

APANTAC CP-16 16 Button IP Control Panel



APANTAC CP-16 16 Button IP Control Panel User Manual

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APANTAC CP-16 16 Button IP Control Panel



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3. Caused by installation of the Product in a hostile operating environment or connection of the Product to incompatible equipment;

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2. Key Features
3. Specifications
4. Front/Rear Panels

Specifications

- Manufacturer: APANTA LCC
- Location: Porland, Oregon, USA
- Warranty Period: 3 years
- Dimensions: [insert dimensions]
- Weight: [insert weight]
- Power Requirements: [insert power requirements]

- Compatibility: [insert compatibility information]

Product Usage Instructions

What's in the Box

The CP-16 package includes:

- CP-16 unit
- Power adapter
- User manual

Key Features

- [Insert key feature 1]
- [Insert key feature 2]
- [Insert key feature 3]

Specifications

The CP-16 specifications include:

- Dimensions: [insert dimensions]
- Weight: [insert weight]
- Power Requirements: [insert power requirements]
- Compatibility: [insert compatibility information]

Front/Rear Panels

The CP-16 features the following front and rear panels:

- [Insert description of front panel]
- [Insert description of rear panel]

FAQ

How do I install the CP-16?

To install the CP-16, follow these steps:

1. [Insert step a]
2. [Insert step b]
3. [Insert step c]

How do I connect the CP-16 to other equipment?

To connect the CP-16 to other equipment, use the provided cables and follow these steps:

1. [Insert step a]
2. [Insert step b]
3. [Insert step c]

What is the warranty period for the CP-16?

The warranty period for the CP-16 is three (3) years from the date of shipment.

What should I do if the CP-16 is defective?

If the CP-16 is defective during the warranty period, you can choose to have it repaired, replaced, or receive damages subject to the limitation of liability. Please contact Apantac for further assistance.

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WHAT'S IN THE BOX

- 1 x CP-16

- 1 x Rack Mount Kit
- 1 x RJ50 to DB9 cable with terminal block for GPI/Tally
- 1 x RJ45 to DB9 cable for RS-232
- 1 x DC 5V 3.2A Power Adapter
- 1 x Manual

Important Note:

Default IP address: 192.168.1.151

Key Features

- 16 programmable LED buttons
- First 8 buttons can also be used as GPI triggers
- Built-in web page setup, can be easily accessed by any web browser

Specifications

Description	16 Button Control Panel
Software	Built-in web interface
Connectors	
IP	100 Base-Tx, Ethernet TCP/IP on RJ45 port
GPIO	8 lines on 10-wire RJ50 port (adapter cable/breakout provided)
RS232	Serial on RJ45 connector (adapter cable provided). (Serial port use not currently available in firmware)
EMI/RFI	Complies with FCC Part 15, Class A, CE, EU, EMC, C-tick
Power	DC 5-Volt, 3.2 Amp power adapter
Size	440mm W x 125mm D x 44mm H (not including rack mounting 'rack-ears')
Mounting	Rack mount, 1 rack unit in height

Front/Rear Panels

Front Panel



Figure 4-1 CP-16 Front Panel

Rear Panel

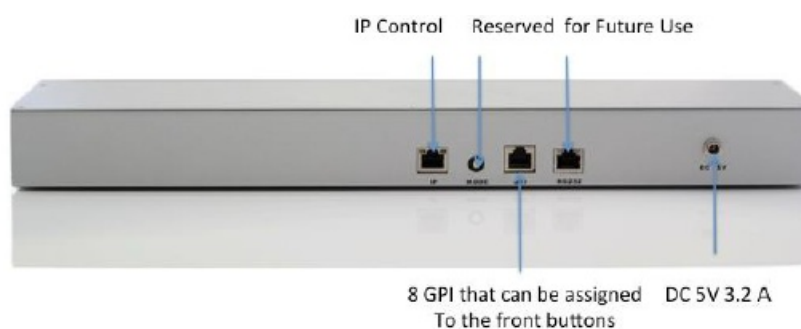







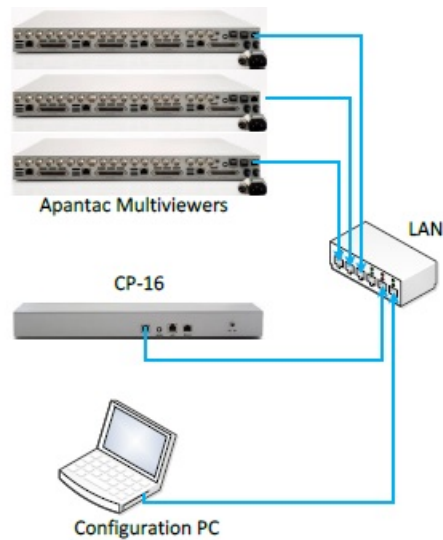
Figure 4-2: CP-16 Rear Panel

Accessories

	
Power Adapter	2 x Mounting Plate
	
RJ50 to DB9 Cable for GPI/O	RJ45 to DB9 Cable for RS-232
	
Terminal Block for GPI/O	

Installation

Ethernet Wiring



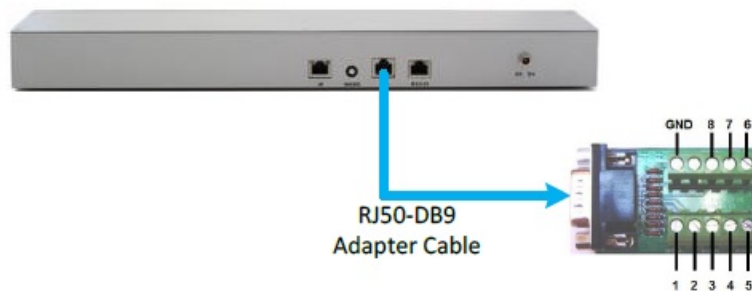
GPI/O Wiring

Connect the GPI port to the DB9 breakout wiring block using the RJ50-DB9 adapter cable.

(NOTE: The RJ50 connector has 10 contacts and a metal shielded end.)

GPI inputs can be provided by either relay contact closures or open-collector circuits of external equipment. GPI connections must include the ground (GND) reference. The input is activated when it is brought to the ground reference level.

GPO outputs provide a 5volt output level from the CP-16 when active, and ground level when inactive.



Configuration and Programming

Getting Started

The CP-16 is designed to control a single or multiple Apantac products that supports GPI or AXP protocol. This section will help you get the CP-16 up and running with the built built-in web page setup as quickly as possible.

Connecting to the CP-16 with a Web Browser

The default address for the CP-16 is 192.168.1.151. Open a web browser and type 192.168.1.151 in the URL address line. When connected the login page will be displayed.

The default username is "apantac", the default password is "apantac". The username and password are case-sensitive.

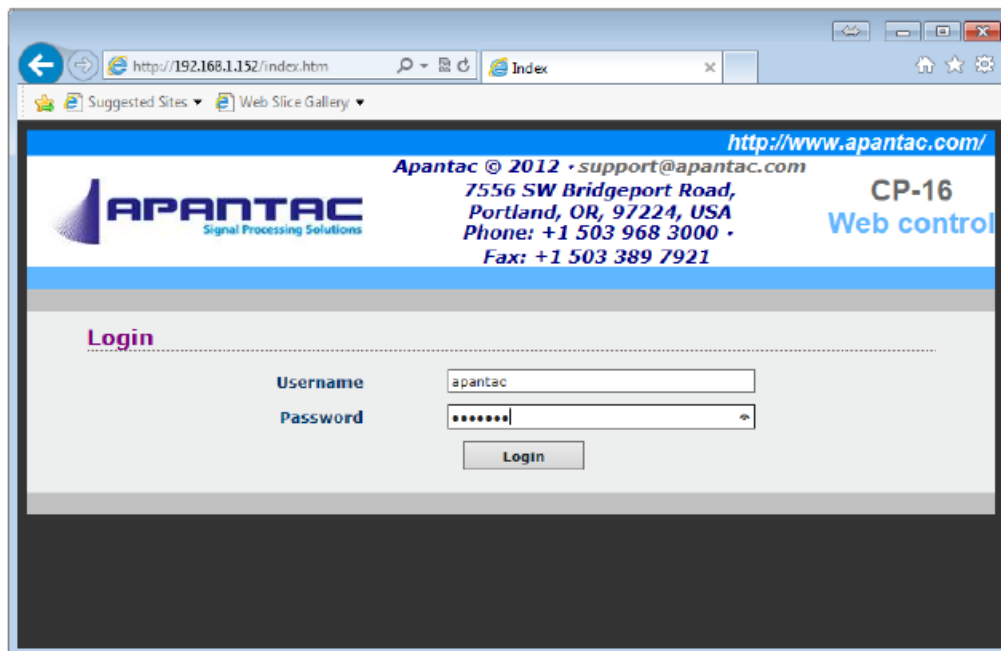


Figure 7.1: CP-16 login page

CP-16 Administration Setup

After you logon to the CP-16 page, you will be able to access 3 tabs, Setup, Advance and Administration. Click the Administration tab.

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CP-16
Web control

Logout

Setup Advance Administration

Username

Username

Apply Cancel

Password

Old Password

New Password

Confirm Password

Apply Cancel

Network

DHCP Client

Static IP Address

Static Subnet Mask

Static Default Gateway

Static DNS Server

Connection Type

Transmit Timer ms
Please enter an integer between 10~65535

Server/Client Mode

Server Listening Port
Please enter an integer between 1024~65535

Client Destination Host Name/IP
Please enter host IP address(e.g. 192.168.1.151)

Client Destination Port
Please enter an integer between 101~65535

Accessible IP Setting

IP #1

IP #2

IP #3

IP #4

Control

Attention:
For the <Accessible IP Setting> change to take effect, you must power cycle or reboot the device

Apply Cancel

Figure 7.2: Administration Tab, CP-16 settings

CP-16 Module Setup

The areas outlined in red in the figure 7.2 above pertain to the CP-16 module itself.

- Username

The default username for logging on to these setup webpage is “apantac”. This can be changed to your preference. Click the corresponding “Apply” button after entering your information.

- Password

The default password for logging on to these setup webpage is “apantac”. This can be changed to your preference. Click the corresponding “Apply” button after entering your information.

- DHCP Client

DHCP can be Enabled or Disabled. Enabling DHCP will cause your network’s DHCP server (server or router) to assign the CP-16 an IP Address of it’s choice. Not knowing the assigned IP Address will make displaying the setup webpages difficult. If your I.T. department insists on DHCP, they should program their DHCP server (router) to assign a known, preselected IP Address to the CP-16 unit. To apply these changes click the ‘Apply’

button at the bottom of this webpage and then click the 'Reboot' button on the Setup tab.

NOTE: If DHCP is Enabled, the following four network settings will be ignored. (Your Network's DHCP server will assign them.)

- Static IP Address

The IP Address of the CP-16 module. This should be set to an address on the same subnet as the multiviewers it will control.

- Static Subnet Mask

Default subnet masks depend on the class of your network.

Network class	Network IP addresses	Subnet Mask
Class A	10.xxx.xxx.xxx	255.255.0.0
Class B	172.xxx.xxx.xxx	255.255.240.0
Class C	192.168.xxx.xxx	255.255.255.0

- Static Default Gateway

Not applicable when CP-16 and Multiviewers are on the same local subnet network.

- Static DNS Server

Not applicable when CP-16 and Multiviewers are on the same local subnet network.

Accessible IP Setting

WARNING: If enabled, only computers with these IP addresses can login to the CP-16's webpages.

- IP #1 through IP #4


Enter the IP addresses of the computer's to be permitted to login to, access, and change the CP-16's settings.

- Control

This will enable or disable the 'Accessible IP Setting' function and settings. See the above warning prior to enabling this function.

Multiviewer Connection Setup

The areas outlined in red in the figure below pertain to the CP-16 module connecting to the multiviewer.



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Signal Processing Solutions

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http://www.apantac.com/
CP-16
Web control

Setup Advance **Administration** Logout

Username

Username

Password

Old Password

New Password

Confirm Password

Network

DHCP Client Disable ▾

Static IP Address

Static Subnet Mask

Static Default Gateway

Static DNS Server

Connection Type TCP ▾

Transmit Timer ms
Please enter an integer between 10~65535

Server/Client Mode Client ▾

Server Listening Port
Please enter an integer between 1024~65535

Client Destination Host Name/IP
Please enter host IP address(e.g. 192.168.1.151)

Client Destination Port
Please enter an integer between 101~65535

Accessible IP Setting

IP #1

IP #2

IP #3

IP #4

Control Disable ▾

Attention:
For the <Accessible IP Setting> change to take effect, you must power cycle or reboot the device

Figure 7.3: Administration Tab, Multiviewer settings

- **Connection Type**
TCP or UDP protocol. Default is TCP (Apantac Tahoma multiviewers utilize TCP protocol.)
- **Transmit Timer**
Transmission timeout limit. Default is '100'. Change to 200 or 300 ms if experiencing trouble with the multiviewer not receiving commands and no other reason can be found.
- **Server / Client Mode**
CP-16 to Multiviewer communication mode. Default is 'Client' and cannot be changed.
- **Server Listening Port**
Not applicable to the CP-16 functionality. Default is '2009'.
- **Client Destination Host Name / IP**
Enter the IP addresses of the Apantac Tahoma Multiviewer that the CP-16 will control.
- **Client Destination Port**
The multiviewer TCP/IP port number. Default is '101', do not change. (Apantac Tahoma multiviewers utilize port 101 for receiving AXP command protocol.)

CP-16 Programming and GPIO Setup

The Setup tab provides for button programming and for GPIO setup.

http://www.apantac.com/

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CP-16
Web control

Logout

Setup Advance Administration

Serial Settings

Preset button mode: AXP CMD
AXP command mode through TCP port 125

GPIO button mode: GPIO
Allocation: command effective of "allocation mode"

AXP Ctrl 0	AXP call preset
AXP Ctrl 1	AXP call preset
AXP Ctrl 2	AXP call preset
AXP Ctrl 3	AXP call preset
AXP Ctrl 4	AXP call preset
AXP Ctrl 5	AXP call preset
AXP Ctrl 6	AXP call preset
AXP Ctrl 7	AXP call preset
AXP Ctrl 8	AXP call preset
AXP Ctrl 9	AXP call preset
AXP Ctrl 10	AXP call preset
AXP Ctrl 11	AXP call preset
AXP Ctrl 12	AXP call preset
AXP Ctrl 13	AXP call preset
AXP Ctrl 14	AXP call preset
AXP Ctrl 15	AXP call preset

Apply Cancel Restore default Reboot

Figure 7.4: Setup Tab

Button Programming

When a button on the CP-16 is pressed it will send an ASCII text command to an Apantac Tahoma Multiviewer via TCP/IP protocol over Ethernet. The list of commands Apantac Tahoma Multiviewers will respond to is known as the "Apantac eXchange Protocol" or AXP for short. See the appendices for the list of AXP commands.

- Preset Button Mode

AXP CMD or Reserved. Default is 'AXP CMD'. 'Reserved' is for future firmware options and currently performs no function.

- GPIO Button Mode

See the next section.

- AXP Ctrl 0 – AXP Ctrl 15

Type the desired AXP command here for buttons 1 through 16. Click the 'Apply' button at the bottom of the page, then the confirmation popup box to complete the programming change.

AXP Examples:

To load a preset configuration file stored within the multiviewer.

Load [filename.pt1]

To select an SDI embedded audio channel for monitoring output.
Audio 0 SDI 1 1 1

Multiple commands:

Audio 0 SDI **|||** Label 0 5 1 . . . |Audio pair 1|

A single button can send multiple commands.
Separate commands with |||.
This is the 'vertical vertical-barbar' key on your keyboard.



GPIO Control Setup

GPIO Button Mode

There are two options; GPO and AXP CMD.

GPO

When this option is selected the GPIO port on the back of the CP-16 is configured for output.

When buttons 1 through 8 are pressed the corresponding GPO wire on the port will go high (5 Volts). Only the actively lit button will be high, the other GPO wires will be low (0 volts).

The AXP command for the button will also be sent via TCP/IP to the multiviewer.

The GPO output can be used to trigger any external equipment.

Apantac Tahoma Multiviewer's also have a GPIO port and the CP-16 GPO can be used to trigger these inputs if desired. The multiviewer must be configured to respond to GPIO inputs.

AXP CMD (GPI)

When this option is selected the GPIO port on the back of the CP CP-16 is configured for input.

An internal 5 5-volt source is provided through a 'pull pull-up' resistor. All inactive inputs of the GPI port will be high.

When the corresponding GPO wire on the port is brought low (shorted to the portport's ground pin by an external relay or open open-collector GPO of an external piece of equipment) the corresponding button will be selected (buttons 1 through 8). The button will lite and the command will be sent via TC P/IP to the multiviewer.

CP-16 Advance tab

The Advance tab provides further administration setup and service.

The screenshot shows the Apantac CP-16 Web control interface. At the top, there is a header with the Apantac logo, contact information (Apantac © 2012, support@apantac.com, 7556 SW Bridgeport Road, Portland, OR, 97224, USA, Phone: +1 503 968 3000, Fax: +1 503 389 7921), and the URL http://www.apantac.com/. The page title is "CP-16 Web control". Below the header, there are tabs for "Setup", "Advance", and "Administration". The "Administration" tab is selected. A warning message states: "Warning! Before you proceed with any changes on this page, please first consult Apantac support". The "Firmware Upgrade Settings" section includes fields for "TFTP Server IP" (192.168.1.41) and "File Name" (CP16.bin), with "Apply", "Cancel", and "FirmwareUpgrade" buttons. The "Auto Warning Report Settings" section includes four settings: "Cold Start", "Authentication Failure", "Local IP Address Changed", and "Password Changed", all set to "Enable", with "Apply" and "Cancel" buttons.

- Firmware Upgrade Settings

For use by authorized service personnel only. Contact Apantac Technical Support prior to making any changes on this page.

- Auto Warning Report Settings

When certain setup actions are performed an alternate webpage is displayed as standard warnings. These are enabled by default and there are no reasons to alter these settings.

Appendix

Two Popular AXP Commands

NOTE: This is a partial listing of AXP commands. For a complete listing see the separate "Apantac eXchange Protocol" document, available for download from our website.

Audio: Set audio monitoring output

Audio [VPM_ID][Type][Input_#][GROUP] [Channel/PAIR]

Parameters	Values	Description
[VPM_ID]	0 – 7	Video Processing Module ID number. Each VPM handles four video inputs. 0 : inputs 1.1 thru 1.4 1 : inputs 2.1 thru 2.4 ~ 7 : inputs 8.1 thru 8.4
[Type]	SDI/AES/AA	Type of audio format. SDI : embedded, AES or AA discrete input audio.
[Input_#]	1 – 4	(SDI type only) Video input number within the VPM.
[Group]	1 – 4	(SDI only) SDI embedded audio group number.
[Channel/Pair]	1 – 4 (SDI) 1 – 8 (AES or AA)	(SDI) channel number. (AES/AA) channel pair number.

Examples:

Command	Description
Audio 3 SDI 1 2 3	Select SDI input 1 from VPM 3, embedded Group 2, Channel 3 and 4 to be the monitoring output. Input 1 of VPM 3 is input 4.1
Audio 1 AA 5	Select Discrete Analog audio inputted into VPM 1 (second module), pair 5 (channels 9,10).
Audio 0 AES 7	Select Discrete Analog audio inputted into VPM 0 (first module), pair 7 (channels 13,14).

Load: Load a display configuration from a saved 'preset' file

Load [FILE_NAME]

Parameters	Values	Description
[file_name]	The preset file name.	*The file name must be bracketed with “ ” ”.

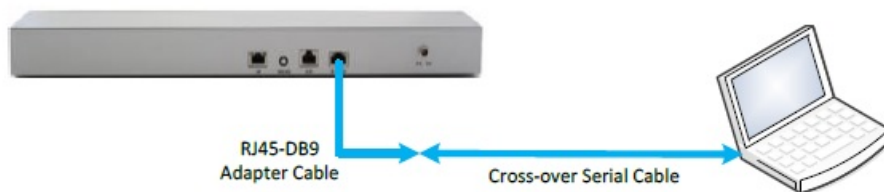
Examples:

Command	Description
Load 1_full.pt1	Loads preset name “1_full.pt1”

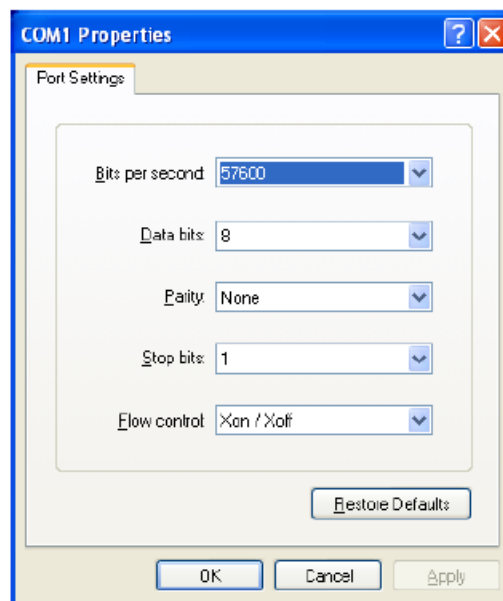
Reset to Factory Defaults

1. Connect RS232 port to your computer. Use the RJ45-DB9 adapter cable included with accessories and a cross-over serial cable (or standard serial cable and cross-over adapter).

Note: cross-over serial adapters or cables are also known as ‘Null Modem’ adapters or cables.

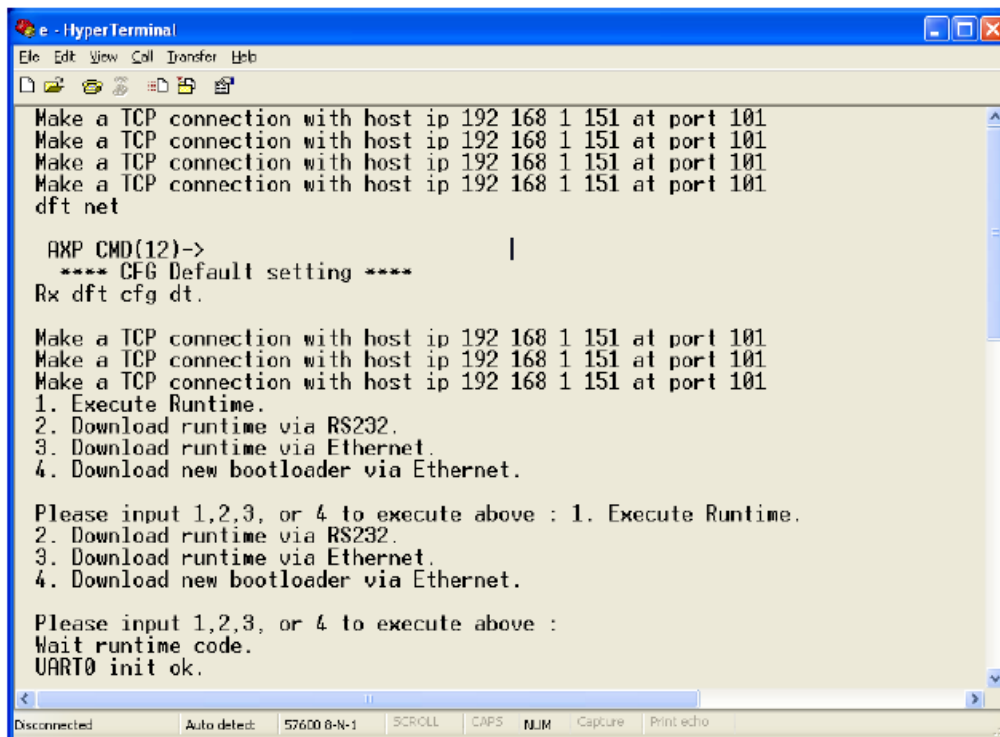


2. Power on the CP-16 unit.
3. Launch the “HyperTerminal” program on your PC.
4. Configure HyperTerminal to use the serial port with the following setup.



5. Key in the factory reset command “dft net ” then click Enter.(Note: insert a space after ‘dft’ and a space after ‘net’),
6. Power reset the CP-16 unit.
7. You can now connect to the CP-16 unit using WEB page.
 - Factory reset CP-16 IP address: 192.168.1.151
 - Factory reset WEB login username: apantac
 - Factory reset WEB login password: apantac

Example and Notes...



```
e - HyperTerminal
File Edit View Call Transfer Help
Make a TCP connection with host ip 192 168 1 151 at port 101
Make a TCP connection with host ip 192 168 1 151 at port 101
Make a TCP connection with host ip 192 168 1 151 at port 101
Make a TCP connection with host ip 192 168 1 151 at port 101
dft net

AXP CMD(12)->
**** CFG Default setting ****
Rx dft cfg dt.

Make a TCP connection with host ip 192 168 1 151 at port 101
Make a TCP connection with host ip 192 168 1 151 at port 101
Make a TCP connection with host ip 192 168 1 151 at port 101
1. Execute Runtime.
2. Download runtime via RS232.
3. Download runtime via Ethernet.
4. Download new bootloader via Ethernet.

Please input 1,2,3, or 4 to execute above : 1. Execute Runtime.
2. Download runtime via RS232.
3. Download runtime via Ethernet.
4. Download new bootloader via Ethernet.

Please input 1,2,3, or 4 to execute above :
Wait runtime code.
UART0 init ok.

Disconnected Auto detect: 57600 8-N-1 SCROLL CAPS NUM Capture Print echo
```

Hyper-Terminal Program with CP-16 responses.

When successfully connected to the CP CP-16 unit, the CP CP-16 will repeatedly output the following message approximately every 5 seconds.

Make a TCP connection with hostip 192 168 1 151 at port 101

After typing the 'dft net ' command and pressing enter, the CP-16 will return the following acknowledgement.

AXP CMD(12)

12)->

**** CFG Default setting

Rx dft cfg dt.

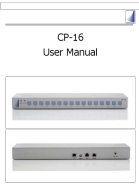
You can now disconnect and close HyperTerminal and reboot the CP CP-16 unit.

If HyperTerminal is left connected during the CP CP-16 reboot, it will receive a number of bootup messages, some of which are shown above.



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Documents / Resources

	<p>APANTAC CP-16 16 Button IP Control Panel [pdf] User Manual</p> <p>CP-16 16 Button IP Control Panel, CP-16, 16 Button IP Control Panel, IP Control Panel</p>
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References

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