, but may be changed through the RS232 menu.

5.2.2. Command Format

The RS232 command format has been designed to have an identical look and feel as the telnet interface. The main difference is that the RS232 is primarily provided for local control and therefore the commands are echoed.

For the command format please refer to section 5.1.1

5.2.3. Login

As the RS232 is designed for local access, no login is required to access this capability as physical presence is assumed.

5.2.4. Commands

Available commands are exactly the same as for the telnet interface. Please refer to section 2.1.3

5.2.5. Help Screens

The RS232 Help Screens are identical to those provided on the telnet interface. Please refer to section 2.1.4

5.2.6. Status Command

Format of the Status command is exactly the same as the format for the telnet interface. Please refer to section 2.1.5

5.3. SNMP Agent

5.3.1. General

The Auto switch/Distribution unit includes an SNMP agent (SNMPv1) using the standard UDP interface and providing basic information on the unit (location, capabilities etc.) together with traps on alarm conditions that are sent to the address set as the SNMP manager IP address.

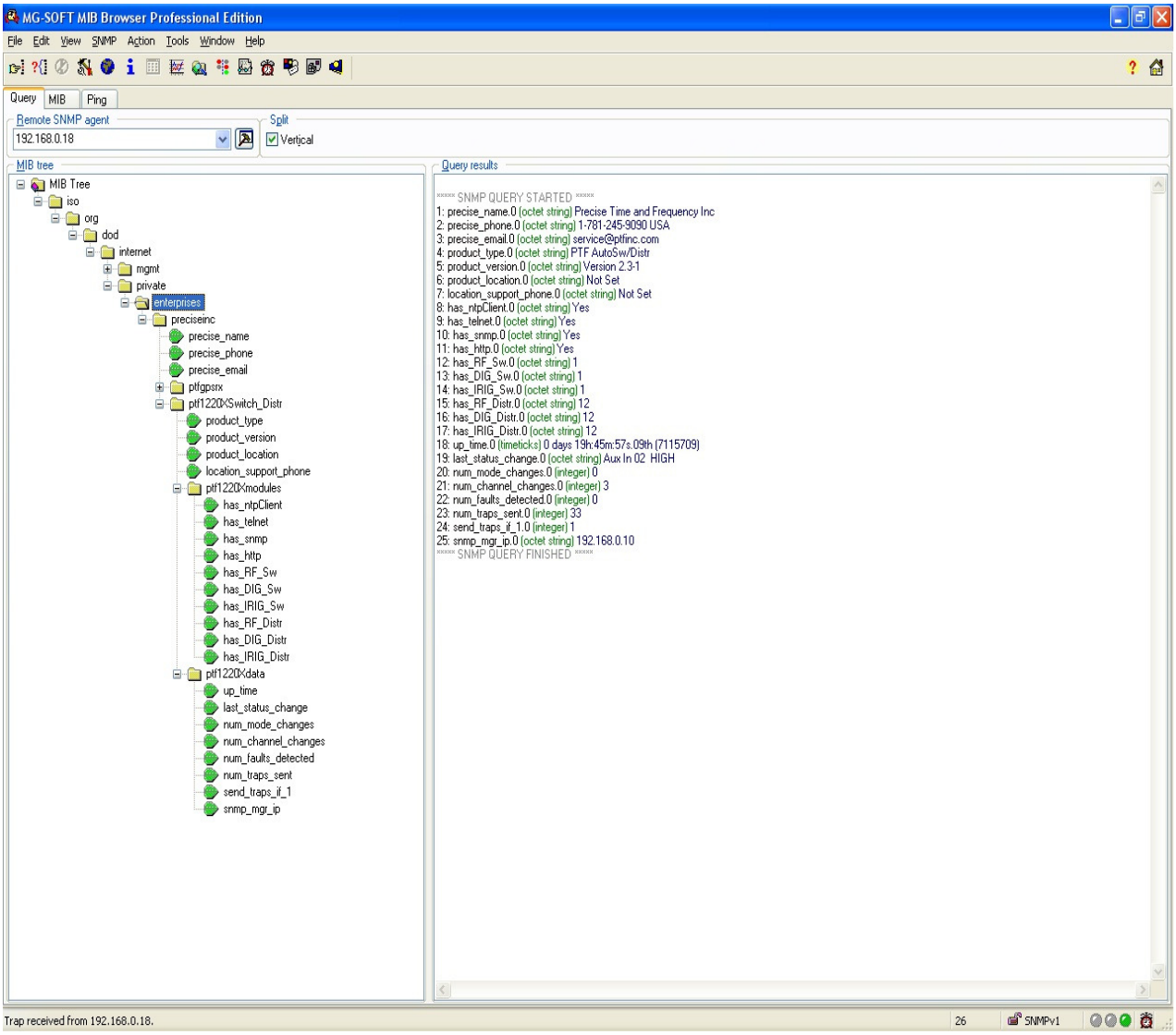
5.3.2. SNMP Queries and Traps

SNMP traps are available to provide summary event information to the SNMP manager. Specific traps available are;

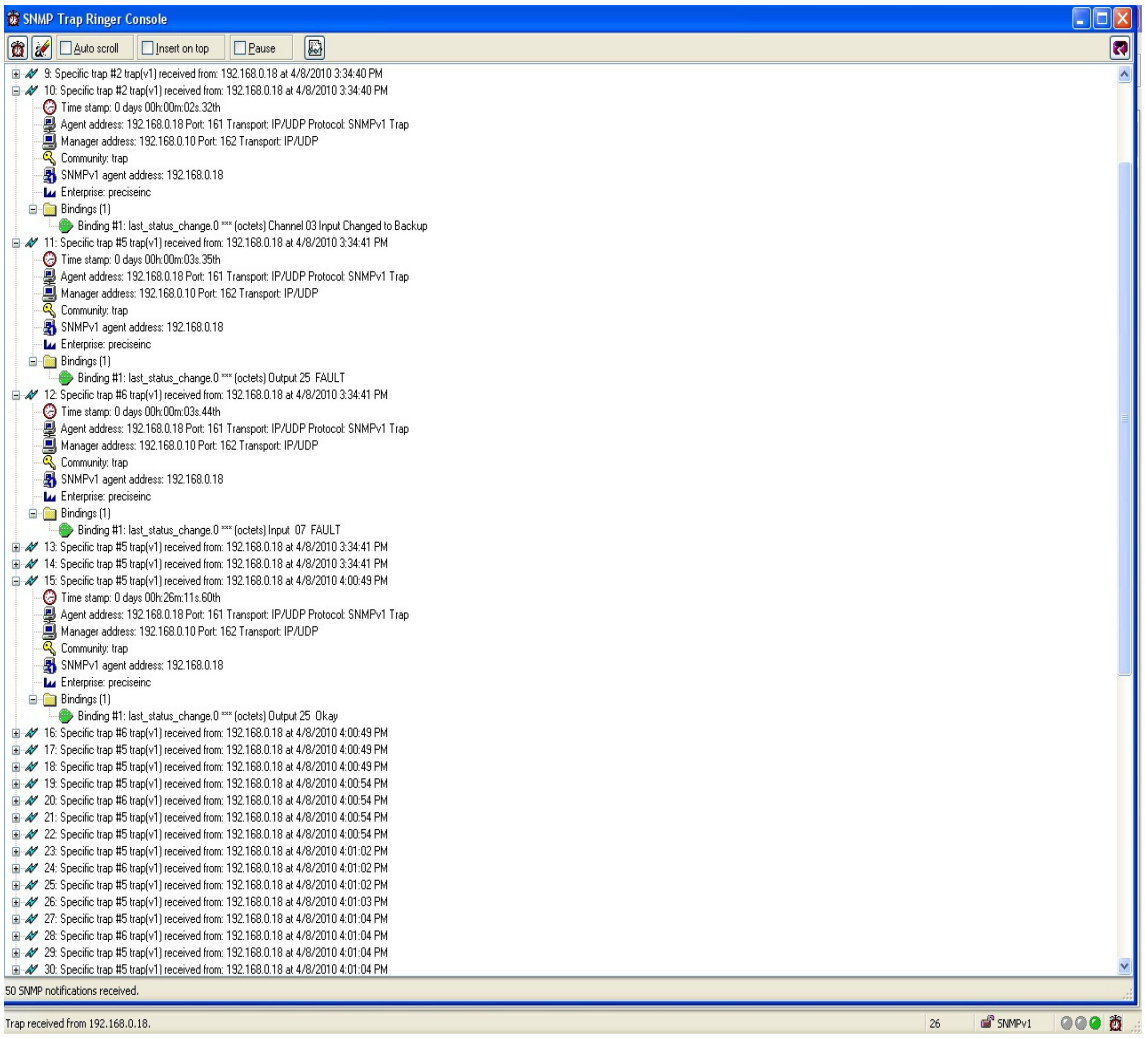
Trap#1	Channel Mode Change (Auto/Manual)
Trap#2	Channel Input Change (Primary/Backup)
Trap#3	Channel Primary Input Status (Fault/Okay)
Trap#4	Channel Backup Input Status(Fault/Okay)
Trap#5	Input Status Change (Fault/Okay)
Trap#6	Output Status Change (Fault/Okay)
Trap#7	Auxiliary Input Status Change (High/Low)

Traps can be enabled or disabled from either the telnet or the serial Monitor/Control interface, or the SNMP interface.

Screen shots of the SNMP Query screen and trap ringer console after initiating a number of “trap” events, are shown below;



SNMP Query Screen



SNMP Trap Ringer Screen

5.4. SNMP SMI/MIB Files

The SMI and MIB files for the SNMP manager are shown in the following pages;

SMI File;

```
-- ****************************************************************
-- Precise-SMI.txt:  Precise Time and Frequency Enterprise
--                   Structure of Management Information
--
-- September 2003  Les Herbst
--
-- Copyright (c) 2003 by PTF Inc
-- All rights reserved.
--
-- ****************************************************************

Precise-SMI DEFINITIONS ::= BEGIN

IMPORTS
        OBJECT-TYPE
                FROM RFC-1212
        enterprises,
        mgmt
                FROM RFC1155-SMI;
--
-- Node Definitions
--

   -- try and add a small subset of SNMP2
   -- 1.3.6.1.2.1
   mib-2 OBJECT IDENTIFIER ::= { mgmt 1 }

   -- 1.3.6.1.2.1.1
   system OBJECT IDENTIFIER ::= { mib-2 1 }

        -- 1.3.6.1.4.1.18507
        preciseinc OBJECT IDENTIFIER ::= { enterprises 18507 }

        -- 1.3.6.1.2.1.1.1
        ptfproduct OBJECT IDENTIFIER ::= { system 1 }

   -- Note, leaf nodes under ptfproduct 1-4 are
   -- prod type
        -- prod version
        -- prod location
        -- prod local support phone
        -- then comes modules folder
   -- 1.3.6.1.2.1.1.1.5
   ptfmodules OBJECT IDENTIFIER ::= { ptfproduct 5 }

    -- 1.3.6.1.2.1.1.1.6
   ptfdata OBJECT IDENTIFIER ::= { ptfproduct 6 }


END
```

MIB File;

```
-- ***************************************************************
-- ***************************************************************
-- -- Copyright 2009 Precise Time and Frequency Inc
--
-- DESCRIPTION:
--    This file contains the ptf 1220X Auto Switch with Distribution
--    Remote Monitor private MIB.
--
-- ***************************************************************
-- ***************************************************************


PRECISE1220Xv3-MIB DEFINITIONS ::= BEGIN


IMPORTS
  OBJECT-TYPE
     FROM RFC-1212
  preciseinc
-- ptf1220Xswitch_distr,
-- ptf1220Xmodules,
-- ptf1220Xdata
  FROM Precise-SMI;


         -- 1.3.6.1.4.1.18507.9
  ptf1220XSwitch_Distr OBJECT IDENTIFIER ::= { preciseinc 9 }

   -- Note, leaf nodes under ptfproduct 1-4 are
   -- prod type
  -- prod version
  -- prod location
  -- prod local support phone
  -- then comes modules folder
   -- 1.3.6.1.4.1.18507.9.7.10
   ptf1220Xmodules OBJECT IDENTIFIER ::= { ptf1220XSwitch_Distr 7 }

    -- 1.3.6.1.4.1.18507.9.8.8
   ptf1220Xdata OBJECT IDENTIFIER ::= { ptf1220XSwitch_Distr 8 }

   -- 1.3.6.1.4.1.18507.1
   precise_name OBJECT-TYPE
     SYNTAX OCTET STRING
     ACCESS read-only
     STATUS mandatory
     ::= { preciseinc 1 }
```

```
 -- 1.3.6.1.4.1.18507.2
precise_phone OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-only
  STATUS mandatory
  ::= { preciseinc 2 }

-- 1.3.6.1.4.1.18507.3
precise_email OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-only
  STATUS mandatory
  ::= { preciseinc 3 }

-- So it goes private-enterprises-preciseinc - ptfproduct -producttype
-- assume only one 'product' or device  handled by one resident snmp agent
-- on that product
-- 1.3.6.1.4.1.18507.9.1
product_type OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-only
  STATUS mandatory
  ::= { ptf1220XSwitch_Distr 1 }

-- 1.3.6.1.4.1.18507.9.2
product_version OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-only
  STATUS mandatory
  ::= { ptf1220XSwitch_Distr 2 }

-- 1.3.6.1.4.1.18507.9.3
product_location OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-write
  STATUS mandatory
  ::= { ptf1220XSwitch_Distr 3 }

-- 1.3.6.1.4.1.18507.9.4
location_support_phone OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-write
  STATUS mandatory
  ::= { ptf1220XSwitch_Distr 4 }

-- 1.3.6.1.4.1.18507.9.7.1
has_ntpClient OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-only
```

```
  STATUS mandatory
  ::= { ptf1220Xmodules 1 }

-- 1.3.6.1.4.1.18507.9.7.2
has_telnet OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-only
  STATUS mandatory
  ::= { ptf1220Xmodules 2 }

-- 1.3.6.1.4.1.18507.9.7.3
has_snmp OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-only
  STATUS mandatory
  ::= { ptf1220Xmodules 3 }

-- 1.3.6.1.4.1.18507.9.7.4
has_http OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-only
  STATUS mandatory
  ::= { ptf1220Xmodules 4 }


-- 1.3.6.1.4.1.18507.9.7.5
has_RF_Sw OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-only
  STATUS mandatory
  ::= { ptf1220Xmodules 5 }

-- 1.3.6.1.4.1.18507.9.7.6
has_DIG_Sw OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-only
  STATUS mandatory
  ::= { ptf1220Xmodules 6 }

-- 1.3.6.1.4.1.18507.9.7.7
has_IRIG_Sw OBJECT-TYPE
  SYNTAX OCTET STRING
  ACCESS read-only
  STATUS mandatory
  ::= { ptf1220Xmodules 7 }


-- 1.3.6.1.4.1.18507.9.7.8
has_RF_Distr OBJECT-TYPE
```

```
    SYNTAX OCTET STRING
    ACCESS read-only
    STATUS mandatory
    ::= { ptf1220Xmodules 8 }

  -- 1.3.6.1.4.1.18507.9.7.9
  has_DIG_Distr OBJECT-TYPE
    SYNTAX OCTET STRING
    ACCESS read-only
    STATUS mandatory
    ::= { ptf1220Xmodules 9 }

  -- 1.3.6.1.4.1.18507.9.7.10
  has_IRIG_Distr OBJECT-TYPE
    SYNTAX OCTET STRING
    ACCESS read-only
    STATUS mandatory
    ::= { ptf1220Xmodules 10 }




--
--
--

  -- 1.3.6.1.4.1.18507.9.8.1
  up_time OBJECT-TYPE
    SYNTAX   TimeTicks
    ACCESS read-only
    STATUS mandatory
    ::= { ptf1220Xdata 1}

  -- 1.3.6.1.4.1.18507.9.8.2
  last_status_change OBJECT-TYPE
    SYNTAX OCTET STRING
    ACCESS read-only
    STATUS mandatory
    ::= { ptf1220Xdata 2}

  -- 1.3.6.1.4.1.18507.9.8.3
  num_mode_changes OBJECT-TYPE
    SYNTAX   Counter
    ACCESS read-only
    STATUS mandatory
```

```
    ::= { ptf1220Xdata 3 }

  -- 1.3.6.1.4.1.18507.9.8.4
  num_channel_changes OBJECT-TYPE
    SYNTAX   Counter
    ACCESS read-only
    STATUS mandatory
    ::= { ptf1220Xdata 4 }

  -- 1.3.6.1.4.1.18507.9.8.5
  num_faults_detected OBJECT-TYPE
    SYNTAX   Counter
    ACCESS read-only
    STATUS mandatory
    ::= { ptf1220Xdata 5 }


  -- 1.3.6.1.4.1.18507.9.8.6
  num_traps_sent OBJECT-TYPE
    SYNTAX   Counter
    ACCESS read-only
    STATUS mandatory
    ::= { ptf1220Xdata 6 }


--
-- Command and Control
--

  -- 1.3.6.1.4.1.18507.9.8.7
  send_traps_if_1 OBJECT-TYPE
    SYNTAX   Counter
    ACCESS read-write
    STATUS mandatory
    ::= { ptf1220Xdata 7 }

  -- 1.3.6.1.4.1.18507.9.8.8
  snmp_mgr_ip OBJECT-TYPE
    SYNTAX OCTET STRING
    ACCESS read-write
    STATUS mandatory
    ::= { ptf1220Xdata 8 }

END
```

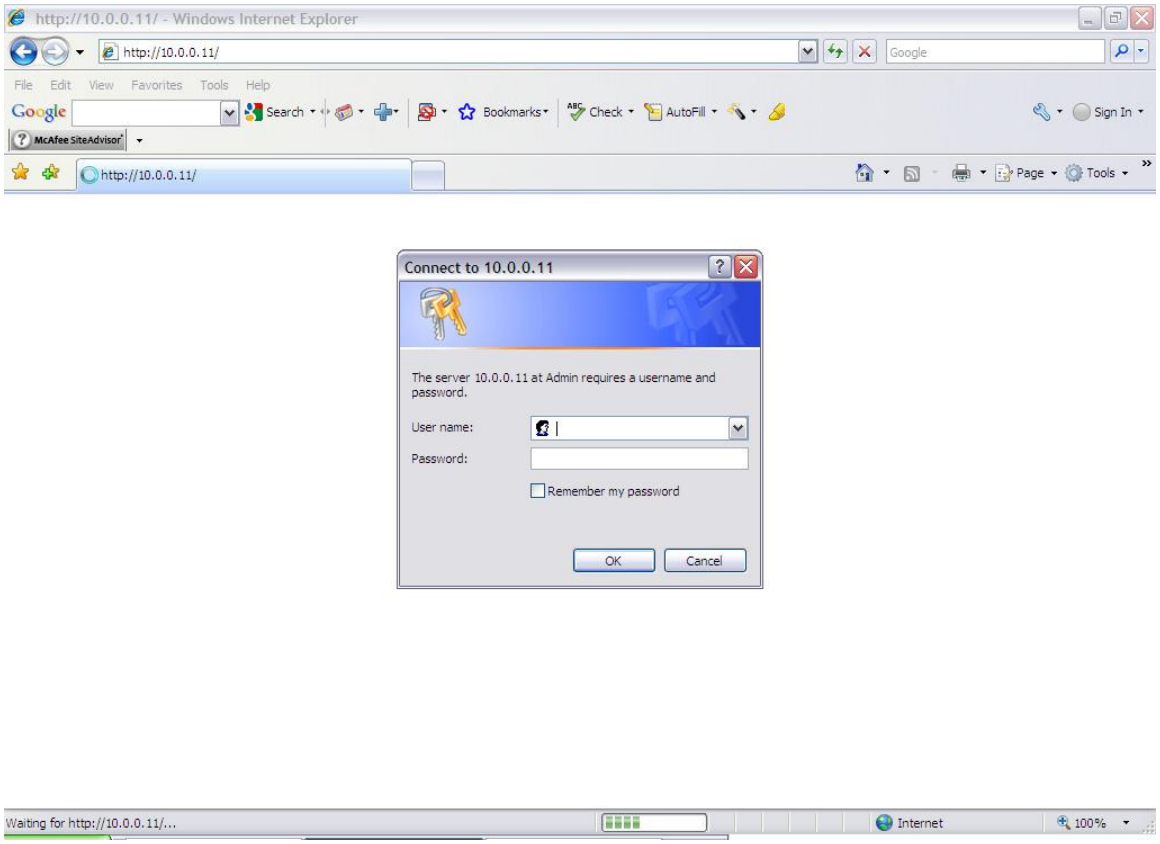
5.5. HTTP, Web Interface

The ptf 1226 web interface allows a sub set of the commands to be entered via a web page through a standard web browser. The commands available on the web interface are shown in the table below, and can also be viewed on the web interface “vali commands” page;

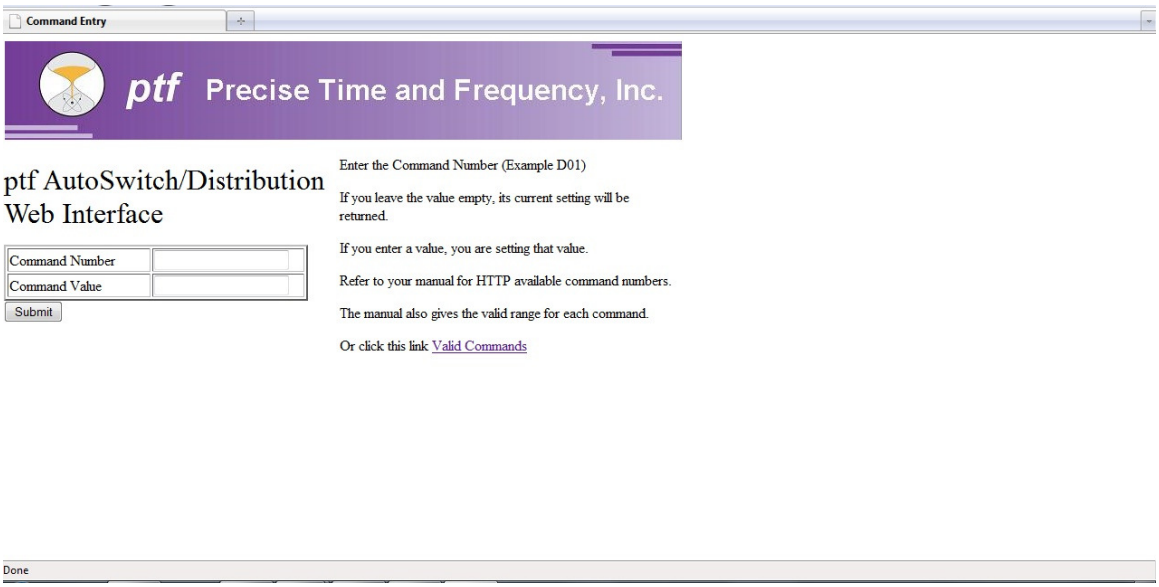
Command	Description	Type	Range	Comments
D01	CH1 Input	String	Primary / Backup	Locked when in Auto
D02	CH1 Mode	String	Auto / Manual	
D03	CH2 Input	String	Primary / Backup	Locked when in Auto
D04	CH2 Mode	String	Auto / Manual	
D05	CH3 Input	String	Primary / Backup	Locked when in Auto
D06	CH3 Mode	String	Auto / Manual	
D17	Date (UTC)	String	MM/DD/YYYY	Only valid dates (Manual or NTP)
D18	Time (UTC)	String	HH:MM:SS	24 hour format (Manual or NTP)
D19	IP	xxx.xxx.xxx.xxx	IP address	
D20	NET MASK	xxx.xxx.xxx.xxx	Net Mask	
D21	GATEWAY	xxx.xxx.xxx.xxx	Gateway	
D22	DHCP	String	Off or On	
D23	Password	integer	Numbers only	
D27	Serial Port Baud Rate	9600, 19200, or 57600		
D28	IP snmp mgr	xxx.xxx.xxx.xxx		
D29	SNMP traps	String	ON or OFF	
D30	IP NTP serv.	xxx.xxx.xxx.xxx		
D31	NTP update	integer	0, 2 to 100000	0=no update
D32	Man. timeout	integer	0 to 100000 secs	0=no timeout
D33	Telnet Port	integer	1 to 65536	Default=23
D34	Tnet timeout	integer	1 to 100000 secs	0=no timeout
Status	Status	string	Status	Give channel status
Anstat	Analog stats	string	Anstat	Analog o/p values
Logout	Logout telnet			
Reset	System restart			

5.5.1. Web pages

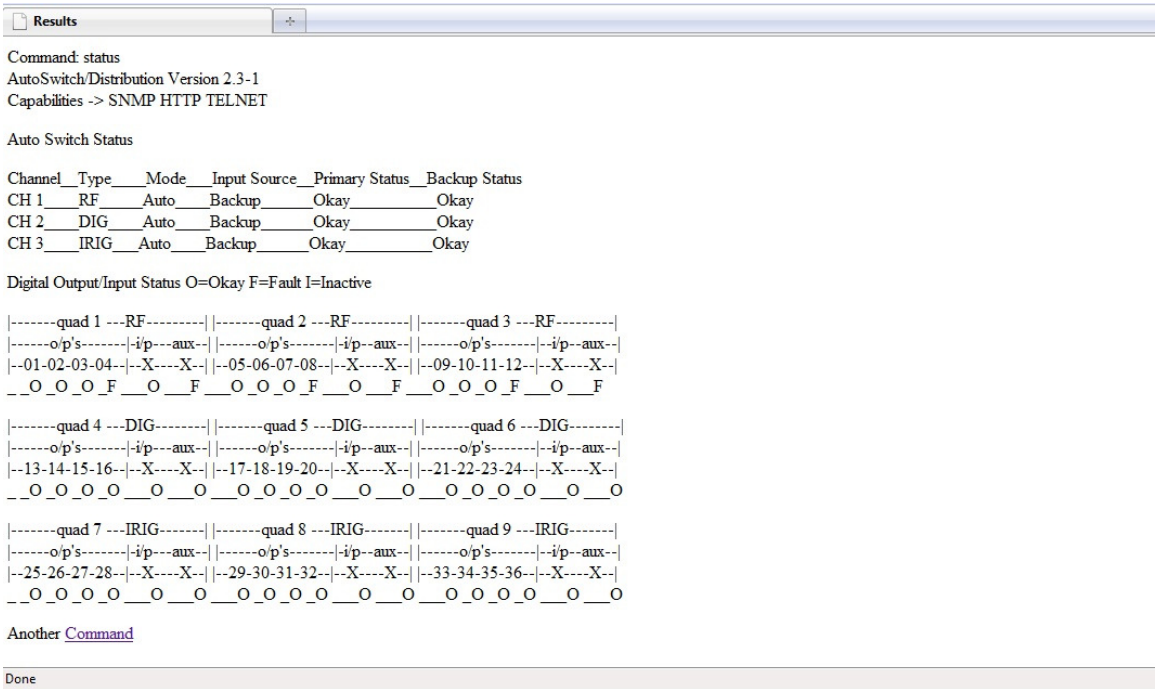
To log onto the web pages the user must enter a user name and the system password. User name for the web interface is “admin” (all lower case).The log in screen and web pages are shown below;



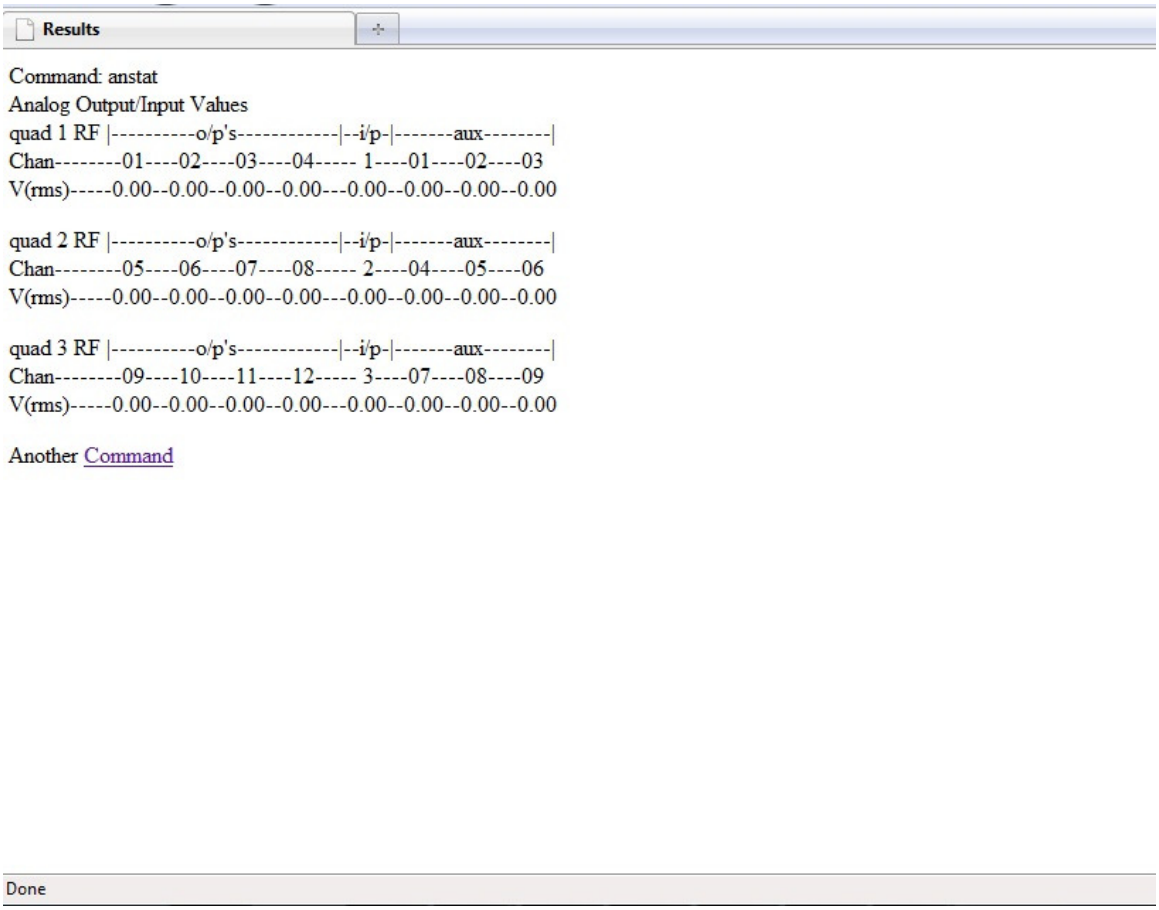
Login Screen



Command Entry Page



Status Response Page



Anstat Response Page

To logout of the web interface close the browser.

5.6. Local (Front Panel)

The ptf 1226 Auto switch/Distribution unit front panel layout is shown below;

Front Panel Layout

5.6.1. Commands

Each of the (three) input channels of the unit can be configured as either in Auto or Manual mode.

If a channel is in Auto mode, the Auto switch monitors the health of the selected input and if the selected input goes unhealthy, the channel will automatically switch to the other input.

Each channel of the unit can be toggled between Auto and Manual mode by momentarily depressing the MODE membrane switch for that channel.

If a channel is in Manual mode, the input channel can be switched by momentarily pressing the CHANNEL membrane switch. Pressing the CHANNEL switch again will toggle the channel back to the original input. In Auto mode the CHANNEL switch is not operational.

5.6.2. Monitors

Each switch channel includes indicators for channel mode (red LED illuminates when channel mode is selected as Manual) and bi-color green /red LEDs for channel input selected (green=primary, red=backup).

When in Auto mode, the unit will not switch to a faulty input, even if the currently selected input goes into fault. In Manual mode, the input can be switched regardless of whether or not the destination input is in a fault mode. A local summary alarm monitor is provided on a 9 pin D type connector located on the unit rear panel. The output is on clean relay contacts.

6. Maintenance

6.1. Overview

The ***ptf*** 1226 Auto Switch/Distribution unit uses state-of-the art solid state and semi-conductor, primarily surface mount, components.

All of the components are selected for their inherent high reliability, and advanced techniques with highly sophisticated equipment, are used for assembly and test of the unit.

Due to the above, no periodic maintenance of the unit is required and the units can be expected to deliver many years of trouble free operation.

Any maintenance or service of the unit should be performed at a Precise Time and Frequency, Inc. authorized facility, to insure the appropriate equipment and expertise is available.

7. Contact Information – Technical Assistance

   The Precise Time and Frequency, Inc service department normal hours of operation are from Monday to Friday, between the hours of 8.00 a.m. and 5.00 p.m. US Eastern Standard Time.

   Before returning any equipment for service or repair please contact our service department for an RMA number.

   Tel: (+1) 781 245 9090
   Fax: (+1) 781 245 9099
   E-mail: service@ ptfinc.com

   Shipping address is:

   Precise Time and Frequency, Inc.
   50L Audubon Road
   Wakefiel, MA 01880
   USA

   Attn: Service Manager

   Billing address is:

   Precise Time and Frequency, Inc.
   50L Audubon Road
   Wakefield, MA 01880
   USA

   Attn: Accounts