

2019

Transfer Switch (ATS)

BayTech[®]



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ABOUT THIS BAYTECH OWNER'S MANUAL

This document provides information required for installing and operating your Bay Tech equipment. It should allow the user to connect to, power up, and access an applications menu where peripheral equipment can be controlled. We recommend reading this manual carefully, while placing special emphasis on correct cabling and configuration. If you have any problems with your installation, please contact a BayTech Applications Engineer at **228-563-7334**, or toll free from anywhere in the United States using **1-800-523-2702** or contact us at our Web Site, www.baytech.net.

BayTech manufactures many remote site management power products and data switches. If you would like information on any of these products, please contact BayTech Customer Service at the above numbers or visit our web site.

Conventions used in this manual include:



CAUTION: This term is used to denote any condition that could possibly result in physical harm to personnel or damage to equipment.

ATTENTION: Ce terme est employé pour dénoter n'importe quelle condition qui pourrait probablement avoir comme conséquence le mal physique au personnel ou les dommages à l'équipement.



IMPORTANT: This term is used to denote conditions that could result in the loss of communications or to highlight the proper functioning of equipment.

IMPORTANT: Ce terme est employé pour dénoter les conditions qui pourraient avoir comme conséquence la perte de communications ou accentuer le fonctionnement approprié de l'équipement.



NOTE: This term is used to denote items of interest to the user.

NOTE: Ce terme est employé pour dénoter des articles d'intérêt à l'utilisateur.

<cr>: Carriage Return or ENTER

<cr>: Le Retour chariot ou ENTRE

The information in this document is subject to change without notice. The statements, configurations, technical data, and recommendations in this document are believed to be accurate and reliable, but are presented without express or implied warranty. Users must take full responsibility for their applications of any products specified in this document. The information in this document is proprietary to Bay Technical Associates, Inc.

In the interest of improving internal design, operational function, and/or reliability, Bay Technical Associates, Inc reserves the right to make changes to the products described in this document without notice.

Bay Technical Associates, Inc does not assume any liability that may occur due to the use or application of the product(s) or circuit layout(s) described herein.

COMPLIANCE STANDARD

BayTech units are in accordance with the general requirements of *Standard for Information Technology Equipment* (ETL listed, conforms to ANSI/UL 60950-1 2nd Edition and CAN/CSA C22.2 No. 60950-00. CE conforms to IEC 60950.) *Equipment installations are to be in accordance with the Canadian Electrical Code, Part I, CSA C22.1-02; General Requirements – Canadian Electrical, Part II, CSA C22.2 No 0-M91; the National Electrical Code, NFPA 70-2005; and the National Electrical Safety Code, NFPA, IEEE C2-2002.*

We welcome any comments you may have about our products, and we hope that you will continue to look to BayTech for your remote management needs.

CONNECTION DESCRIPTION

BayTech's Modular Series unit provides a Serial EIA232 interface that controls user access and outlet controls to the power strip.



CAUTION: All power should be removed from the BayTech unit prior to removing or installing cables and /or adapters.

ATTENTION: Tout pouvoir doit être retiré de l'unité BayTech avant de retirer ou d'installer des câbles et / ou des adaptateurs

EIA-232 Serial Connection

The Module has an RJ-45 port which uses an 8-pin crossed modular cable to connect to a local EIA-232 device such as a computer terminal or external modem. Most serial computers do not have RJ-45 connections; therefore an adapter is provided with this unit to convert from a DE-9 connector to an RJ-45 connector (Bay Tech Part No. 9FRJ45PC-4). An adapter to convert from a DB-25 connector to an RJ-45 connector is also available from Bay Tech, upon request (Bay Tech Part No. 25FRJ45PC-4). The 8-pin crossed modular cable is configured to operate with these adapters.



NOTE: Custom cables are available to connect a device to this unit's serial port. These custom cables are one-way cables labeled with Baytech on one end and a device name on the other end.

REMARQUE: les câbles sur mesure sont disponibles pour connecter un périphérique au port série de cet appareil. Ces câbles sont des câbles de commande à sens unique marqué par Baytech à une extrémité et un nom de périphérique à l'autre extrémité.

ATS CPU

Units built after 2010, have Atmel Flash CPUs installed. The internal processor can be upgraded via the EIA232 Serial port. The user will need to download the AVRProg.exe program from www.avrfreaks.net or use internet search engine. Contact Baytech Support for the latest ATS firmware file and upload instructions.

INSTALLATION

Unpacking

Compare the unit and serial number of the equipment you received to the packing slip located on the outside of the box. Inspect equipment carefully for damage that may have occurred in shipment. If there is damage to the equipment or if materials are missing, contact BayTech technical support at **228-563-7334** or call toll free inside the United States at **800-523-2702**. At a minimum, you should receive the following:

1. The ATS unit.
2. Paper insert referencing BayTech's website a www.baytech.net/support/ftp_series.php.
3. 1 ea. DE-9 (9 pin) PC com port adapter -- 9FRJ45PC (with Cisco Interface) or 9FRJ45PC-1.
4. 1 ea. RJ-45 cross over cable -- RJ08X007.
5. Rack mounting Kit



NOTE: Keep the shipping container and packing material in the event future shipment is required.

Preparing the Installation Site

The installation area should be clean and free of extreme temperatures and humidity. Allow sufficient space behind the ATS unit for cabling and receptacle connections. Access to installation site should be restricted to authorized personnel. Installation of these units should be limited to ITE and Telco server environments.

PRÉPARATION DE L'EMPLACEMENT D'INSTALLATION

Le secteur d'installation devrait être propre et exempt des températures et de l'humidité extrêmes. Permettez le suffisamment d'espace derrière l'unité de ATS pour des raccordements de câblage et de réceptacle. L'accès à l'emplacement d'installation devrait être limité au personnel autorisé. L'installation de ces unités devrait être limitée à ITE et à environnements de serveur de Telco.

Power



CAUTION: This unit is intended for indoor use only. Do not install near water or expose this unit to moisture. To prevent heat buildup, do not coil the power cord when in use. Do not use extension cords. Do not attempt to make any internal changes to the power source. Do not attempt to modify any portion or component of an ATS Unit unless specifically directed to by BayTech personnel. BayTech must perform any internal operations.

ATTENTION: Cet appareil est destiné à une utilisation en intérieur. Ne pas installer près de l'eau ou exposer cet appareil à l'humidité. Pour éviter l'accumulation de chaleur, ne pas enrouler le cordon d'alimentation lors de son utilisation. Ne pas utiliser de rallonge. Ne pas essayer de faire des changements internes à la source d'alimentation. Ne pas tenter de modifier une partie ou un composant d'une unité ATS, sauf indication spéciale par le personnel BayTech. BayTech doit effectuer toutes les opérations internes.



CAUTION: High-voltage surges and spikes can damage this equipment. To protect from such power surges and spikes, this unit must have a good earth ground or good power surge protection.

ATTENTION: Les montées subites et les transitoires à haute tension peuvent endommager cet équipement. Pour se protéger contre de telles montées subites et transitoires de puissance, cette unité doit avoir une bonne protection rectifiée ou bonne de la terre de puissance de montée subite.



CAUTION: Do not exceed the AC current rating for the selected model.

ATTENTION: Ne dépassez pas l'estimation courante à C.A. pour le modèle choisi.



CAUTION: In order to be absolutely removed from the power supply, the power cord must be unplugged from the power source.

ATTENTION: Afin d'être absolument enlevé de l'alimentation d'énergie, le cordon de secteur doit être débranché de la source d'énergie.



CAUTION: For PERMANENTLY CONNECTED EQUIPMENT, a readily accessible disconnect device (Circuit Breaker rated not to exceed the amperage rating of the unit) shall be incorporated in the fixed wiring between the power source and the Baytech unit. For PLUGGABLE EQUIPMENT, the socket-outlet shall be installed near the equipment and easily accessible. The outlets providing power to the unit shall be protected against over current, short circuit and earth fault by suitable rated protective devices.

ATTENTION: Pour l'ÉQUIPEMENT DE MANIÈRE PERMANENTE RELIÉ, un dispositif aisément accessible de débranchement (disjoncteur évalué pour ne pas dépasser l'estimation d'ampérage de l'unité) sera incorporé dans le câblage fixe entre la source d'énergie et l'unité de Baytech. Pour l'ÉQUIPEMENT QUE L'ON PEUT BRANCHER, la douille-sortie sera installée près de l'équipement et facilement accessible. Les sorties fournissant la puissance à l'unité seront protégées contre le courant, le court-circuit et le défaut de terre finis par les dispositifs protecteurs évalués appropriés.

208V/24A 3ØY Rated Model: (30A Maximum Over current protection Device).

208V/16A 3ØY Rated Model: (20A Maximum Over Current protection Device)

120V/24A Rated Model: (30A Maximum Over current protection Device)

120V/16A Rated Model: (20A Maximum Over current protection Device)

230V/24A Rated Model: (30A Maximum Over current protection Device)

230V/16A Rated Model: (20A Maximum Over current protection Device)



NOTE: due to the 4-relay design the current ATS series permits the input sources to be out of phase for normal operation.

NOTE: en raison de la conception 4-relais de la série actuelle ATS permet aux sources d'entrée d'être hors de phase pour un fonctionnement normal.

Applying power illuminates a green LED on the front panel and either Source1 or Source 2 LED will be lit. When the power switch is off, devices connected to the unit are not receiving power.

Appliquer le pouvoir illumine une LED verte sur le panneau de devant et Source1 ou Source 2 LED sera allumée. Quand l'interrupteur général est loin du, les appareils ont connecté à l'unité ne reçoivent pas le pouvoir.

CIRCUIT BREAKER

Depending on if the unit has circuit breakers, in the case of power overload, the circuit breaker automatically trips. Determine the cause of the tripped circuit breaker, correct the problem then reset the circuit breaker by depressing the circuit breaker switch. If an overload condition occurs, the ATS status menu is still accessible. If all circuits are closed, the circuit breaker status menu will indicate “On.” If the circuit breaker is tripped, the circuit breaker status will indicate “Off.” If no power cord is attached to the “IN” receptacle, the circuit breaker status will indicate “Off”, indicating there is no power available to the “OUT” receptacle.

CABLING

RJ-45 Cable

Control Module RJ-45 pin Signals

Pin	EIA 232 Signal	Signal Direction	Description
1	DTR	Out	+10V when activated by DCD. Toggles on logout for modem disconnect.
2	GND		Signal Ground
3	RTS	Out	+10 V when power is applied. Not used as a handshake line.
4	TX	Out	Transmit (Data Out)
5	RX	In	Receive (Data In)
6	N/C	In	No Connection.
7	GND		Signal Ground
8	DCD	In	DCD into the ATS.

Adapter signals

Listed are the pin specifications for the BayTech cable and adapters and the terminal COM ports:

Figure 1: Serial Port Pin Out

Signal	RS-232 Port (DS)	RS-232 Port (ATS)	COM Port DE-9 Pin	COM Port DB-25 Pin	Signal
DTR	1	1	4	20	DSR
GND	2	2		1	GND
RTS	3	3	7	5	CTS
TXD	4	4	3	2	RXD
RXD	5	5	2	3	TXD
DSR	6	N/C	6	6	DTR
GND	7	7	5	7	GND
CTS	8		8	4	RTS
DTR			4		DCD
DCD		8	1	8	DTR
RI	9			22	

RJ08X007 Standard Rollover Cable RJ45 to RJ45

Figure 2: RJ08X007 Pin Out

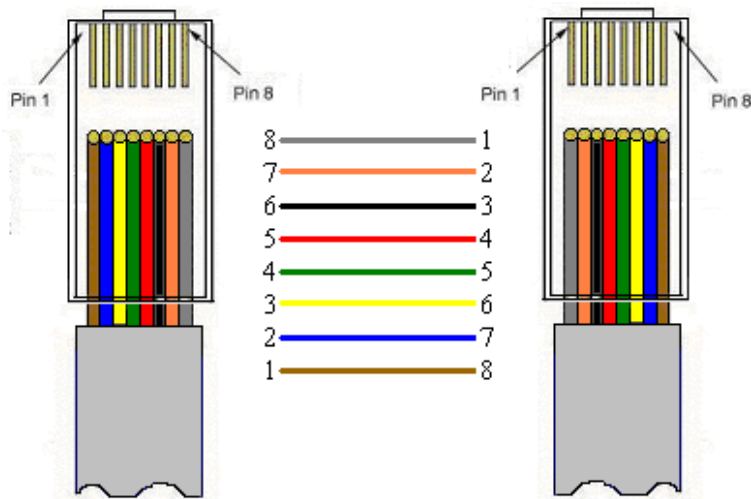
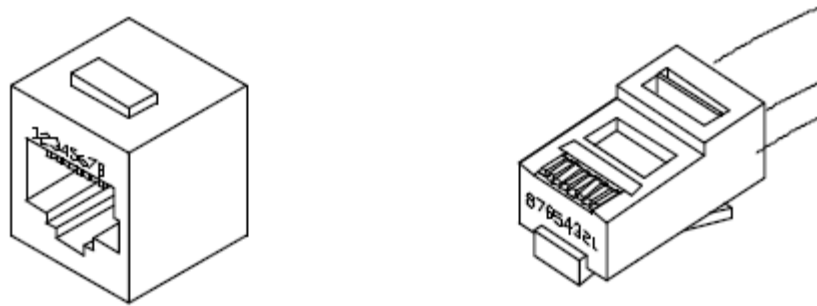
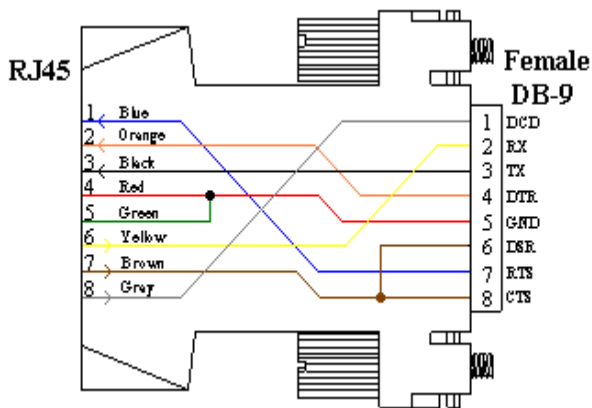


Figure 3: RJ45 Connector & Plug



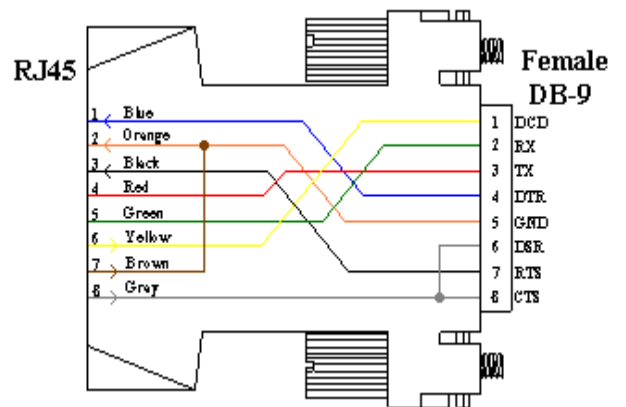
Adapters

Figure 4: 9FRJ45PC Cisco Adapter Pin Out



(Use with RJ08X007 Cable And B/C switch in "C")

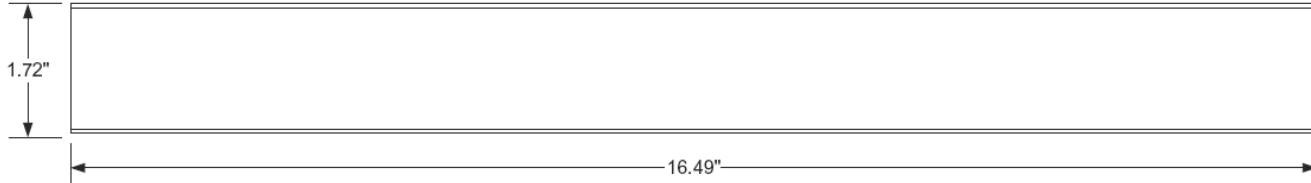
Figure 5: 9FRJ45PC-1 Adaptor Pin Out



(Use with RJ08X007 Cable And B/C switch in "B")



ATS11 Front, ATS22 similar Front



ATS11/ATS22 Rear



ATS12 Rear on Top, Front on Bottom

ATS23 similar Rear but UL489 Breakers on Front panel

ATS11 and 12 same dimensions

Rear Switch & Indicators:

- EIA232 INTERFACE B/C = Set switch to 'B' for normal operations. 'C' changes the pin out to allow for Cisco's PC cable to operate in most cases but not all.

Indicators:

- ALM = Red LED Over-current alarm or an abnormally input voltage
- PWR = Green LED power is connected to the unit through either source 1 or 2
- Source 1 = Green LED lit indicates unit is using Source 1 as the Input power
- Source 2 = Green LED lit indicates unit is using Source 2 as the Input power
- Only one of the source LEDs will be lighted at a time, the source supplying power to the outlet(s).

Front Switch & Indicators:

- None

Main Control:

1. Connect the 9FRJ45PC-4 or 9FRJ45PC-1 adapter to your PC.
2. Connect the supplied rollover flat cable RJ08X007 to the adapter and to the EIA232 serial port on the ATS.
3. Use terminal emulation software to access the unit, (i.e. Microsoft Hyper-terminal). Set the PC serial port configuration to the following: **9600 bps, 8 data bits, 1stop bit and no parity**. If your device has a **B/C** switch near the EIA232 port, set it to **“B”**. (If you are using Cisco cable/adapter set this to C.)
4. If you get only a blinking cursor Press „Enter“. If still only a blinking cursor, Type 5 semi-colons (;), there is a one second delay before the menu is displayed.
5. You should get a Status menu similar to the one seen below.

```
ATS Series
(C) 2014 Baytech
F1.18

Option(s) Installed:
True RMS Voltage
True RMS Current
Internal Temperature

Unit ID: ATS Series

Primary Source 1

Source 2: 121.2 Volts

-----
| Power      | True RMS | Peak RMS | True RMS | Average | Volt- |
| Source     | Current  | Current  | Voltage  | Power   | Amps  |
|-----|-----|-----|-----|-----|-----|
| Source 1  | 0.1 Amps | 0.2 Amps | 121.7 Volts | 0 Watts | 21 VA |
|-----|-----|-----|-----|-----|-----|

Internal Temperature: 24.0 C

1)...Outlet 1      2)...Outlet 2
3)...Outlet 3      4)...Outlet 4
5)...Outlet 5      6)...Outlet 6
7)...Outlet 7      8)...Outlet 8
9)...Outlet 9      10)...Outlet 10
11)...Outlet 11    12)...Outlet 12

Type "Help" for a list of commands
ATS>
```

The number of outlets listed depends on the number of outlets installed on the unit.

Transfer Switch Operations and Configurations

The Status Menu will display after the user logs in (if a login is required). This menu lists the firmware version, installed options, primary source, secondary source voltage, primary source current, voltage, and power, and the internal temperature of the ATS unit.

```
ATS Series
(C) 2014 BayTech
F1.18

Option(s) Installed:
True RMS Current
Internal Temperature
True RMS Voltage

Enter user name:
Enter Password:
```

If there are users installed on the unit a login will be required. This may have a password or not. It is recommended that at least two users be entered. The first user will be the Administrator and will be able to manipulate the unit. This user should be password protected. The second user can be labeled "Guest" and need not be protected. Both should be given access to the outlet(s)

```
ATS Series
(C)2014 Baytech
F1.18

Option(s) Installed:
True RMS Current
Internal Temperature
True RMS Voltage

Primary Source 1
Source 2: 121.2 Volts

-----
| Power   | True RMS | Peak RMS | True RMS | Average | Volt-  |
| Source  | Current  | Current  | Voltage  | Power   | Amps   |
|-----|-----|-----|-----|-----|-----|
| Source 1 | 0.1 Amps | 0.2 Amps | 121.7 Volts | 0 Watts | 21 VA  |
|-----|-----|-----|-----|-----|-----|

Internal Temperature: 24.0 C

1)...Outlet 1      2)...Outlet 2
3)...Outlet 3      4)...Outlet 4
5)...Outlet 5      6)...Outlet 6
7)...Outlet 7      8)...Outlet 8
9)...Outlet 9      10)...Outlet 10
11)...Outlet 11     12)...Outlet 12

Type "Help" for a list of commands
ATS>
```



NOTE: Int. Temp = unit internal temperature reads in Fahrenheit or Celsius.

Type "help" at the prompt to display a list of commands to change the outlet state, outlet configuration, and internal sensor measurements.

HELP OPTIONS

Menu 1: Help

```
ATS> help

Status <cr>    --ATS-11 Status
Config <cr>    --Enter configuration mode
Current <cr>   --Display True RMS Current
Voltage <cr>   --Display True RMS Voltage
Clear <cr>     --Reset the maximum detected current
Temp <cr>     --Read current temperature
Logout <cr>    --Logoff
Logoff <cr>   --Logoff
Exit <cr>     --Logoff
Password <cr> --Changes the current user password
Whoami <cr>   --Displays the current user name
Unitid <cr>   --Displays the unit ID

Type Help for list of commands
ATS>
```

Configuration Menu

To select the configuration menu, type ‘Config’ at the prompt.

```
ATS>config

1)...Manage Users
2)...Change Outlet Name
3)...Enable/Disable Status Menu
4)...Change Unit ID
5)...Change Alarm Threshold
6)...Change ATS Switching Voltage Points
7)...Change ATS Switch Back mode/time
8)...Change ATS Delay Switch to secondary
9)...Change Buzzer Audible Alarms
X)...Exit
Enter Request:
```

Manage User

Select 1), from the configure menu to allow the admin user to add and delete users, change passwords, and change the outlet list. The following menu appears if the unit has been reset or initial setup:

```
-----
|      User      | |
-----
A)...Add User
D)...Delete User
R)...Rename User
Enter user number to assign Outlets, A, D or R.
Enter Request:
```

Add a User



NOTE: If the “Add user” option is **NOT** present than the maximum number of users have been assigned. You will get a message saying *„No more users can be added’*.



NOTE: the first assigned user will be the “admin user” for the outlet. Older units will not display the “delete” option until a user is added.

Select A), to add a user. The unit will prompt for a user name.

```
-----  
|           User           | | 1 |  
-----  
1) ...Dave                | N |  
-----  
A) ...Add User  
D) ...Delete User  
R) ...Rename User  
Enter user number to assign Outlets, A, D or R.  
Enter Request:
```



Type the user name and press 'Enter'.
NOTE: User name is case sensitive. The unit will display the User Menu with the added user name. Even though the unit may have more than one outlet, internally; the unit sees only one output.

Delete a User

Select D), to delete a user. The unit will prompt for a user name.

Enter number for user to delete:

Type the number of the user to be deleted, followed by <cr>. The ATS will display the User Menu minus the deleted user.



NOTE: If you delete the user in the first position, the ATS will display the following:

You are deleting the current admin user. The next user will become the admin user, do you want to continue. (Y/N)?



IMPORTANT: The unit must have had a power cycle or unit reset command performed recently prior to deleting the user in the first position. This action will prevent the unit from having **No Admin** user assigned even though the first position user was deleted and there is a second user assigned. If the **No Admin** condition occurs, you must reset the unit to factory default.

Rename a User

Select R), to change the name of a user. The unit prompts for the user number.

Enter user number to rename:

Type the number of the user to be renamed, press 'Enter'. The unit will prompt for the new name. Once accepted the unit displays the User menu with the new name.

Enter user name:

Assigned Outlets

The Assigned Outlet Menu displays the outlets a user can access. Select a user number from the Managed User Menu, the unit will display the Assign Outlet Menu

```
-----  
|      User      | 1 |  
-----  
|      Dave      | N |  
-----  
  
1)...Add Outlet(s)  
2)...Remove Outlet(s)  
3)...Add All Outlets  
4)...Remove All Outlets  
  
Enter Request:
```

Select 1), to assign outlet to a user. The unit will prompt for outlet number

```
Enter Outlet number(s):
```

Select 2), to remove individual outlet from a user. The unit will prompt for the outlet number.

```
Enter Outlet number(s):
```

Select 3), to add all outlets to user access. The unit will display 'Y' for all outlets.

```
-----  
|      User      | 1 |  
-----  
|      Dave      | Y |  
-----  
  
1)...Add Outlet(s)  
2)...Remove Outlet(s)  
3)...Add All Outlets  
4)...Remove All Outlets  
  
Enter Request: 3
```

Select 4), to remove all outlets from a user . The unit will display 'Y' for all outlets.

Change Outlet Name

Select 2), from the **Configure Menu** allows the 'admin' user to change the names of the outlets. Select this option and the unit displays all of the outlet names. **Default name is Outlet 1. . . Outlet #, #=number of outlets on unit.**

```
Enter Request: 2  
  
1)...Outlet 1  
  
Enter Request: 1  
  
Current Outlet: Outlet 1  
Modify (Y/N)? y  
  
Enter : Cisco Server  
1)...Cisco Server  
Enter Request:
```

Enable/Disable Status Menu

Select 3), from the **Configure Menu** allows the 'admin' user to enable or disable the Status menu. The unit will display either option, depending on the current Status menu state, to be changed:
If this feature is disabled, only the prompt appears.
Default setting is Enabled.

```
Enable Status Menu(Y/N)?
```

```
Disable Status Menu (Y/N)?
```

Change Unit ID

Select 4), from the Configure Menu allows the 'admin' user to change the unit ID. Default is Blank. The unit displays the following:

```
Enter Request: 4
Current Unit ID: ATs12
Modify (Y/N)? y
Enter New Unit ID:ATs12 East
Unit ID: ATs12 East
```

Change Alarm Threshold

Select 5), from the Configure Menu allows the 'admin' user to set the over-current level for the internal alarm to sound.

Default: 1 circuit breaker: 12.8 Amps
2 circuit breaker: Current =12.9 and Phase 2=12.8

```
Enter Request: 5
Current buzzer alarm value : 12.6 Amps
Modify (Y/N)? y
Enter: 12.0
```

Change ATS Voltage Switching Points

Select 6), from the configure menu to allow the user to set the brownout voltage switching points. The processor uses a 6-cycle window to determine if the voltage is greater than zero, but less than the trip threshold. This should only be set after the ATsSET command has been performed. This value can be tweaked according to loading. It is recommended that the default values be maintained.

```
Enter Request: 6
Primary to Secondary trip voltage value : 160.9 Volts
Modify (Y/N)? y
Enter:
Secondary to Primary return voltage value : 173.1 Volts
Modify (Y/N)? y
Enter:
```

Change ATS Switch Back Mode/Time

Select 7), from the configure menu to allow the user to set the switch back mode and time. Default is Enabled and the delay time is 0 seconds. This allows the unit to switch from primary to secondary and back immediately upon reaching selected criteria, without operator intervention. If the mode is disabled then the unit will switch from primary to secondary, but it will not switch back without user intervention. If the mode is enabled and a time is set in, unit will switch back (8) seconds plus *nnnnn* number of seconds after the selected criteria is met.

```
Enter Request: 7
Disable switch back to primary (Y/N)? n
Current delay switch back to primary source time is(0= minimum): 300 Seconds
Change delay switch back time (Y/N)? y
Enter seconds (0-65535):
```

Change ATS Delay Switch to Secondary

Select 8), from the configure menu to allow the user to set the delay time the unit switches to the Secondary Input once the Primary input drops below the Loss of Power Threshold. **Default is Disabled, and Default time is 0-seconds.** This time can be adjusted from 1-255 seconds.

If this feature is already enabled, you get the question below. Type **'Y'** and press Enter to disable the feature and you will be sent back to the 'config' menu. Type **'N'** and press Enter. The unit will display the current switch time and ask if you want to change the time. Type **'N'** and press Enter and you will be sent back to the 'config' menu. Type **'Y'** and press Enter. You will be asked to enter a time of (1-255) seconds.

```
Enter Request: 8
Disable delay switch to secondary (Y/N)? Y
Enter Request:
```

Type **'N'** and press Enter. The unit will display the current switch time and ask if you want to change the time. Type **'N'** and press Enter and you will be sent back to the 'config' menu. Type **'Y'** and press Enter. You will be asked to enter a time of (1-255) seconds.

```
Enter Request: 8
Disable delay switch to secondary (Y/N)? N
Current delay switch to secondary source time is: 3 Seconds
Change delay switch to secondary time (Y/N)? Y
Enter seconds (1-255):
```

If this feature is already **Enabled**, you get the question below. Type **'N'** and press Enter to disable the feature and you will be sent back to the 'config' menu. Type **'Y'** and press Enter. The unit will display the current switch time and ask if you want to change the time. Type **'N'** and press Enter and you will be sent back to the 'config' menu. Type **'Y'** and press Enter. You will be asked to enter a time of (1-255) seconds.

```
Enter Request: 8
Enable delay switch to secondary (Y/N)? y
Current delay switch to secondary source time is: 60 Seconds
Change delay switch to secondary time (Y/N)? Y
Enter seconds (1-255): 30
```


Change Buzzer Audible Alarms

Select 9), from the configure menu to allow the user to turn off the Alarm for a Power Loss and Over-Current Alarm. **Power Loss Buzzer Alarm Default is Disabled. Over-Current Buzzer Alarm Default is Enabled.**

1)...Power loss buzzer alarm: Off Default off
2)...Over current buzzer alarm: On Default On
Enter Request: 1

If the Power Loss Buzzer Alarm is set to OFF, Type '1' and press Enter. The unit will display (Y/N) option. Type 'Y' and press Enter to enable the Power Loss Buzzer. Type 'N' and press Enter to maintain current state.

Enter Request: 1
Enable power loss buzzer alarm (Y/N)?

If the Power Loss Buzzer Alarm is set to ON, Type '1' and press Enter. The unit will display (Y/N) option. Type 'Y' and press Enter to enable the Power Loss Buzzer. Type 'N' and press Enter to maintain current state.

Enter Request: 1
Disable power loss buzzer alarm (Y/N)?

1)...Power loss buzzer alarm: Off Default off
2)...Over current buzzer alarm: On Default On
Enter Request: 2

If the Over Current Buzzer Alarm is set to 'ON' and we wish to turn off the Alarm, Type '2' and press Enter. The unit will display (Y/N) option. Type 'Y' and press Enter to disable the Over-Current Buzzer. Type 'N' and press Enter to maintain current alarm state.

Enter Request: 2
Disable over current buzzer alarm (Y/N)?

If the Over-Current Buzzer Alarm is set to 'OFF' and we wish to turn on the Alarm, Type '2' and press Enter. The unit will display (Y/N) option. Type 'Y' and press Enter to enable the Over-Current Buzzer. Type 'N' and press Enter to maintain current alarm state.

Enter Request: 2
Enable over current buzzer alarm (Y/N)?

Press Enter. The unit will display (Y/N) option. Type 'Y' and press Enter to disable the Over-Current Buzzer. Type 'N' and press Enter to enable the buzzer.

Display Current Electrical Characteristics:

Type **Current** at the prompt to show the unit's True RMS Current and Peak RMS Current and the unit will display the following:

Circuit Group	True RMS Current	Peak RMS Current
Circuit C1	0.0 Amps	0.7 Amps
Circuit C2	0.0 Amps	0.0 Amps
Circuit C3	0.1 Amps	0.5 Amps
Circuit C4	0.0 Amps	0.9 Amps
Circuit C5	1.2 Amps	1.8 Amps
Circuit C6	0.9 Amps	1.4 Amps

Type **Clear** at the prompt to reset the Peak RMS Current, the ATS will redisplay the status menu with the new maximum detected current.

Type **Voltage** at the prompt to display the unit's True RMS Voltage and the unit will display the following:

Circuit Group	True RMS Voltage
Circuit C1	201.9 Volts
Circuit C2	204.3 Volts
Circuit C3	202.4 Volts
Circuit C4	202.1 Volts
Circuit C5	204.5 Volts
Circuit C6	205.8 Volts

Type **Power** at the prompt to show the unit's Average Power and the unit displays the following:

Circuit Group	Average Power	Volt-Amps
Circuit M1	0 Watts	4 VA
Circuit M2	0 Watts	4 VA
Circuit M3	0 Watts	4 VA
Circuit M4	0 Watts	4 VA
Circuit M5	0 Watts	4 VA
Circuit M6	0 Watts	4 VA

Total kW-h: 0

Type **Temp** at the prompt to show the unit's current temperature and the unit displays the following:

Int. Temp: 95.9 F Ext. 1: 72.1 F : 31.5% RH ; Ext. 2: 70.9 F



Note: Units with probes connected to external sensor ports will be displayed as Ext 1 and/or Ext 2.

Logging Out

Type **Logout, Logoff, or Exit** at the prompt to logoff from the unit. This will close the Outlet Control session. Press "Enter" to open the Outlet Controller session. A login prompt may appear if a user has been assigned to an outlet. Newer firmware may go to the network menu.

Current User Password:

Type **Password** at the prompt to change the current user's password and the unit will display the following:

Enter new Password:
Re-Enter new Password:

If the current user already has a password the unit will display the following:

Enter old Password:
Enter new Password:
Re-Enter new Password:



NOTE: If you do not have the user's current password, delete the user. Reinstall user. Select option to change password and the unit will respond by asking for a new password.

Identify Current User

Type **Whoami** at the prompt to determine the current user, the unit will display the following:

Current User: root

To change the user, logout of the unit and log back in using the new user name.

Unit Identification

Type **Unitid** at the prompt to determine the Unit ID, the unit will display the following:

To change the unit ID, Go to the Outlet Configuration menu and select “Change Unit ID’ option. The maximum field length is 32 or 16 for older unit.

Unit ID: ATS18

Setting Source Input Primary

Type source ‘n’, (n= 1 or 2) at the ATS> prompt. This will change the input to the source selected and make it the primary input.

SETUP OPTIONS

ATSSET

Type **ATSSET** at the prompt, sets the pre-defined switch over points for power loss and brownout. The preset values are listed below:

Default Set Points

	Loss Of Primary Source Power (LOSSPSP)		Brownout (Config option 6)	
	1 - 2	2 - 1	1 - 2	2 - 1
100V	66.6V	91.7V	77.3V	83.2V
110V	73.2V	100.9V	85.1V	91.5V
120V	79.9V	110.1V	92.8V	99.8V
200V	133.2V	183.4V	154.7V	166.4V
208V	138.2V	190.8V	160.9V	173.1V
220V	146.5V	201.8V	170.2V	183.0V
230V	153.1V	210.9V	177.9V	191.4V
240V	159.8V	220.1V	185.6V	199.7V

Frequency Set

The menu displays the current operating frequency and then asks the operator to choose the frequency. If no change is required press “Enter”, otherwise select the appropriate number. Type “X” to exit the ATSSET routine.

```
ATS>atsset
Current operating frequency is: 60 Hz
Enter operating frequency

1)...60 Hertz
2)...50 Hertz
X)...Exit

Enter(1-2,X):
```

Voltage Set

The menu displays the current operating voltage and then asks the operator to choose the new operating voltage. If no change is required press “Enter”, otherwise select the appropriate number. Type “X” to exit the ATSSSET routine.

```
Current operating voltage is: 208.0 Volts
Enter operating voltage
1)...100 Volts
2)...110 Volts
3)...120 Volts
4)...200 Volts
5)...208 Volts
6)...220 Volts
7)...230 Volts
8)...240 Volts
X)...Exit
Enter(1-8,X):
```

LOSSPSP

(Loss of Primary Source Power)

Type “LOSSPSP” at the prompt to check or to change the value of the loss of power set point. This set point establishes when the unit will switch from primary to secondary power and back. **The processor uses ¼ cycle window to determine if the power is at Zero.**

These values are preset when an ATSSSET routine is run. Changing the values is allowed but could cause the unit to operate in ways not previously determined. It is recommended that the default values be used.

```
ATS>losspsp
Primary to secondary trip primary voltage value : 138.5 Volts
Modify (Y/N)? y
Enter:
Secondary to primary return voltage value : 190.8 Volts
Modify (Y/N)? y
Enter:
Type Help for a list of commands
```

RESET PROCEDURE

On the front panel is a small hole next to the LED (RED Arrow).

Perform the following steps:

- Insert paper-clip or similar object into the hole
- Press the micro-switch and hold until the last step.
- Remove power from the unit and wait 15 seconds.
- Restore power to the unit and wait 15 seconds.
- Remove paperclip. Unit is at factory default settings.



BAYTECH PRODUCT (US) WARRANTY

Bay Technical Associates (BayTech) warrants that its products will be free from defects in materials and workmanship under normal use for a period of two years from date of purchase (or date of shipment) from BayTech if proof of purchase is not provided.

During this warranty period, BayTech shall, at its discretion, either repair or exchange any defective product at no charge for labor and materials, or refund the amount paid for the product, less shipping and handling charges. Any replacement and/or repaired products are warranted for the remainder of the original warranty.

The customer is responsible for properly packaging the product and for shipping costs for returns. The customer is liable for loss or damage to the product during shipping, as well as any other fees or charges associated with transporting the product back to BayTech. BayTech will pay return costs for delivery within the Continental United States.

All repair and return shipments must be approved by BayTech and must be accompanied by an RA (return authorization) number. Please refer to our Repair and Return Policy below.

For the initial 30 days from the original date of shipment, any unopened product may be returned to BayTech, accompanied by an RA number. Full purchase price will be refunded, provided that the product is in excellent condition. A product may not be returned after 30 days from the original date of shipment unless approved by BayTech management.

Replacements for defective products may be cross-shipped to the customer at no cost if requested within 30 days of date of purchase. At BayTech's discretion, this period may be extended to 90 days.

For additional information or more specific warranty issues, contact BayTech's Technical Support Department at **(800) 523-2702** or **(228) 563-7334**.

Exceptions

This warranty does not cover misuse or minor imperfections that fall within design specifications or that do not materially alter functionality. BayTech does not warrant and is not responsible for damages incurred in shipping and handling or caused by disasters (such as fire, flood, wind, earthquake, lightning, power surges or water).

The warranty will be voided regarding products that have been neglected, altered, abused, misused, or used for purposes other than those for which it was designed.

Under no circumstances shall BayTech be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include (but are not limited to) loss of profits, loss of the product or associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property.

BayTech Extended Warranty

Extended warranties and overnight replacements are available for purchase, but only at the time of product purchase. The extended warranty cost will not exceed 7% per year of the product list price unless otherwise stated in the customer contract or approved by BayTech management. Contact BayTech for further details on this.

Technical Support

BayTech offers Tech Support for the lifetime of the product. A staff of Applications Engineers is on duty to assist with installation, set up or operation issues. Support is available from **8:00 a.m. to 5 p.m.** (CST or CDT), Monday through Friday at the phone numbers or website provided below.

Please have the following information available to help the Applications Engineers answer questions efficiently:

- BayTech model type
- Unit serial number
- Firmware version (if accessible)
- A list of devices connected to the BayTech unit
- A general description of the application being used and the intended outcome
- Information about cables and adapters being used (type, length, place of purchase)
- The name of the software emulation program being used
- Printout of the configuration status (if possible)

Bay Technical Associates, Inc.

5239 A Avenue

Long Beach Industrial Park

Long Beach, MS 39560

Telephone: 800-523-2702 or 228.563.7334

FAX: 228.563.7335

Email: support@baytech.net

Website: www.baytech.net

Repair Policy

(Return policy refers to BayTech products purchased and returned for credit or repair.)

A Return Authorization (RA) number must be obtained in all cases before returning the BayTech product. Have the serial number and reason for the return or description of the problem handy. Customers in the Continental U.S. can call 1-800-523-2702 or international customers can call 228.563.7334 to obtain an RA number.

If a product is being returned for credit (based on BayTech approval), the credit will not include shipping and handling charges. Determination of credit amount will be made after BayTech receives the product. Returns on BayTech products older than 3 months are subject to a 15% re-stocking fee of the list price of the product and will be evaluated on a case-by-case basis. BayTech does not allow returns on products out of warranty or for any type of custom product.

Before dismantling equipment or returning the unit for any reason, always contact BayTech. Attempting to repair a product without BayTech authorization may result in voiding the warranty.

Follow the instructions below for repackaging and shipping. **NOTE: *Power should be disconnected from the power source before servicing or dismantling.***

Return Authorization Process

1. Contact BayTech to get a Return Authorization (RA) Number. **IMPORTANT:** *BayTech will not accept any returns without an RA number.*
2. Package the unit carefully in its original packaging or similar packaging. The warranty does not cover damage sustained during shipment. Enclose a letter with name, address, RA number, daytime phone number and description of the problem.
3. Surround your unit with a minimum of two inches of insulation.
4. Be sure to seal the box securely with strapping or packing tape. We do not recommend masking tape or cellophane tape.
5. Mark the RA number clearly on the outside of the package.
6. Ship the unit by insured, prepaid carrier to the following address:

Bay Technical Associates
5239 A Avenue
Long Beach Industrial Park
Long Beach, MS 39560
RA #: 140-xxxxx

TROUBLESHOOTING

Problem:	Solution:	Reference:
Unit Switches Continuously	Verify the voltage and frequency is set for the input voltage via ATSSSET command	Page 17
Unit has long beep and long pauses continuously, Part 1	The beeping signifies NO VOLTAGE from one input, Connect both inputs to power source.	This is normal operation. No means of silencing beeping
Unit has long beep and long pauses continuously, Part 2	Unit is operating on Secondary source. Enable the Secondary Switch-Back, option 7, and change the switch-back time if necessary	Page 15, Change ATS Switch Back Mode/Time
Unit beeps and Alarm LED lights continuously	The alarm is over-current alarm. Check unit current. If close to 12 amps, either disconnect some devices or adjust the 'Over Current Alarm Threshold'	Page 15, Change Alarm Threshold
Not able to communicate with EIA232 port	Verify using RJ08X007 cable, 9-pin adaptor 9FRJ45PC-1, B/C switch is set to 'B'.	Page 10, ATS Quick Start

When the ALARM Sounds

A new feature, that was requested, has been added to the unit concerning when the alarm lights and buzzer sounds. There is NO 'Silence the Alarm'

1. If the Alarm LED is light solid and the buzzer sounds without pauses, you have an Over-Current condition.
 - a. -Solution: clear the over-current condition.
2. If the Alarm LED is light intermittent and the buzzer sound intermittent on a cyclic rate of long beep, long pause than beeps again, one of the input voltages has either a "Loss of Power", a Brown-Out" condition, or the unit is operating on the secondary input.
 - a. -"Loss of Power", restore the power to proper voltage level. The unit will switch to the primary after 8-seconds plus any time delay set in the switch-back feature of the 'Config/Option (7), Change ATS Switch Back Mode/Time', **Default** is (0) seconds.
 - b. -"Brown-Out", verify the input voltage is at the proper voltage level.
 - c. -"Unit operating on Secondary Input Voltage", If 'Config/Option (7) Change ATS Switch Back Mode/Time' is Disabled the unit will not switch back to the Primary; the alarm will light and the buzzer will sound continuously. If the Switch Back Mode is enabled, the unit will switch (8) seconds plus any time delay set. The **Default** time delay is set to (0) seconds.

Bracket Installation

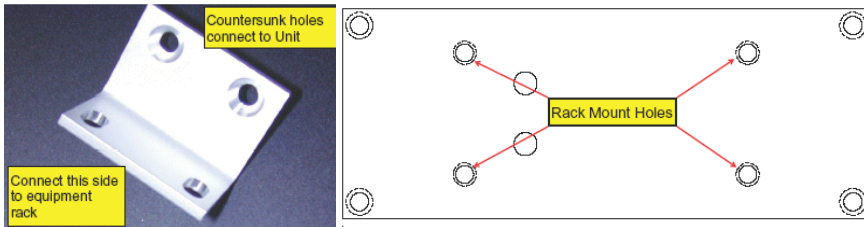
HORIZONTAL Mounts:

Each horizontal, Baytech unit is shipped with a set of horizontal brackets, and four screws packaged in a bubble-wrap bag.

1U Bracket, part number: M140R115

Attach brackets to the each of the unit's side panel with two screws. Verify both brackets are facing the same direction on the unit, once attached.

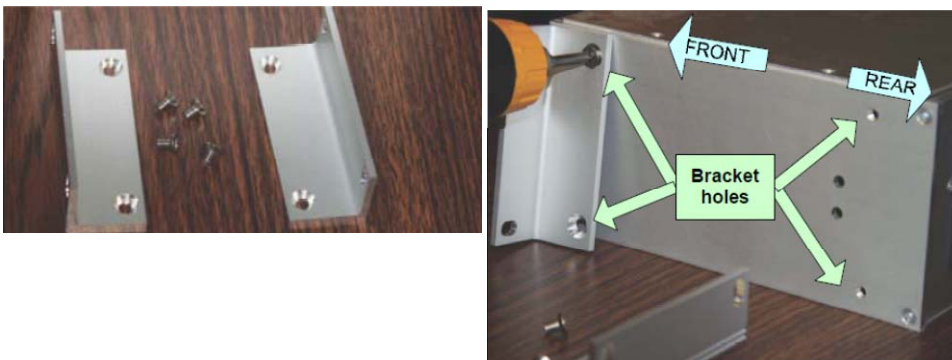
Bracket 1: 1U - M140R115



2U Bracket, part number: M140R114

Attach brackets to the each of the unit's side panel with two screws: Verify both brackets are facing the same direction on the unit, once attached.

Bracket 2: 2U - M140R114



Attach brackets and unit to rack with four screws as shown below.

Bracket 3: Horizontal to Rack

