

Installation and Operation Manual

AllSync IQ®

AllSync IQ® Wired Master Clock



FCC Conformity (USA only)

Responsible Party: American Time, 140 3rd St. S., PO Box 707, Dassel, MN 55325-0707 USA

TEL: 320-275-2101, declares that the product(s):

AllSync IQ Master

Comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference
- (2) This device must accept any interference received, including interference that may cause undesired operation

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Safety Precautions

All electrical power and signal wiring connected to the AllSync IQ Master, secondary clocks and signaling devices must be installed by qualified persons in conformance with applicable national and local electrical codes. Improper installation of this equipment can result in lethal electrical shock and fire.

Disconnect and lock out electrical power to the unit before removing the wiring compartment cover.

Voltage applied to clock and signal relay contacts must not exceed 250vac.

The AllSync IQ Master should be installed in a secure location protected from:

- Physical damage
- Water, including condensation
- Direct sunlight
- Operation by untrained personnel

Introduction

AllSync IQ Features	4
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Installation/Programming Instructions for AllSync IQ

AllSync IQ Installation	5
AllSync IQ Setup Wizard	6-9
Ethernet Installation	10-11
Wired Clock Circuit Installation	12
Adjust Time Menu	13
Wired Signal Circuit Installation	14-23
Remote Connect Web Interface	24-31
Settings & Configurations:	
Manually Set Time and Date	32
Manage Locks	33
Time Sync Priority	33
Clock Code	33
Clear/Restore	33
Setup Manager	34
Banner Text	34
Display Settings	34
Auto DST Settings	34
USB Flash Drive	34

Troubleshooting

AllSync IQ	35
Ethernet	36
Remote Connect	37
Wired Clock Circuit	38
Wired Signal Circuit	39
Secondary Clocks	40

Appendix A: Ethernet Timekeeping - Known Good Internet Time Servers	41
Appendix B: Supported Time Zones	42
Appendix C: Tone Generator Wiring	43
Appendix D: Wired Signal Circuit Programming Examples	44-46
Appendix E: Checking AllSync IQ Master Status Information	47
Appendix F: Port Diagram	48
Appendix G: Maintenance Guide	49
Appendix H: Clock Circuit Wiring Diagrams	50-54
Glossary	56-57

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Introduction

The AllSync IQ master provides synchronized control of secondary system clocks and electrical circuits such as those for controlling signaling devices and lights.

Standard features of the AllSync IQ master include:

- Built-in keypad and LCD for setup and operation
- Internal clock accuracy of ± 1 minutes per year (without synchronization)
- User selectable clock codes for controlling a wide range of clock types
- Two level password security
- Manual advance of impulse clock types
- Automatic Daylight Saving Time and Leap Year correction
- Programmable Custom and Automatic Daylight Saving Time
- Automatic time synchronization with Ethernet
- Remote setup and operation with web browser interface via Ethernet

Installation

Optional features include:

- Flexible control of 6 signal circuits and/or 1 set of clock circuits
- Manual control of signal circuits

The following table shows the relay options included with each model number.

Troubleshooting

Model No.	1 Clock Circuit (2 Relays)	Signal Circuits (6 Relays)
ASQMSTR-00X8E	X	X
ASQMSTR-00X6E		X
ASQMSTR-00X2E	X	

Appendix

Glossary

Electrical Connections

120vac Supply Connections

WARNING

To prevent electrical shock, do not apply electrical power to the master, clock relays or signal relays before completing all wiring connections.

Connect the ungrounded (hot) wire to the H screw terminal, the neutral wire to the N terminal and the ground wire to the  terminal

Fuse

A 2.5A - 240vac subminiature (Little Fuse Inc. part #37412500410 recommended) protects the power input circuit. Each clock and signal relay circuit must be current limited to 8A or less by an external circuit breaker or fuse.

Clock Connections

CAUTION

To prevent damage to relays, relay contact voltage must not exceed 240vac.

WARNING

To protect against shorts between power and signal circuits, all wires connected to the power, clock, and signal circuit terminals must be insulated to 300vac.

Appendix I shows wiring connections to the master clock and the secondary clocks for all clock types controlled by the AllSync IQ master.

Mounting Master Clock

The AllSync IQ master clock should be:

- Located indoors in a dry location
- Mounted upright on a vertical surface
- Protected from physical damage
- Protected from water, including condensation
- Out of direct sunlight
- Operated by trained personnel

An area at least 22" wide and 20½" high should be reserved to allow a clearance of at least 12" below and on left side of the AllSync IQ master. Wiring for power, clock and signal circuits must enter through conduit knockouts along the bottom of the enclosure. Connector for Ethernet and power switch are located on the left side of the enclosure.

The AllSync IQ master is designed to be wall-mounted by a keyhole hanger and screws. The Quick Start Guide shows a template for locating wall hangers to mate with these openings.



Programming Procedure

Turn on the power to the AllSync IQ

The first time the unit is powered up, it will prompt you (See Setup Wizard Main Screen) to press:

- To use the Setup Wizard
- Bypass the Setup Wizard temporarily
- Disable the Setup Wizard

■ **Note:** Bypass or Disable will exit Setup Wizard.

1 To Configure the AllSync IQ

- Press: , and enter 4 digit User Lock or enter 0000 to disable this feature.
User Lock _ _ _ _

■ **Note:** User Lock is the security level used for accessing time/date and event menus.

- Press

2 Enter 4 digit Service Lock or enter 0000 to disable this feature.

- Service Lock: _ _ _ _

■ **Note:** Service Lock is the security level used for accessing System Controller configuration menus.

- Press

3 Select local time zone by using the keys or enter a time code from Appendix B. Press and skip to 5.

If a custom time zone is needed, press and and continue to 4.

4 Enter offset from UTC for Custom Time Zone.

- Use to change + to -.
- Press

5 Select Daylight Saving Time (DST) option.

- Option 8 causes automatic time changes to and from DST under the changeover dates currently in effect in the USA at the time of system manufacture.

Press and skip to 14.

- Option 9 allows a custom DST to be entered. Press

and skip to 6.

- Option 0 turns off DST. Press and skip to 14.



If you chose Auto or Off in 5, skip to 14.

If you chose Custom, continue to 6.

Setup Wizard Main Screen

```
Setup Wizard
1=Enter Now
2=Bypass
3=Disable
```

```
1
Config Menu
Choose User Lock:
      XXXX
0000=Disab      OK=Done
```

```
2
Config Menu
Choose Service Lock:
      XXXX
0000=Disab      OK=Done
```

```
3
Set Menu LOCAL
Time Zone Code: 05
99=Custom      USCT
<>=Scroll      OK=Accept
```

```
4
Set Menu Bias LOCAL
Enter Time Zone
offset from UTC
+ 11:30      OK=Accept
```

```
5
Set Menu DST - LOCAL
Set DST (AUTO)
8=Auto      9=Custom
0=Off      OK=Accept
```



Programming Procedure (cont)

For use only when configuring Custom DST settings

6 Define DST:

- Press **SUN 1** to set fixed dates and times for the beginning and end of DST. Skip to .
- Press **MON 2** to set months, weeks, weekdays and times (floating dates) for the beginning and end of DST.

7 Select fixed dates for DST (START):

- Use **PREV** **NEXT** to scroll start month and day. Press **OK** to move to the next field.
- Use **PREV** **NEXT** or keypad to enter the start time. Press **OK** to move to the next field.
- Use **PREV** **NEXT** to select AM/PM. Press **OK** to accept.

8 Select fixed dates for DST (END):

- Use **PREV** **NEXT** to scroll end month and day. Press **OK** to move to the next field.
- Use **PREV** **NEXT** or keypad to enter the end time. Press **OK** to move to the next field.
- Use **PREV** **NEXT** to select AM/PM. Press **OK** to accept.

9 Select fixed dates for DST (BIAS):

- Use keypad to enter bias.
- Use **PREV** **NEXT** to select "+" or "-". Press **OK** to accept.

10 Select floating dates for DST (START DATE)

- Use **PREV** **NEXT** to scroll week, day and month. Press **OK** to move to the next field.
- Use **PREV** **NEXT** on the bias selection to change + and -.
- Use keypad to enter bias. Press **OK** to accept.

11 Select floating dates for DST (START TIME):

- Use **PREV** **NEXT** or keypad to enter the start time.
- Press **OK** to accept.

12 Select floating dates for DST (END DATE)

- Use **PREV** **NEXT** to scroll week, day and month. Press **OK** to move to the next field. Press **OK** to accept.

13 Select floating dates for DST (END TIME)

- Use **PREV** **NEXT** to enter the start time. Press **OK** to move to the next field.
- Use **PREV** **NEXT** to select AM/PM. Press **OK** to accept.

6

```
Set Menu DST - LOCAL
Define DST By:
1= Fixed Dates
2= Floating Dates
```

7

```
Set Menu DST - LOCAL
DST Start: Mar 30
Start Time: 01:00 AM
◇ = AM/PM      OK=ACPT
```

8

```
Set Menu DST - LOCAL
DST End: SEP 15
End Time: 02:00 AM
◇ = AM/PM      OK=ACPT
```

9

```
Set Menu DST - LOCAL
DST Bias: +00:00
◇ = +/-      OK=ACPT
```

10

```
Set Menu DST - LOCAL
Start of DST:
2nd SUN of MAR
Bias +1:00      OK=ACPT
```

11

```
Set Menu DST - LOCAL
Start Time:
01:00 AM
◇ = AM/PM      OK=ACPT
```

12

```
Set Menu DST - LOCAL
End of DST:
1st SUN of NOV
OK=ACPT
```

13

```
Set Menu DST - LOCAL
End Time:
01:00 AM
◇ = AM/PM      OK=ACPT
```



Programming Procedure (cont)

14 To set the time display mode for the AllSync IQ, select 12/24 Hr Mode.

- Press **SUN 1** for 12 hour mode-AM/PM (1:00 PM)
- Press **MON 2** for 24 hour mode-Military (13:00)

15 Use the keypad to Enable DHCP or Disable to select static IP entry.

- Press **SUN 1** for enable DHCP
- Press **MON 2** for disable DHCP
- Press **OK** to accept

If you chose enable, skip to **19**

If you chose disable continue to **16**

16 Use the keypad to enter the Unit IP Address. This is a static address assigned by your Network Administrator. Enter preceding zeros as necessary.

- Unit IP Address:
- Press **OK**

17 Use the keypad to enter the Subnet Mask. This is the subnet mask of your network. Enter preceding zeros as necessary.

- Subnet Mask:
- Press **OK**

18 Use the keypad to enter the Gateway IP. This is the IP address of your network's Gateway device. Enter preceding zeros as necessary.

- Gateway IP:
- Press **OK**

19 Use the keypad to enter the Time Server address. Enter preceding zeros as necessary.

- Time Server Address:
- Press **OK**

OR Press **OK** to accept the default set at the factory from the list of known good Internet Time Servers in Appendix A.

20 Use the keypad to enter the Alternate Time Server address. Enter preceding zeros as necessary.

- Alt. Time Server Address:
- Press **OK**

OR Press **OK** to accept the default set at the factory from the list of known good Internet Time Servers in Appendix A.

14

```
Set Menu 12/24 Mode
Choose Mode: 1
1=12 HR (AM/PM)
2=24 HR (Military)
```

15

```
Comm Menu
DHCP
1=Enable
2=Disable           Ok=Done
```

16

```
Comm Menu
Unit IP Address
192.168.001.001
<=Bksp           OK=Done
```

17

```
Comm Menu
Enter Subnet Mask
255.255.255.000
<=Bksp           OK=Done
```

18

```
Comm Menu
Enter Gateway IP
192.168.010.099
<=Bksp           OK=Done
```

19

```
Comm Menu
Time Server Address
131.107.013.100
<=Bksp           OK=Done
```

20

```
Comm Menu
Alt Time Srvr Addr
173.014.055.009
<=Bksp           Ok=Done
```



Programming Procedure (cont)

21 The unit will prompt you to enter the Port Number. This is for remote web access and should be set to 0080.

- Port Number:
- Press to accept the default (80) set at the factory.

22 Press to sync.

- a. If successful "Sync Successful" will display.
- b. If not successful, "Sync Failed" will display. Refer to the troubleshooting guide.
- Press to exit the Sync Now function.

23 Screen 22 will be displayed when the Setup Wizard has been completed. You will no longer be prompted on power-up for the setup information.

24 The AllSync IQ should now show the correct time and date on its display screen.

Your AllSync IQ is now set up for proper operation. You can continue to the other sections of this manual for further information on other features. If you have any questions or problems that cannot be resolved by following the steps in the Troubleshooting Guide, please contact Technical Support at American Time (800-328-8996).

AllSync IQ Setup Wizard

21

```
Comm Menu
Enter Port Number
for web access: 80
                OK=Done
```

22

```
Set Menu
Time Sync Option is
Available: Ethernet
8=Sync now      OK=Set
```

22a (example)

```
Set Menu
Ethernet Sync
Successful
```

22b (example)

```
Set Menu
Ethernet Sync
Failed
```

23

```
Setup Wizard
Successfully Completed
```

24a-large text mode

```
10 : 38 :06
FEB 09 2008 AM
```

25b-small text mode

```
TUE FEB 09 2008
10:38:06 AM USCT
American Time
Status=AUTO      ETH-S
```

Introduction

Installation

Troubleshooting

Appendix

Glossary



Introduction

Installation

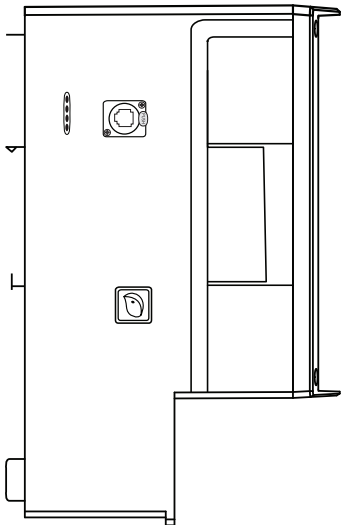
Troubleshooting

Appendix

Glossary

Connecting Ethernet Option

This option provides time synchronization via Simple Network Time Protocol (SNTP) or Daytime Protocol from Internet Time Servers or an internal Network Time Server.



Ethernet Option requires:

- 1. TCP/IP Network with Internet access or connection to a Network Time Server.
- 2. Cat 5 or above patch cable (not included).
- 3. Host Name:
- 4. *Static IP Address from Network Administrator:
- 5. *Gateway IP Address:
- 6. *Subnet Mask:

*Not required if DHCP is Enabled

- 7. Firewall Port 123 for SNTP or 13 for Daytime Protocol open:
- 8. SNTP Server Address:
- 9. Alternate SNTP Server Address:

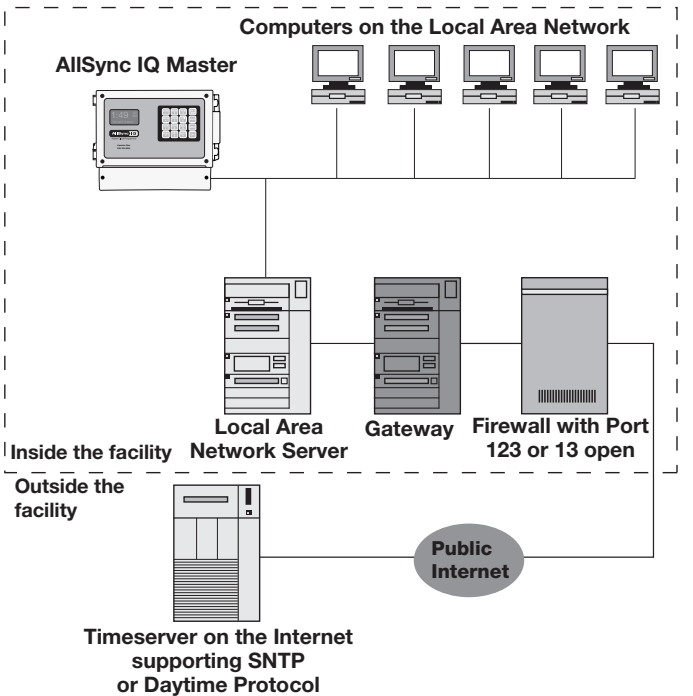
See Appendix A for a list of Internet Time Server addresses (or use the address of a server on your local network)

■ **Note:** **Record the last 6 digits of device serial number (located on the side of the AllSync IQ master). The Host name can be used to identify the AllSync IQ master on the network for DHCP.

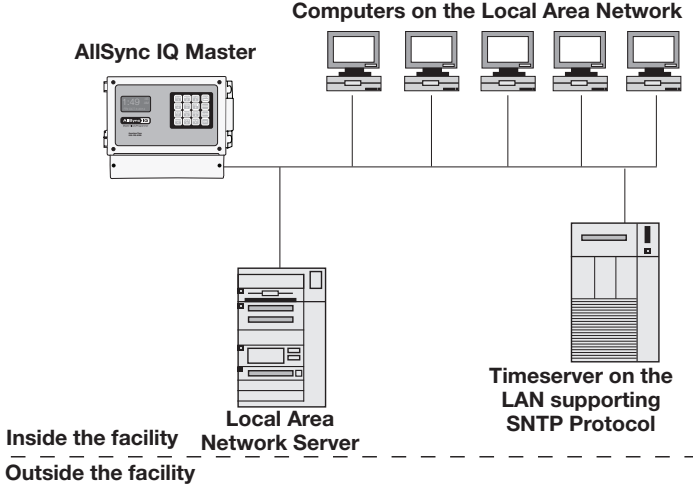
■ **Important Note:** Time Servers provide time sync for UTC Time, but do not set Time Zone or DST settings.

■ **Note:** This option automatically syncs once per hour at a time preset at the factory.

Configuration 1: Receive Time Sync via the Internet (SNTP or Daytime Protocol)



Configuration 2: Receive Time Sync via the Internal Network (SNTP)





Programming Procedure-Keypad

Note: These settings may already have been entered using the Startup Wizard.

Turn on the power to the AllSync IQ

1 Configure Communication (Comm) Settings:

Press **PROG**, **SAT 7**, **TUE 3** to access Comm Settings:

a. Use the keypad to Enable DHCP or Disable to select static IP entry.

- Press **SUN 1** for enable DHCP
- Press **MON 2** for disable DHCP
- Press **OK** to accept
- If **SUN 1** skip to e

b. Use the keypad to enter the Unit IP Address. This is a static address assigned by your Network Administrator. Enter preceding zeros as necessary.

- Press **OK**

c. Use the keypad to enter the Subnet Mask. Enter preceding zeros as necessary. This is the subnet mask of your network.

- Press **OK**

d. Use the keypad to enter the Gateway IP. Enter preceding zeros as necessary. This is the IP address of your network's Gateway device.

- Press **OK**

e. Use the keypad to enter the Time Server Address. Enter preceding zeros as necessary. Press **OK**.

OR Press **OK** to accept the default set at the factory from the list of known good Internet Time Servers in Appendix A.

f. Use the keypad to enter the Alternate Time Server Address. Enter preceding zeros as necessary. Press **OK**.

OR Press **OK** to accept the default set at the factory from the list of known good Internet Time Servers in Appendix A.

g. The unit will prompt you to enter the Port Number. This is for Remote Connect web access and should be set to 0080. Press **OK** to accept the default (80) set at the factory.

h. Press: **OK** **BACK** **BACK**, to return to Main Screen.

2 Sync System Controller with correct time & date:

- Press: **PROG** **SUN 1**, to Set Menu Mode.
- Enter User Lock and press **OK**.
- Press: **ADJ 9**, to sync the System Controller with Ethernet. Press **NEXT >** until Ethernet option is chosen.
- Press **AUTO 8** to sync with Ethernet.

Note: If "Ethernet Sync Successful" is displayed, press **OK** **BACK** **BACK** to return to Main Screen.

If "Ethernet Sync Failed" is displayed, reference the troubleshooting guide.

3 The Ethernet sync option is now configured and will update the time on the System Controller automatically once each hour at a time preset at the factory.

Note: When Ethernet synchronization is working, ETH=S will be displayed on the screen in small text mode as shown in screen shot 3. If a synchronization attempt fails, ETH=N will be displayed.

Ethernet Option

1a

```
Comm Menu
DHCP
1=Enable
2=Disable
Ok=Done
```

1b (example)

```
Comm Menu
Unit IP Address
192.168.001.001
<=BkSp
OK=Done
```

1c (example)

```
Comm Menu
Enter Subnet Mask
255.255.255.000
<=BkSp
OK=Done
```

1d (example)

```
Comm Menu
Enter Gateway IP
192.168.010.099
<=BkSp
OK=Done
```

1e (example)

```
Comm Menu
Time Server Address
137.107.013.100
<=BkSp
OK=Done
```

1f

```
Comm Menu
Alt Time Srvr Addr
173.014.055.009
<=Bksp
Ok=Done
```

1g

```
Comm Menu
Enter Port Number
for web access:0080
OK=Done
```

2b

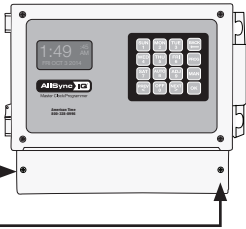
```
Set Menu Mode
Enter User Lock:
XXXX
PROG=EXIT
OK=ENTER
```

2c&d

```
Set Menu Mode
Time Sync Option is
Available: Ethernet
8=Sync now
OK=Set
```

3

```
TUE FEB 09 2008
10:30:06 AM USCT
American Time
Circts=Auto ETH=S
```

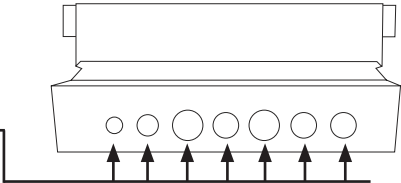


Wired Clock Circuit Installation

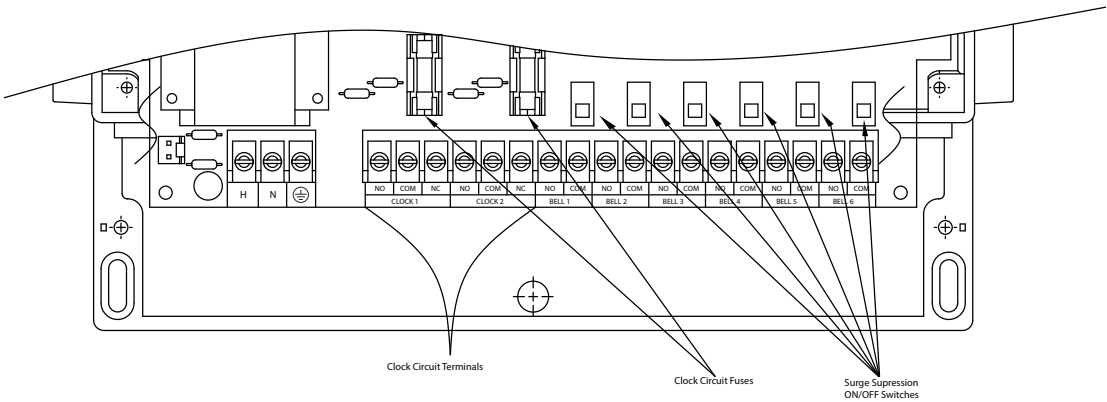
To install wired clock circuits:

1. Disconnect and lock out power to the AllSync IQ Master and any circuit wiring.
2. Remove the terminal block cover from the AllSync IQ.
 - a. Remove screw from each side of the cover.
 - b. Lift the cover up off the unit.
3. Route signal circuit wires into the wiring compartment of the AllSync IQ.

a. Remove knockout(s).



- b. Use copper conductors only.
 - c. Use strain relief connector fittings in the knockout holes to secure the wires.
 - d. Route the wires into the wiring compartment, leaving enough slack to make all connections to the relay terminals.
4. Connect clock wires to the circuit relay terminals



See Appendix H on Page 50 for Clock Circuit Wiring Diagram



The Adjust Time menu serves two functions:

1. Manual correction of impulse secondary clocks, and
2. Simple synchronization of the AllSync IQ to an external time source.

- 1 Press: **ADJ 9** to access the Adjust Time Menu
- 2 Press: **SUN 1** to enter Adjust System Clocks Menu
- 3 Press: **SUN 1** to bring up the Calculated Adjust screen
Enter the time shown on the secondary clocks (to the nearest minute). The time entered should be in 12 hour format as AM/PM settings are irrelevant.
Press **OK**. The time difference between the secondary clocks and the system controller is displayed.
Press **OK** to initiate automatic correction of the secondary clocks and return to the Adjust Time screen.
- 4 Pressing **MON 2** in the Adjust System Clocks menu (#3 at right) brings up the Manual Adjust screen.
Press **NEXT >** repeatedly to correct impulse clocks manually.
Press **OK** when finished to return to the Adjust Time menu.
- 5 Pressing **MON 2** in the Adjust Time screen (#2 above) causes the unit to attempt synchronization with external time sources* in order of priority. If successful, a message confirming this flashes before the Time Display screen appears.

*The time sync priority can be configured. Reference Settings and Configuration on Page 33.

2

```
Adjust Time
Choose:
1=Adjust System Clks
2=Ethernet Sync Now
```

3

```
Adjust System Clocks
1=Calculated Adjust
2=Man. Adjust Impulse
0=Cancel
```

3a

```
Calc Clock Adjust
Enter Time Shown
on secondary clocks
00:00
```

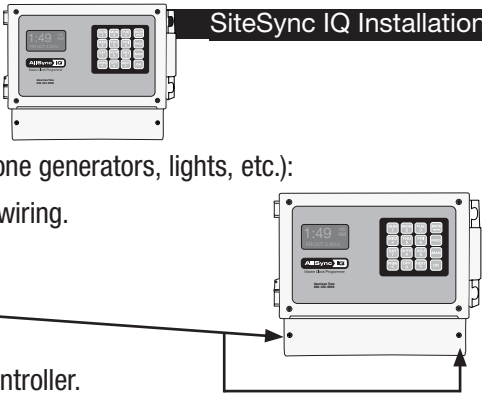
4

```
Adjust System Clocks
Manual Adj. Impulsed
>=Advance Clocks
(1 per min)    OK=Done
```

Wired Signal Circuit Installation

To install wired signal circuits (for electrical device control including bells, tone generators, lights, etc.):

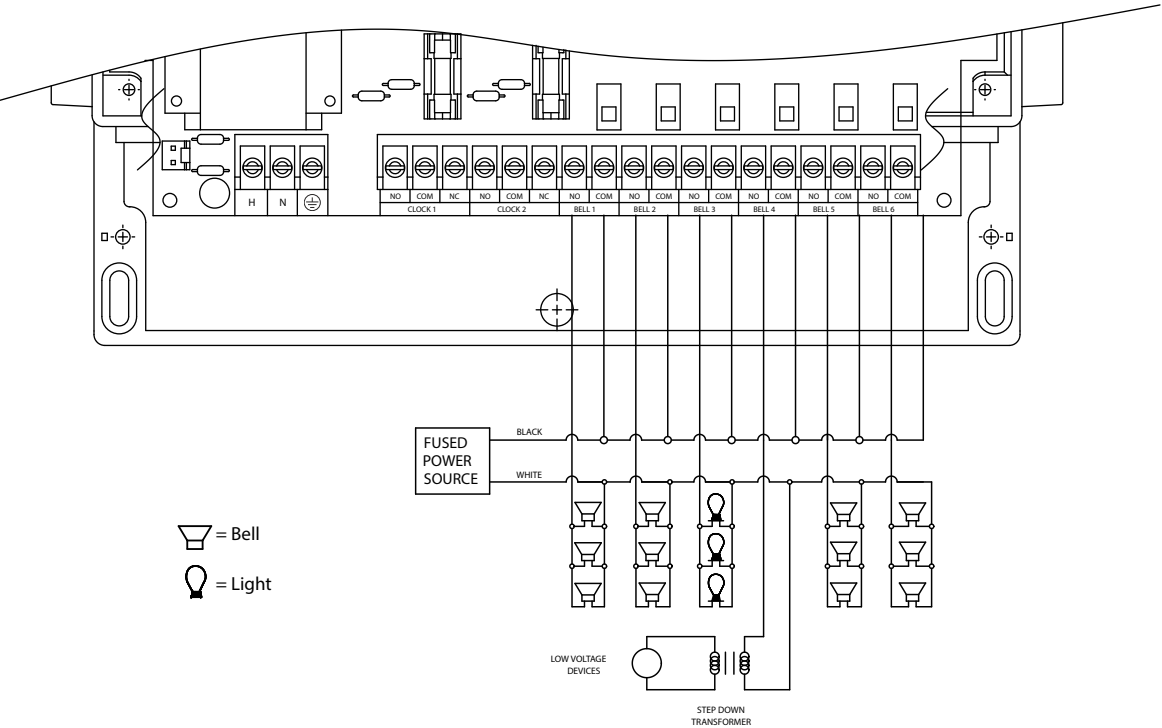
- 1. Disconnect and lock out power to the AllSync IQ Master and any circuit wiring.
- 2. Remove the terminal block cover from the AllSync IQ.
 - a. Remove screws from each side of the cover.
 - b. Lift the cover up off the unit.
- 3. Route signal circuit wires into the wiring compartment of the System Controller.



- a. Remove knockout(s).
 - b. Use copper conductors only.
 - c. Use strain relief connector fittings in the knockout holes to secure the wires.
 - d. Route the wires into the wiring compartment, leaving enough slack to make all connections to the relay terminals.
- 4. Connect signal wires to the circuit relay terminals.
 - a. Route the power (feed) line of each circuit to the COM terminal of the desired circuit (1-6) being connected.
 - b. Route the switched (load) line of each circuit to the NO terminal of the desired circuit (1-6) being connected.
 - c. Label the wires for each circuit as desired.

Note: The signal circuits are protected with surge suppression components. In some applications, this protection can cause leakage current to trigger the output device(s) when the circuit is switched ON. In these cases, the surge protection switches (see illustration below) can be moved to the OFF position. Contact American Time Technical Support at 800-328-8996 with any questions.

AllSync IQ Master Wiring Compartment Diagram





Programming Events (Keypad Interface)

The AllSync IQ Master contains 6 integrated signal relays. When configured, the Signal Circuit Option allows the System Controller to be used for operating bells, tone generators, lighting circuits and other electrical equipment.

■ **Note:** AllSync IQ masters with the Ethernet option can also be programmed via the Remote Connect web interface (see page 25).

Definitions:

An **Event** is programmed into the AllSync IQ master with time and date information, as well as a duration or a start/stop command. For example, Event 0001 may be programmed to execute every Monday, Wednesday and Friday at 10:00 am for 3 seconds. Each event is assigned to a **Schedule**. The AllSync IQ Master can store up to 9,999 events. The event duration is programmable from 1 to 9 seconds and also allows for ON or OFF commands. Normal events are recurring weekday events. A **Special Event** contains date information that is not specific to weekdays. For example, you can set a special event for the 4th day of every month, the 4th day of every January or the 4th day of January in a specific year. You can also set a special event for every Thursday in January or every Thursday in a specific year. A **Schedule Change Event** is entered in the same manner as a **Special Event**. A schedule change event allows you to change from one schedule to another. This may be useful for changing from a normal schedule to a holiday schedule.

A **Schedule** is a group of events. For example, a school might program Schedule 01 with 4 events for their morning Elementary recess schedule. The AllSync IQ Master allows for 99 unique schedules, with any number of events in each (up to a maximum total of 9,999 events). Schedules, with groups of events, are assigned to **Circuits**.

A **Circuit** is defined as one of the 6 relay outputs on the AllSync IQ Master. Each circuit can be assigned one schedule at a time. For example, Schedule 01 with 4 events might be assigned to Circuit 1 and Schedule 03 with 10 events might be assigned to Circuit 2.

1 Programming New Events

- Press: **PROG** **MON 2**, enter User Lock using the keypad and press **OK** to enter the Event Menu.
- Press: **SUN 1** to add an event.
- Select the number of the schedule for the new event and press **OK**.
- If any events have already been assigned to the selected schedule, the days and start time for the first event are displayed. Use the **NEXT >** key to move to the New Event screen. Press **OK** to display the Select Weekdays screen.

■ **Note:** Press **PREV <** on the first event to view the last event. Press **NEXT >** to move to the New Event Screen.

- To program event days, press **SUN 1** through **SAT 7** keys to add or remove days individually, or
Press **AUTO 8** to add weekdays (shown), **ADJ 9** to add weekends, or
Press **OFF 0** for special events or schedule change events. This allows events to be defined by date(s). Please reference section 3 (Programming Special Events) and 4 (Programming Schedule Change Events) for details.
Press **OK** to accept the assigned days.

2 Programming Recurring Events by Weekday

For a non-special event, this brings up the Event Time screen.

To program start time:

- Use the number keys to enter the hour and minute. Press **PREV <** for AM or **NEXT >** for PM. Press **OK** to accept the event start time.

The Event Duration screen appears. To program event duration (1-9 seconds):

- Press any number **SUN 1** - **ADJ 9** to specify duration, or
Press **OFF 0** to use the default duration(s) for the circuit(s) assigned to the schedule, or
Press **NEXT >** to latch assigned circuits on until a later event turns them off, or
Press **PREV <** to turn off assigned circuits that were previously turned on.
Press **OK** to accept event duration.

1a&b

```
Event Menu
View Events by
1=Schedule/Event      3=WKDY
2=Date/Tme
```

1c

```
Event Menu
Choose Schedule
Sch=01 Select 1-99
OK=Accept
```

1d

```
Event Menu
Sch=10 Event=0000
2008-02-12 12:04 AM
<Sc> M-Del OK=Edt
```

1e

```
Select Weekdays:
8=M-F MTWTF
9=S+S Key 1234567
0=Spec/Sch OK=Accpt
```

2a

```
Event menu
Select event time:
Eut Time: 12:00 AM
MTWTF OK=Acpt
```

2b

```
Event menu
Duration 0=Default
2 Sec (1-9, < or >)
Off=< On=> OK=Set
```



2 Programming Recurring Events by Weekday (continued)

The Choose Schedule screen reappears:

- c. Press **OK** to accept the schedule number.
- d. The Event Saved screen briefly appears followed by the Select Event Time screen.

- e. If a new event is to be programmed with the same assigned schedule, days and duration as the previous event, Press **SUN 1**. Enter only the start time of the new event and press **OK**. Follow this procedure for all new events sharing the same schedule, days and duration.

To see a programming example, see Appendix D.

Press the **MON 2** key to exit this loop and return to the View Events screen at the top of the Event Menu.

2c

```
Event Menu
Choose Schedule
Sch=01  Select 1-99
          OK=Accept
```

2d

```
Event Menu
Y=All  M=All
MTWTF  05:03 AM
Event 0000 Saved
```

2e

```
Event Menu
Enter Another Event:
1=Yes
2=No
```

2e

```
Event Menu
Select event time:
Evt Time: 1:00 AM
MTWTF  OK=Acpt
```

3a

```
Select Weekdays:
8=M-F      MTWTF
9=S+S Key 1234567
0=Special  OK=Accept
```

3b

```
Event Menu
1=Special Event
2=Schedule Change
```

3c

```
Event Menu
Enter Event Year
Year: 2008  All=0000
          OK=Accept
```

3d

```
Event Menu
Enter Event Month
Month=02 February
All=00  OK=Accept
```

3e

```
Event Menu
Choose:
1=Set Date (1-31)
2=Set Weekday(s)
```

3f

```
Event Menu
Select event date
Day of month= 15
All=00  OK=Accept
```

3 Programming Special Events

- a. Press **OFF 0** in the Select Weekdays screen.
- b. Press **SUN 1** for special Event.
- c. Change the year if necessary or enter 0000 to indicate all years. Press **OK** bring up the Enter Event Month screen.
- d. To change the month, enter the number of the month as 2 digits. Enter 00 to select all months. Press **OK** to accept and bring up the Choose screen.
- e. Press **SUN 1** to select a day of the month and bring up the Select Event Date screen.
- f. Enter a 2-digit day of the month or 00 for all days and press **OK**. Pressing **MON 2** in the Choose Screen (3e) brings up the Select Day screen.

At this screen:

Press **SUN 1** - **SAT 7** keys to add or remove days individually, or

Press **AUTO 8** to add weekdays, **ADJ 9** to add weekends.

Press **OK** to accept the assigned days.



③ Programming Special Events (continued)

- g. The Select Event Time screen appears. To program start time:
Use the number keys to enter hour and minute.

Press **PREV** **<** for AM or **NEXT** **>** for PM.

Press **OK** to accept the event start time.

The Event Duration screen appears. To program event duration (1-9 seconds):

- h. Press any number **SUN** **1** - **ADJ** **9** to specify duration, or

Press **OFF** **0** to use the default duration(s) for the circuit(s) assigned to the schedule, or

Press **NEXT** **>** to latch assigned circuits on until a later event turns them off, or

Press **PREV** **<** to turn off assigned circuits that were previously turned on.

Press **OK** to accept event duration.

The Choose Schedule screen reappears:

- i. Press **OK** to accept the schedule number.

- j. The Event Saved screen briefly appears followed by the Select Event Time screen.

To see a programming example, see [Appendix D](#).

Press **BACK** **←** exit the Event Menu.

Wired Signal Circuit Option

3g

```
Event Menu
Select event time:
Evt Time: 12:00 AM
MTWTF OK=Acpt
```

3h

```
Event Menu
Duration 0=Default
2 Sec (1-9, <or>)
Off=< On=> OK=Set
```

3i

```
Event Menu
Choose Schedule
Sch=01 Select 1-99
OK=Accept
```

3j

```
Event Menu
Y=All M=All
MTWTF 05:03 AM
Event 0000 Saved
```



4 Programming Schedule Change Events

- Press **OFF 0** in the Select Weekdays screen.
- Press **MON 2** for Schedule Change.
- Change the year if necessary or enter 0000 to indicate all years. Press **OK** bring up the Enter Event Month screen.
- To change the month, enter the number of the month as 2 digits. Enter 00 to select all months. Press **OK** to accept and bring up the Choose screen.
- Press **SUN 1** to select a day of the month and bring up the Select Event Date screen.
- Enter a 2-digit day of the month or 00 for all days and press **OK**. Pressing **MON 2** in the Choose Screen (4e) brings up the Select Day screen.

At this screen:

- Press **SUN 1** - **SAT 7** keys to add or remove days individually, or
 Press **AUTO 8** to add weekdays, **ADJ 9** to add weekends.
 Press **OK** to accept the assigned days.
- The Select Event Time screen appears. To program start time: Use the number keys to enter hour and minute.
 Press **PREV <** for AM or **NEXT >** for PM.
 Press **OK** to accept the event start time.

The Choose Schedule screen reappears:

- Press the 2-digit schedule number of the schedule to change to.
 Press **OK** to accept the schedule number.
- The Event Saved screen briefly appears followed by the Enter Another Event screen.
 Press **BACK ←** exit the Event Menu.

5 Reviewing and Editing Events

Press: **PROG MON 2**, enter User Lock (unless disabled) using the keypad and press **OK** (unless User Lock is disabled) to enter the Event Menu. From here:

- Press **SUN 1** to add, view, edit or delete events sequentially by event number in a particular schedule, or
 Press **MON 2** to view, edit or delete events in all schedules, beginning with the first event scheduled to start on or after a specified hour, or
 Press **TUE 3** to view, edit or delete events by weekday.

4a

```
Select Weekdays:
8=M-F      MTWTF
9=S+S Key 1234567
0=Special   OK=Accept
```

4b

```
Event Menu
1=Special Event
2=Schedule Change
```

4c

```
Event Menu
Enter Event Year
Year: 2008   All=0000
              OK=Accept
```

4d

```
Event Menu
Enter Event Month
Month=02 February
All=00   OK=Accept
```

4e

```
Event Menu
Choose:
1=Set Date (1-31)
2=Set Weekday(s)
```

4f

```
Event Menu
Select event date
Day of month= 15
All=00   OK=Accept
```

4g

```
Event Menu
Select event time:
Evt Time: 12:00 AM
MTWTF     OK=Acpt
```

4h

```
Event Menu
Choose Schedule
Sch=01   Select 1-99
              OK=Accept
```

4i

```
Event Menu
Y=All   M=All
MTWTF   05:03 AM
Event 0000 Saved
```

5

```
Event Menu
View Events by
1=Schedule/Event
2=Dte/Tme      3=WKD
```



⑥ Reviewing and Editing Events by Schedule

- a. From the "View Events by" screen (4), press **SUN 1** to select Schedule/Event screen.

Key in a schedule number and press **OK**. If there are existing events assigned to the schedule, the days and start time for the lowest numbered event are displayed.

Use the **PREV <** and **NEXT >** keys to scroll through screens for all existing events or enter an event number to move immediately to that event.

Press **BACK ←** to exit the Event Menu. Press **MAN** to delete the event. Press **OK** to view the Select Weekdays screen.

- b. This screen shows the days previously assigned to the event. To change event days:

Press **SUN 1** - **SAT 7** keys to add or remove days individually, or

Press **AUTO 8** to add weekdays, or

Press **ADJ 9** to add weekends, or

Press **OFF 0** to edit a special event (this will lead to the series of screens for defining special events).

- Press **OK** to accept the assigned day. For recurring events this brings up the Event Time screen.

- c. This screen shows the start time of the event. To change start time:

Use the number keys to enter hour and minute.

Press **PREV <** for AM or **NEXT >** for PM.

Press **OK** to accept the event start time. This brings up the Event Duration screen.

- d. To program event duration (1-9 seconds):

Press any number **SUN 1** - **ADJ 9** to specify duration, or

Press **OFF 0** to use the default duration(s) for the circuit(s) assigned to the schedule, or

Press **NEXT >** to latch assigned circuits on until a later event turns them off, or

Press **PREV <** to turn off assigned circuits that were previously turned on.

Press **OK** to accept event duration.

Press **OK** to save event changes.

To see a programming example, see Appendix D.

Wired Signal Circuit Option

6a

```
Event Menu
Sch=01 Event=0000
2008-02-15 12:04 AM
<Sel> M=Del OK=Edt
```

6b

```
Select Weekdays:
8=M-F MTWTF
9=S-S Key 1234567
0=Special OK=Accept
```

6c

```
Event Menu
Select event time:
Evt Time: 12:00 AM
MTWTF OK=Acpt
```

6d

```
Event Menu
Duration 0=Default
2 Sec (1-9, <or>)
Off=< On=> OK=Set
```



7 Reviewing and Editing Events by Date & Time

- Press: **PROG** **MON 2**, enter User Lock (unless disabled) using the keypad and press **OK** (unless User Lock is disabled) to enter the Event Menu. From here:
- Press **MON 2** to access the Chronological Sort screen. The options given are Sort or Cancel Sort. Either selection will go to the Hour screen (6c):
- At the Hour screen, indicate the hour to start displaying events in chronological order. Enter the hour as 2 digits in 24 hour format. Example: the earliest programmed event is 5:00 AM; entering 05 (or an earlier hour) and pressing **OK** leads to screen 6d.
- Use the **PREV <** and **NEXT >** keys to scroll backward or forward through all programmed events. The steps for reviewing and editing selected events are the same as those listed in Reviewing and Editing Events by Schedule with one exception: the event number cannot be used to jump directly to an event.

7a

```
Event Menu
View Events by
1=Schedule/Event
2=Dte/Tme      3=WKD
```

7c

```
Event Menu Time Sort
Hour (24)

<=>=Scroll  OK=Edit
```

7d

```
Event Menu Time Sort
MTWTF  05:03 AM
Sch: 01 - Event: 0000
<=>=Scroll  OK=Edit
```

8a

```
Event Menu
View Events by
1=Schedule/Event
2=Dte/Tme      3=WKD
```

8b

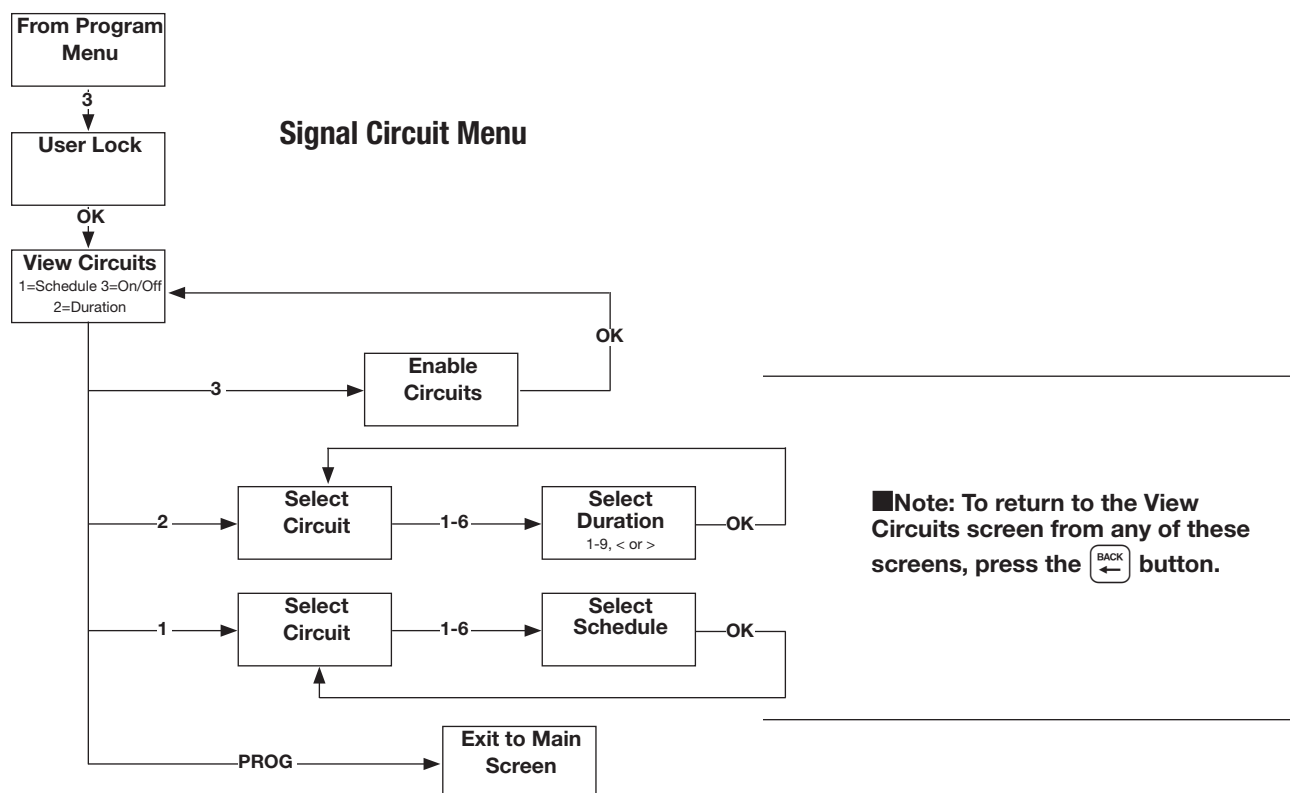
```
Event Menu WKD sort
View Weekday: MON
Sch: 01 - Event: 0000
<=>=Scroll  OK=Edit
```

8 Reviewing and Editing Events by Weekdays

- Press: **PROG** **MON 2**, enter User Lock (unless disabled) using the keypad and press **OK** (unless User Lock is disabled) to enter the Event Menu. From here:
- Press **TUE 3** to access the View Weekday screen.
- Select the weekday needed by:
Pressing one of the **SUN 1** - **SAT 7** keys
Use the **PREV <** and **NEXT >** keys to scroll through screens showing events scheduled for that day. The steps for reviewing and editing selected events are the same as those listed in Reviewing and Editing Events by Schedule with one exception: event number cannot be used to jump directly to an event.



Programming Signal Circuits (Keypad Interface)



Optional signal relays for controlling signal or lighting circuits must be assigned to schedules of events for automatic control. Multiple circuits can be assigned to one schedule, but each signal circuit can be assigned to only one schedule.

Each signal circuit is also programmed with a default event duration. This allows different signal circuits assigned to the same schedule to be activated for different lengths of time for the same event. For example, a school may have circuit 1 connected to the elementary bells and wish to ring those for 3 seconds. It may have circuit 2 connected to the middle school bells and wish to ring those for 5 seconds. The same events can be assigned to a single schedule but will have different durations on different circuits when using circuit duration defaults. This default duration can be overridden by the duration specified for an event (described in the Programming Events section).

Note: AllSync IQ masters with the Ethernet option can also be programmed via the Remote Connect web interface (see page 25).

① Setting Signal Circuit Schedule and Duration

- Press **PROG** **TUE 3**. Enter User Lock (unless User Lock is disabled) and Press **OK** (unless User Lock is disabled) to enter Circuit Menu.
- Press **SUN 1** to select the Signal Circuit Schedule Assignment screen. The current schedule assignments for all circuits are shown. To change the schedule assignment for a circuit, press the number of the circuit (i.e. **SUN 1**).
- Assign a schedule to this circuit by pressing the **NEXT >** or **PREV <** buttons until the correct schedule is displayed. (Pressing 0 disables the circuit) Press **OK** to accept.

This returns you to the Signal Circuit Schedule Assignment screen (b).

Press **BACK**.

Press **MON 2** to bring up the Duration screen.

1a

```

Circuit Menu
View Circuits for:
1=Schedule 3=On/Off
2=Duration Prog=Exit
  
```

1b

```

Circuit Menu
Select Circuit:
Cir 1 2 3 4 5 6
Sch 01 01 02 02 03 03
  
```

1c

```

Circuit Menu
Cir:01 Choose Sch
Sch: 01 00=Special
      OK=Accept
  
```



① Setting Signal Circuit Schedule and Duration (continued)

- d. This screen shows the current default duration for all circuits. "<" indicates an off default and ">" indicates an on default. To change the default duration for a circuit, press the number of the circuit (i.e.).
- e. The Select Circuit Duration screen shows the current default duration for the selected circuit. This duration applies only for events that are programmed with a duration of 0. Circuit duration can be for a definite period (1-9 seconds) or for a time defined by two successive events. The first event turns the circuit on, the second event turns it off. To change circuit default duration:
 - Press any number 1-9 to specify duration in seconds, or
 - Press to latch the circuit on, or
 - Press to latch the circuit off.Pressing any of these options saves the circuit duration and returns to the View Circuits screen (a).

To see a programming example, see Appendix D.

② Enabling and Disabling Signal Circuits

- a. From the View Circuits screen, press to enter the Enable Circuits screen to view or change the control status of individual circuits.
- b. For a signal circuit to be controlled by programmed events, it must be enabled (on) and the status of the system controller must be set to AUTO. To set status to AUTO:

Press , enter User Lock and press .
- c. Setting the system controller status to OFF disables all signal circuits. To set the status to OFF:

Press , enter the User Lock (unless User Lock is disabled) and press (unless User Lock is disabled)

1d

```
Circuit Menu
Select Circuit:
Cir 1 2
Dur < 1
```

1e

```
Circuit Menu
Select Cir 1 Duration
5 Sec (1-9, <or>)
Latchin Off=< On=>
```

2a

```
Circuit Menu
View Circuits for:
1=Schedule 3=On/Off
2=Duration Prog=Exit
```

2b

```
Circuit Menu
Enable Cir: OK=Done
1=On 2=On 3=On
4=On 5=On 6=On
```



③ Controlling Signal Circuits Manually

Signal circuits can be controlled manually with the MAN key acting as a momentary push-button switch. To initiate manual control:

- Press **MAN**, enter User Lock (unless User Lock is disabled) and press **OK** (unless User Lock is disabled).
- Press any combination of keys 1-6 to select or deselect the circuits to be turned on with the **MAN** key.

Wired Circuit Activation:

Press and hold the **MAN** key to activate the selected circuits for the desired length of time.

Release the **MAN** key.

The **MAN** key can be pressed as many times as needed. Control of the signal circuits reverts to its previous state (AUTO or OFF) upon exiting this menu.

3b

```
Manual Signal          TX
Select Circuits:  7=All
Circuit:  1234567
Man=Signal          OK=Exit
```

For circuits configured for ON/OFF operation:

If the default duration for a circuit being activated with the MAN function is currently configured to ON or OFF (in the Circuit Durations Menu) the circuit will toggle states when pressing the MAN key. This feature can be used to turn on lights after a power outage. For example, parking lot lighting is set up on Circuit 6 with a continuous ON event at 10:00pm, and an OFF event at 6:00am. The power goes out due to a thunderstorm at 2:00am and comes back on at 3:00am. These parking lot lights will be off, since the unit was reset. To turn them back on after 3:00am, you can activate circuit 6 via the MAN button, as described on the previous page. The lights will then stay on until the OFF event at 6:00am.

Automatically switching assigned schedules for a circuit:

This feature allows for programming of a schedule change on any circuit. This may be handy for setting a holiday schedule, for example:

To program an automatic schedule change:

- Press **PROG** **TUE 3**, enter User Lock (if applicable), then press **SUN 1**. The circuit schedule assignments screen will display.
- Press circuit (1-6) you wish to set automatic schedule change for.
- Press **MAN** button to enter a schedule change.
- Option **SUN 1** and **MON 2** are schedule replacements. This allows for reverting back to the current schedule at a later date.
- Select **SUN 1** or **MON 2**. In this screen, use the **PREV** **NEXT** keys to select the schedule to change to. Press **OK**.
- In this screen, enter the date with the keypad. Press **OK** after entry of each field to advance. For example, press **OK** after entering the year to advance to the month field. AM/PM can be selected with the **PREV** **NEXT** keys. Press **OK** when date and time have been entered.
- Repeat these steps for another schedule change on this circuit. Choose option **MON 2** if option **SUN 1** was initially set or vice versa. These options will occur chronologically by the date and time entered for each.

To see a programming example, see Appendix D.

2

```
Circuit Menu
Select Circuits      1
Circ  1  2  3  4  5  6
Sch  01  01  04  --  --  --
```

3

```
Circuit Menu
Circuit 1 : Sch 01
MAN=Timed  Sch Change
<=>=Scroll  Ok=Accept
```

4

```
Circuit Menu
Timed Sch Change for
Circuit 1 : Sch 01
1=Sch05    2=Empty
```

5

```
Time Sched Change to
Sch:05  on  2008-10-31
        at  08:00 AM
<=>=Scroll  OK=Next
```

6

```
Time Sched Change to
Sch:05  on  2008-10-31
        at  08:00 AM
<=>=AM/PM   OK=Next
```

The Remote Connect Web Interface allows remote access to your AllSync IQ Master via a web browser. This includes Event and Circuit programming, manual circuit activation, time/date settings and other system configurations.

This feature is available to all AllSync IQ Masters with the Ethernet option.

Note: Java SE Runtime Environment (JRE) 7 Update 7 will need to be installed to run the Events Applet.

–This can also be downloaded at <http://www.java.com/en/>

–Ensure that you have the most current web browser (ie. Firefox, Internet Explorer, Chrome)

To access Remote Connect:

1. Ensure that the AllSync IQ Master installation has been performed (page 5) and that the Ethernet option has been configured (pages 6-10)
2. Open a web browser. Enter the IP address for your system controller or asiq plus last six digits of MAC address (if DHCP is Enabled) (#3 on page 10) as <http://xxx.xxx.xxx.xxx> in the web browser's Address field (Figure 1) or <http://asiqxxxxxx/>. Press the **Enter** key.

Note: If using DHCP Host Name, the network or computer connected to the AllSync IQ Master for configuration must be on the same subnet for Host Name to work properly.



or



Figure 1

3. A User Login window, (Figure 2) will appear. There are two available user names, **uclock** and **sclock**, which represent the user and service access levels. The user security level allows access to everything but the Configuration Tab.

User Level Access:

Enter **uclock** in lowercase letters in the *User Name* field and **uclock** in the *Password* field. This is a user login which will allow access to time/date and event menus.

Service Level Access:

Enter **sclock** in lowercase letters in the **User Name** field and **sclock** in the *Password* field. This is a service login which will allow access to all menus.

****Passwords may be changed in the Configuration Tab.**

Then, click the *Login* button.



Figure 2

4. The Remote Connect utility will appear with the *General* tab selected. The tabs displayed may differ depending on the configuration of the unit.

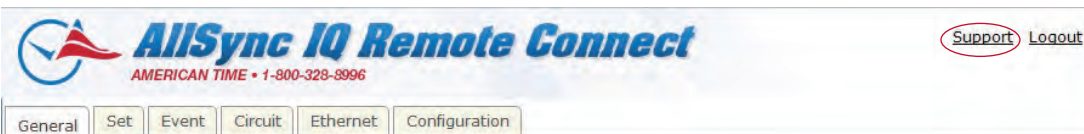


Figure 3

For more details on the features of Remote Connect, click on the Support link in the upper right-hand corner of the utility (Figure 3).

General Tab:

The General Tab contains information about the AllSync IQ as well as manual correction options for systems with clock relays.

The screenshot displays the 'AllSync IQ Remote Connect' web interface. At the top, there is a logo and navigation links for 'Support' and 'Logout'. Below the logo is a tabbed interface with 'General', 'Set', 'Event', 'Circuit', 'Ethernet', and 'Configuration' tabs. The 'General' tab is active, showing the following fields:

- Clock Code:** A dropdown menu set to '1'.
- Circuit Status:** Radio buttons for 'Auto' (selected) and 'Off'.
- Device Name:** A text field containing 'AllSync IQ'.
- Time Last Set:** A text field showing '02-08-2013 01:17:04P (Source: ETHERNET 1)'.
- Software Version:** A text field showing '0.7.2.20'.
- Serial Number:** A text field showing '00116D050006'.
- Unit Configuration:** A text field showing '438'.
- Model Number:** A text field showing 'ASQMSTR-00X8E'.
- Last Powered On:** A text field showing '2013-02-04 08:04:35A'.

To the right of these fields is a small image of a clock device. Below the main fields is a section titled 'Previous/Next Signal' with the following controls:

- Event:** A text field showing '6' and a 'Next' button.
- Circuits:** A text field showing '1' and a 'Previous' button.
- _MTWTF_** (a week day indicator).
- 01:30 PM** (the time of the next signal).

At the bottom right is a section titled 'Manually Adjust Synchronous Clocks' with two buttons: '1 Hour' and '12 Hour'.

Figure 4

1. **Clock Code** – This allows the user to select the clock code necessary to run their wired clocks. This field may not be selectable if the system controller is not configured for clock relays.
2. **Circuit Status** – This will enable the bell relays if set to AUTO. This field may not be selectable if the system controller is not configured for bell relays.
Note: Scheduled events will not run if this is not set to AUTO.
3. **Device Name** – This allows the user to name the AllSync IQ Master. This is useful for users that have more than one AllSync IQ Master to manage.
4. **Time Last Set** – This will display the last date and time the AllSync IQ Master was set. The source of which the date and time was set will also be displayed.
5. **Software Version** – This will display the current software version of the AllSync IQ Master.
6. **Serial Number** – This is the serial number of the AllSync IQ Master.
7. **Unit Configuration** – This is the configuration code of the AllSync IQ Master.
8. **Model Number** – This is the model number of the AllSync Master.
9. **Previous/Next Signal** – This will display the next circuit activation to occur.
10. **Last Powered On** – This will display when the AllSync IQ Master was last turned on. This is useful to determine if the unit has lost power.

Clock Codes:

Synchronous – If the system is to operate with synchronous clocks and the synchronous clock code is selected the *Manually Adjust Synchronous Clocks* box will appear. For example, setting the *Clock Code* selector to 1 will enable synchronous clock operation.

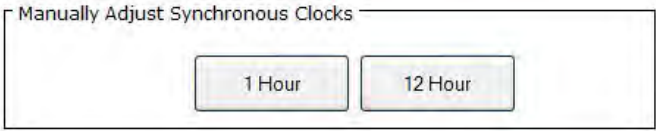


Figure 5

- Pressing the 1 Hour button will advance the clocks by 1 hour. There will be approximately a 1-2 minute delay for each 1 Hour button press to allow the clocks to adjust.
- Pressing the 12 Hour button will advance the clocks to the configured 12 hour mark. There will be a maximum delay of 13 minutes for each 12 Hour button press to allow the clocks to adjust.

Impulse – If the system is to operate with impulse clocks and a impulse clock code is selected the *Manually Adjust Impulse Clocks* box will appear. For example, setting the *Clock Code* selector to 2 will enable impulse clock operation.

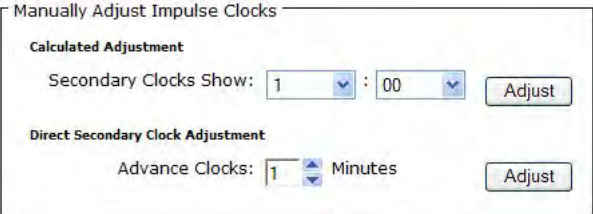


Figure 6

- The *Calculated Adjustment* will automatically adjust the impulse clocks to the correct time. Just enter the time that is shown on the impulse clocks and press *Adjust*. The number of impulses necessary to adjust the clocks will automatically be sent to the clocks.
- The *Direct Secondary Clock Adjustment* will allow for a specific time advancement in minutes. Therefore, entering the number of minutes of advancement and pressing *Adjust* will send the corresponding number of impulses to the clocks.

Set Tab:

The Set Tab allows you to set the time zone, daylight saving time, date, and time for your local clocks and time zone clocks.

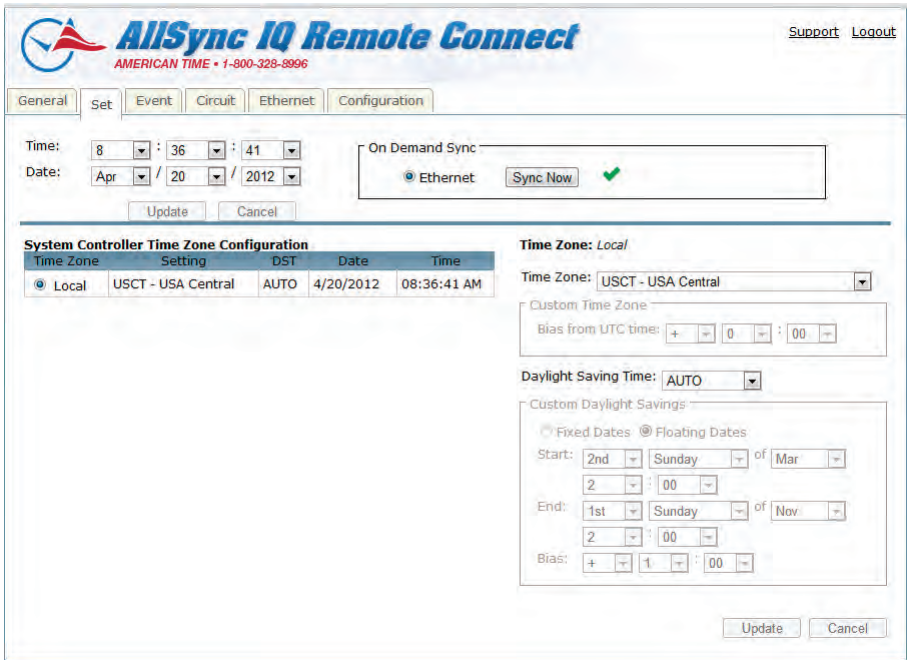


Figure 7

1. **Time:** This allows the user to set the time in the following format HH:MM:SS. After selecting a time change, the *Update* button must be pressed to take effect.
Note: Time will always be in military time.
2. **Date:** This allows the user to set the date. After changing the date, the *Update* button must be pressed to take effect.

3. *On Demand Sync*: To synchronize the AllSync IQ master to Ethernet time press *Sync Now*. The time and date will be updated automatically if successful.



indicates a successful sync.



indicates a failed sync.

4. *AllSync IQ Time Zone Configuration*: When this is selected, the Time Zone and Daylight Saving Time settings can be configured. The *Update* button in the lower right hand corner must be pressed for any changes to take effect.

—Time Zone: This drop down contains a list of all time zones.

—Daylight Saving Time: This drop down contains AUTO, CUSTOM, or OFF..

Event Tab:

The Event Tab allows you to create, edit, print, and save your schedules.

Sch	Event	Time	Year	Month	Date	Days	Duration
1	0	02:09pm	*	*	*	MTWThF	3
1	1	12:02pm	*	*	*	MTWThF	Default
2	2	02:10pm	*	*	*	MTWThF	3
1	3	11:00am	*	*	*	MTWThF	3

Figure 8

1. *View*: This row is for sorting which events should be displayed in the table below. If *Schedule* or *Day* is selected an additional drop down will appear for selection.
Note: Press the *Refresh* button to update the table.
2. *Export*: This allows the user to export their schedules to a .ats file for backup.
3. *Import*: This allows the user to import a .ats file.

4. *Add*: This allows the user to add new events to a specified schedule. This will prompt the following:

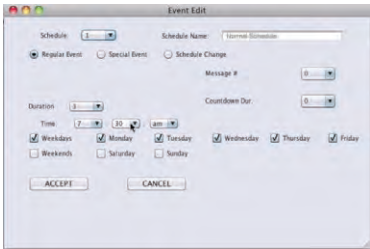


Figure 9

- a. *Schedule*: The current event schedule.
 - b. *Schedule Name*: The name of the selected schedule.
 - c. *Regular Event/Special Event/Schedule Change*: The event type.
 - d. *Special Event Date*: Specific date selection for Special Events or Schedule change Events. Does not appear for Regular Events. Date may not be in the past.
 - e. *Change Schedule To*: Schedule selection to change to. This only appears if a Schedule Change Event is selected.
 - f. *Duration*: Duration of event. Does not apply for Schedule Change Events.
 - g. *Time*: The specified time of the event.
 - h. *Weekdays (M-F)/Weekends (S-S)*: Day of the week selector.
 - i. *Accept*: Accept event entry.
 - j. *Cancel*: Cancel event entry.
5. *Edit*: This will prompt the Event Edit window for the event highlighted. This can also be accessed by double clicking on an entered event.
6. *Delete*: This will delete the highlighted event.
7. *Delete All*: This will delete all events.
8. *Print*: This will print the events that are displayed in the table.

Circuit Tab:

The Circuit Tab contains circuit designations to specific schedules. This tab also contains the *Manual Activation* feature which allows manual activation of relays.

Schedule:

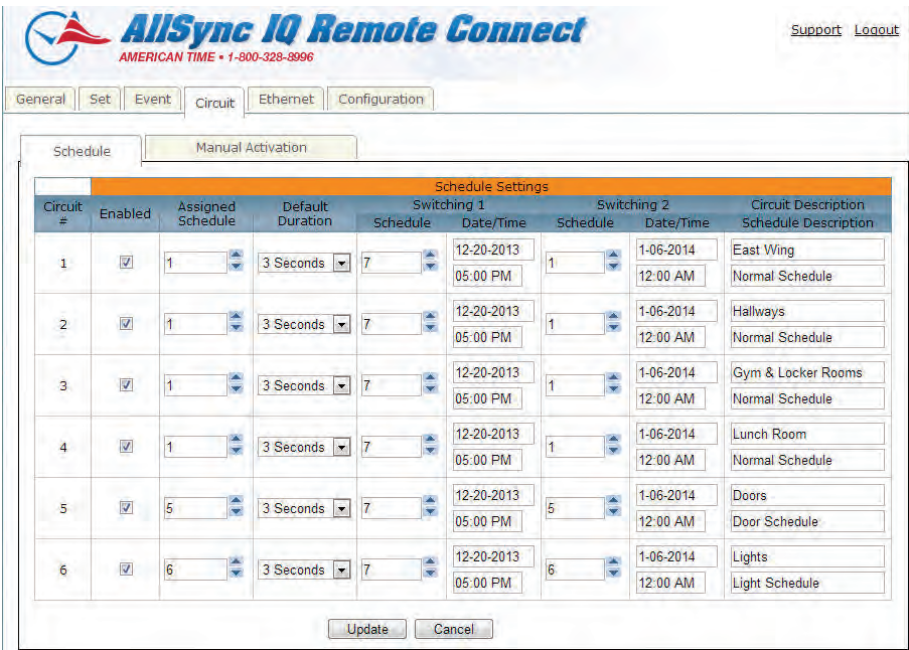


Figure 10

1. **Enabled:** This allows the user to enable or disable the circuit. The circuit must be enabled to run an assigned schedule. The *Update* button must be pressed for changes to take effect.
2. **Assigned Schedule:** This is the current schedule assigned to the circuit. The *Update* button must be pressed for changes to take effect.
3. **Default Duration:** This is the default duration of the circuit. Events may or may not use this default duration. The *Update* button must be pressed for changes to take effect.
4. **Switching 1:** This allows the user to schedule a schedule change. For example, the image above may be a typical example of a winter break schedule. The *Update* button must be pressed for changes to take effect.
 - a. **Schedule:** This is the schedule that the circuit will switch to at the specified date/time.
 - b. **Date/Time:** This is the date/time in which the schedule for the circuit will switch.
5. **Switching 2:** This has the same functionality as *Switching 1*.
6. **Circuit Description:** This allows the user to name the circuits. The *Update* button must be pressed for changes to take effect.
7. **Schedule Description:** This displays the schedule name as defined in the Event Edit window (Figure 9).

Manual Activation:

The screenshot shows the 'AllSync IQ Remote Connect' web interface. The top navigation bar includes 'General', 'Set', 'Event', 'Circuit', 'Ethernet', 'Configuration', 'Clock Code', and 'Manufacturing'. The 'Manual Activation' tab is selected, showing a table with the following data:

Circuit #	Enabled	Signal Duration	Circuit Description
1	☒	3 Seconds	East Wing
2	☐	3 Seconds	Hallways
3	☐	3 Seconds	Lunch Room
4	☐	3 Seconds	Gym & Locker Rooms
5	☐	3 Seconds	Doors
6	☐	3 Seconds	Lights

Below the table is a 'Signal Activation' section with a 'Wired' button.

Figure 11

1. **Enabled:** This allows the user to enable or disable which circuits should be manually activated.
2. **Signal Duration:** This is the duration which the circuit will manually activate.
 - Momentary:** The duration *Momentary* is only used for Wired Signal Activation. This will allow the user to signal the circuit for as long as they hold down the *Wired* button.
3. **Circuit Description:** This is the description of the circuit as assigned in the *Schedule Tab*.
4. **Wired:** This will signal the enabled circuits for the duration specified in the *Signal Duration*.

Ethernet Tab:

The Ethernet Tab contains the network settings for the AllSync IQ Master.

The screenshot shows the 'AllSync IQ Remote Connect' web interface. At the top, there's a logo and the text 'AMERICAN TIME • 1-800-328-8996'. Below the logo are tabs: General, Set, Event, Circuit, Ethernet (selected), Configuration, Clock Code, and Manufacturing. The Ethernet tab is active, showing settings for 'Ethernet Enable' (Client and Server checkboxes), 'DHCP' (checkbox), 'Unit IP Address' (192.168.010.212), 'Time Server IP Address' (192.168.010.250), 'Alt. Time Server IP Address' (000.000.000.000), 'Subnet Mask' (255.255.255.000), 'Gateway IP' (192.168.010.099), 'MAC Address' (00:11:6D:01:00:01), and 'Port Number' (80). A 'History' section shows 'Packets Received: 21129' and 'Packets Sent: 9371' with a 'Reset Packets Rx/Tx' button. At the bottom are 'Update' and 'Cancel' buttons.

Figure 12

1. *Ethernet Enable*: This allows the user to choose if the AllSync IQ Master should be a client, server, or both (time synchronization).
2. *DHCP*: This allows the user to Enable (checked) or Disable (unchecked) DHCP.
■ Important Note: When DHCP is checked, the AllSync IQ Master will automatically obtain an IP address from a DHCP server. The address received will be displayed in the Unit IP address box. If no DHCP address is received, the device will default to 192.168.010.010. A direct connection can be made to the device if the computer is on the same Subnet.
3. *Unit IP Address*: This displays the IP address of the AllSync IQ Master.
4. *Time Server IP Address*: This displays the IP address of the time server. After changing this field, press the *Update* button (Ethernet 1).
5. *Alternate Time Server IP Address*: This displays the IP address of the alternate time server. After changing this field, press the *Update* button (Ethernet 2).
6. *Subnet Mask*: This displays the subnet mask of the AllSync IQ Master. After changing this field, press the *Update* button.*
7. *Gateway IP*: This displays the assigned gateway IP. After changing this field, press the *Update* button.*
8. *MAC Address*: This displays the MAC address of the AllSync IQ Master.
9. *Port Number*: This port number is defaulted to 80 so that Remote Connect can be displayed. This enables the web server.
10. *History*: This displays a history of the Ethernet activity to and from the AllSync IQ Master. The history can be reset by pressing the *Reset Packets Rx/Tx* button.

■ ***Note:** When changing these settings in Remote Connect, close your browser and log in again (with the new IP address, if applicable). Use caution when revising these settings, as you could lose connectivity after pressing *Update*.

Configuration Tab:

The Configuration Tab requires a service password for access. Within this tab, the user can change their passwords, update their firmware, change their time synchronization priority, or change the system controller's banner text.

The screenshot displays the 'AllSync IQ Remote Connect' web interface. At the top, there's a header with the logo and contact information. Below the header is a navigation bar with tabs: General, Set, Event, Circuit, Ethernet, Configuration (selected), Clock Code, and Manufacturing. The main content area is titled 'Configuration' and contains several sections:

- Set Auto DST Dates:** Includes dropdowns for Start (2nd Sunday of Mar) and End (1st Sunday of Nov), and a Bias field (+ 1 : 00).
- User Password/Verify:** Two input fields for User Password and Verify Password.
- Service Password/Verify:** Two input fields for Service Password and Verify Password.
- Banner Text:** A text input field with 'American Time & Sig.'.
- Time Sync Priority:** A dropdown menu.
- Time Display Format:** Radio buttons for 12 Hour (selected) and 24 Hour.
- Manage User Lock:** A numeric input field.
- Manage Service Lock:** A numeric input field.
- Display Size:** Radio buttons for Large and Small (selected).
- Setup Manager:** Radio buttons for Enable and Disable (selected).
- Update with Latest Firmware:** Includes 'Choose File' and 'Send File' buttons, with a 'need file name' and 'Not Transmitting' status.

At the bottom of the configuration area are buttons for 'Reset All Settings', 'Update', and 'Cancel'.

Figure 13

1. **Set Auto DST Dates:** This allows the user to change the AUTO DST dates and times. This allows for future flexibility if the DST were to change. The *Update* button must be pressed for changes to take effect.
2. **User Password/Verify:** This allows the user to change the *User Password*. The *User Password* must match the *Verify Password* to be accepted. The *Update* button must be pressed for changes to take effect.
3. **Service Password/Verify:** This allows the user to change the *Service Password*. The *Service Password* must match the *Verify Password* to be accepted. The *Update* button must be pressed for changes to take effect.
4. **Banner Text:** This allows the user to change the *Banner Text* displayed on the LCD screen of the AllSync IQ Master. The *Update* button must be pressed for changes to take effect.
5. **Time Sync Priority:** This field is blank for the AllSync IQ master. Ethernet is the only sync option available.
6. **Time Display Format:** This allows the user to change the *Time Display Format* on the LCD screens. The *Update* button must be pressed for changes to take effect.
7. **Manage User Lock:** This allows the user to change the *User Lock* for accessing menus through the keypad of the AllSync IQ Master. This lock must be numeric. The *Update* button must be pressed for changes to take effect.
8. **Manage Service Lock:** This allows the user to change the *Service Lock* for accessing menus through the keypad of the system controller. This lock must be numeric. The *Update* button must be pressed for changes to take effect.
9. **Display Size:** This allows the user to change the LCD display size. The *Update* button must be pressed for changes to take effect.
10. **Setup Manager:** This allows the user to enable the Setup Wizard on a power cycle. If enabled the Setup Wizard will appear on a power cycle. The *Update* button must be pressed for changes to take effect.
11. **Update with Latest Firmware:** This allows a user to update the firmware of the AllSync IQ master. The firmware file must be downloaded from the support site to the PC which is running Remote Connect.
12. **Reset All Settings:** Pressing this button will reset the AllSync IQ master to factory defaults.
■Note: Pressing this will change the IP address of the unit. It will have to be reconfigured to meet the network specifications.

Manually Setting Time and Date

Press **PROG** **SUN 1** and enter your user lock then **OK** (unless disabled) to access the Set Menu.

1 Manually Setting Time:

- a. Press: **SUN 1**
- b. Enter the hours by pressing the two digit number (i.e. **OFF 0** **FRI 6**)
Press **NEXT >**
- Note:** If 24 hour mode is active, skip to d.
- c. Toggle to AM or PM using **BACK ←**
Press **NEXT >**
- d. Enter the minutes by pressing the two digit number (i.e. **TUE 3** **OFF 0**)
Press **NEXT >**
- e. Enter the seconds by pressing the two digit number (i.e. **WED 4** **THU 5**)
Press **OK** when finished

2 Manually Setting Date

- a. Press **MON 2**
- b. Enter the year by pressing the four digit number (i.e. **MON 2** **OFF 0** **SUN 1** **THU 5**)
Press **NEXT >**
- c. Enter the month by pressing the two digit number (i.e. **OFF 0** **SUN 1**)
Press **NEXT >**
- d. Enter the date by pressing the two digit number (i.e. **OFF 0** **SUN 1**)
Press **OK** to accept

1a

```
Set Menu Options
1=Time    2=Date
3=Time Zone & DST
4=12/24   9=Sync Now
```

1b

```
Set Menu Hour
Time: 12:00:00 AM
>=Mins
<=Secs      OK=Accept
```

1c

```
Set Menu Hour
Time: 12:00:00 AM
>=Mins    Back=AM-PM
<=Hours   OK=Accept
```

1d

```
Set Menu Min
Time: 12:00:00 AM
>=Secs
<=Hours   OK=Accept
```

1e

```
Set Menu Sec
Time: 12:00:00 AM
>=Hours
<=Mins    OK=Accept
```

2a

```
Set Menu Options
1=Time    2=Date
3=Time Zone & DST
4=12/24   9=Sync Now
```

2b

```
Set Menu Year
2015 - 01 - 01
>=Month    Back=Day
<=BkSpC    OK=Accept
```

2c

```
Set Menu Month
2015 - 01 - 01
>=Day      Back=Year
OK=Accept
```

2d

```
Set Menu Day
2015 - 01 - 01
>=Year     Back=Month
OK=Accept
```

The Config Menu offers the ability to change several settings for the AllSync IQ Master.

Press **PROG** **FRI 6** and enter your service lock to access the Configuration Menu.

3 Manage Locks: From Config Menu press **SUN 1**

- a. User Lock. Press: **SUN 1** and enter a new 4 digit User Lock OR Press 0000 to disable this feature.

User Lock _____

- Press **OK**

Note: User Lock is the user security level used for accessing time/date and event menus.

- b. Service Lock. Press: **MON 2** and enter a new 4 digit Service Lock or enter 0000 to disable this feature.

Service Lock: _____

- Press **OK**

Note: Service Lock is the service security level used for accessing System Controller configuration menus.

4 Time Sync Priority: From the Config Menu press **MON 2**

This feature is used to determine the priority of time synchronization of the System Controller. This screen only displays the sync options that your System Controller supports.

- a. Press the number that corresponds to your time sync priority
- b. Enter the minutes and seconds that the System Controller should attempt to synchronize each hour to the time sync option chosen.

5 Clock Code: From the Config Menu press **TUE 3**

This feature is used to set the clock code for wired clock circuits.

- a. Enter the clock code using the keypad
- b. Press **OK**

6 Clear/Restore: From the Config Menu press **WED 4**

This feature allows for the deletion of all events or restoration of the System Controller to factory defaults.

- a. Press **MON 2** to delete all events or **OFF 0** to cancel.
- b. Press **SUN 1** to restore factory defaults or **OFF 0** to cancel.

3a

```
Config Menu
Choose User Lock:
      XXXX
0000=Disable    OK=Done
```

3b

```
Config Menu
Choose Service Lock:
      XXXX
0000=Disable    OK=Done
```

4a

```
Config Menu
Time Sync Priority
2=Ethernet      Ok=Done
```

4b

```
Config Menu
Time Sync Priority
Set to Ethernet
At 04:15        OK=Done
```

5

```
Config Menu
Select Clock Code
01
OK=Done
```

6a

```
Config Menu
Clear All Events
1=Confirm
0=Cancel
```

6b

```
Config Menu
Restore Factory
Settings
1=Confirm    0=Cancel
```

Settings & Configuration

7 Setup Manager: From the Config Menu press

This feature allows for the enabling and disabling of the Setup Wizard.

- Press  to Enable or  to Disable.
- Press  when finished.

8 Banner Text: From the Config Menu press

This feature allows for the customization of the banner text (up to 20 characters) displayed on the main screen.

- Use  and  to scroll through the available list of characters. Press  to move to the next character. Press  when finished.

9 Display Settings: From the Config Menu press

This feature allows for the display to be presented in a small or large format. The contrast of the screen can also be set.

- a. Display size: Press  and choose  for large or  for small.
- b. Contrast Ratio: Press  and use the  and  keys to change the contrast. Press  when finished.

10 Auto DST Settings: From the Config Menu press

This feature allows the AUTO DST settings to be configured as necessary. This setting does not need to be changed unless the Energy Policy Act of 2005 is amended.

- a. Start of DST: Use the  and  keys to choose the starting week, day and month. Press  after each selection. Use the keypad to enter the Bias and the  and  keys to set the "+" or "-". Press  when finished.
- b. End of DST: Use the  and  keys to choose the ending week, day and month. Press  after each selection. Press  when finished.

11 USB Flash Drive

Refer to Appendix F for instructions on updating the software on the AllSync IQ Master.

7

```
Config Menu
Setup Wizard:
  Disabled
1=Enable 2=Disable
```

8

```
Config Menu
Change Banner Txt 1
American Time
⊗=Change OK=Acpt
```

9a-large text mode

```
10:30 :06
MON FEB 09 2008 AM
```

9a-small text mode

```
TUE FEB 09 2008
10:30:06 AM USCT
American Time
Status=AUTO GPS=N
```

10a

```
Config Menu
START OF DST:
  2nd SUN of MAR
BIAS + 1:00 OK=Acpt
```

10b

```
Config Menu
END OF DST:
  Last SUN of OCT
OK=Accept
```



CAUTION: Warranty may be voided if LCD/Keypad cover is removed prior to contacting Technical Support at American Time at the number listed below.

If you have any of these problems, follow the appropriate steps:

1. AllSync IQ master appears off (LCD dark) when power is connected:

- Check power switch located on left side of the AllSync IQ master. Switch should show red when on.
- Disconnect power and remove wiring compartment cover. Check fuse and replace if necessary.
- To test power input fuse, disconnect/lockout power and remove connector to power switch from J23 located above and left of the power input fuse. Check continuity between the H screw terminal and bottom J23 pin.

2. Incorrect time is displayed by AllSync IQ master after loss of power:

- Backup battery may be dead. Contact Technical Support at American Time at the number listed below.

CAUTION: Danger of explosion if battery is incorrectly placed. Replace only with the same or equivalent type.

3. Power outage during Daylight Saving Time correction:

- If there is a power outage during the correction period for Daylight Saving Time, the secondary clocks might not correct. In this event, wait for the next 12 hour correction .

4. Signal circuits not responding to programmed events:

- Refer to Wired Signal Circuit Troubleshooting Guide.

5. Unable to synchronize with Ethernet Time Source:

- Refer to the Ethernet Troubleshooting Guide.

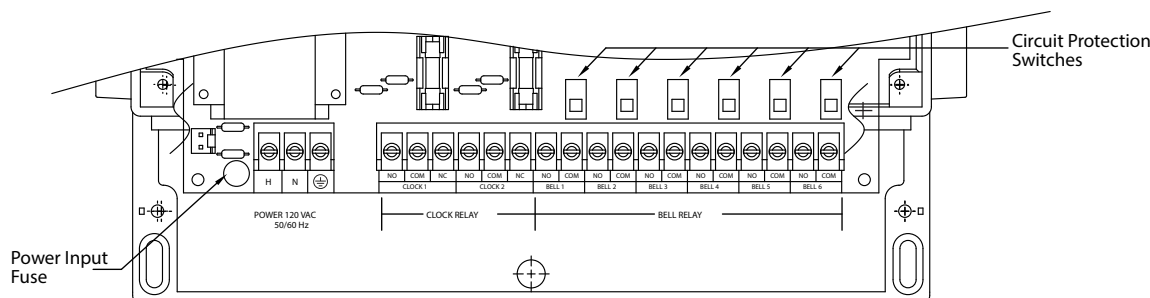
6. Lost or forgotten User Lock:

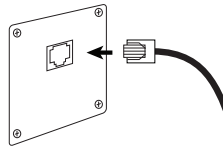
- Contact American Time Technical Support at the number listed below.

7. AllSync IQ Master locks up or display goes blank:

- Remove power from the unit by switching the Power Input switch off, wait 5 seconds, then turn the unit back on.

If the problem cannot be resolved after following these steps, please call Technical Support at American Time at 800-328-8996.





If you have trouble connecting the AllSync IQ Master via Ethernet, follow these troubleshooting steps:

1. Check the Ethernet cable connection to the AllSync IQ Master. Make sure the patch cable is securely connected to the Ethernet RJ-45 port and that it is not damaged. Have the cable tested or connect a computer or another Ethernet device to this cable to confirm proper connection.
2. Ensure that the Ethernet is enabled. From the main screen:
Press: **PROG** **SAT 7** **MON 2**, enter User Lock, and press **OK**. Press **MON 2** to enter the Enable/Disable menu. Press **MON 2** to enter the Client menu.
If Ethernet is Disabled, press **SUN 1** to enable and press **OK**.

```
Comm Menu
Enable/Disable
1=Remote Program
2=Client 3=Server
```

```
Comm Menu
Client
1=Enable 2=(Disable)
OK=Done
```

```
Comm Menu
Packets RX:0
Packets TX:0
0=Reset OK=Done
```

Verify the packet counts for RX and TX are greater than 0. Press **SUN 1** **OK** **NEXT >** from the Comm Menu.

If greater than 0 press **OK** **BACK** **BACK** to return to the Main screen. If packet counts are 0, continue with troubleshooting steps.

3. Initiate Sync Now:

Press: **PROG** **SUN 1** to Set Menu Mode.

Enter User Lock and press **OK**.

```
Set Menu Mode
Enter User Lock:
XXXXX
PROG=EXIT OK=ENTER
```

Press: **ADJ 9** to sync the AllSync IQ master with Ethernet.

Press **AUTO 8** to sync with Ethernet.

```
Set Menu Mode
Time Sync Option is
Available: Ethernet
8=Sync now OK=Set
```

4. Confirm all Network settings (see "Ethernet Installation" section of this manual). Make sure the AllSync IQ master is configured properly.
5. Change the Time Server IP address to a different timeserver among those listed in [Appendix A](#). Perhaps the timeserver that the AllSync IQ is attempting to communicate with is down or not responding quickly enough due to network traffic, etc.
6. Confirm another device or computer on the network is not using the same Static IP address. The Network Administrator should be able to resolve any conflicts.
7. Ensure that the Network has port 123 open for SNTP or port 13 open for Daytime Protocol.
8. Ping the IP address of the unit from a computer to see if it is responding. Check with your Network Administrator if you do not know how to do this.
9. Test the time server by attempting to get a time stamp from another computer. Check with your Network Administrator if you do not know how to do this.

If the problem cannot be resolved after following these steps, please call Technical Support at American Time at 800-328-8996.

If you have trouble connecting the AllSync IQ Master to the Remote Connect software, follow these troubleshooting steps:

1. Check the Ethernet cable connection to the AllSync IQ Master. Make sure the patch cable is securely connected to the Ethernet RJ-45 port and that it is not damaged. Have the cable tested or connect a computer or another Ethernet device to this cable to confirm proper connection.

2. Ensure that the Remote Programming is enabled. From the main screen:

Press: **PROG** **SAT 7** **MON 2**, enter User Lock, and press **OK**. Press **MON 2** to enter the Enable/Disable menu. Press **SUN 1** to enter the Remote Prog menu.

```
Comm Menu
Enable/Disable
1=Remote Program
2=Client 3=Server
```

If Remote Programming is Disabled, press **SUN 1** to enable and press **OK**.

```
Comm Menu
Remote Prog
1=Enable 2=(Disable)
OK=Done
```

3. Confirm all Network settings (see "Ethernet Installation" section of this manual). Make sure the AllSync IQ master is configured properly.
4. Confirm another device or computer on the network is not using the same Static IP address. The Network Administrator should be able to resolve any conflicts.
5. Ensure that the Network has Port 80 open.
6. Ping the IP address of the unit from another computer to see if it is responding. Check with your Network

If the problem cannot be resolved after following these steps, please call Technical Support at American Time at 800-328-8996.

Introduction

If you have trouble operating wired clock circuits, follow these troubleshooting steps:

- 1. Ensure you have the clock code configured in your system controller:
 - a. Press **PROG** **FRI 6** to enter the Config Menu
 - b. Enter your Service Lock if necessary.
 - c. Press **TUE 3** to enter the Clock Code select screen and verify that it is correct.



Installation

- 2. If the AllSync IQ time was recently changed, allow up to 24 hours for secondary clocks to re-synchronize to the system controller.
- 3. Ensure there is sufficient voltage across each secondary clock.
- 4. If fewer than 25 AllSync secondary clocks are connected to the AllSync IQ master, the secondary clocks might not recognize the correction from the AllSync IQ. Connect all intended clocks and allow time for normal system controller correction. If secondary clocks still have not corrected, you may need additional hardware. Contact American Time Technical support for information on adding a Resistor Pack (Part #H001941) to your system.

Troubleshooting

If the problem cannot be resolved after following these steps, please call Technical Support at American Time at 800-328-8996.

Appendix

Glossary

If you have trouble operating wired signal circuits, follow these troubleshooting steps:

1. Signal circuits not responding to programmed events:

- a. Make certain that the AllSync IQ status is set to AUTO:

Press **AUTO 8**, enter User Lock, if applicable, and press **OK**.

- b. Confirm that signal circuits are enabled. From the View Circuits screen:

Press **TUE 3** to enter the Enable Circuits screen to view or change the control status of individual circuits.

```
Circuit Menu
Enable Cir:  OK=Done
1=On  2=On  3=On
4=On  5=On  6=On
```

- c. Confirm that signal circuits and events programmed to control them are assigned to the same schedule.
d. Check for correct voltage at signal relay contacts. The COM (common) terminals should measure full voltage all the time.

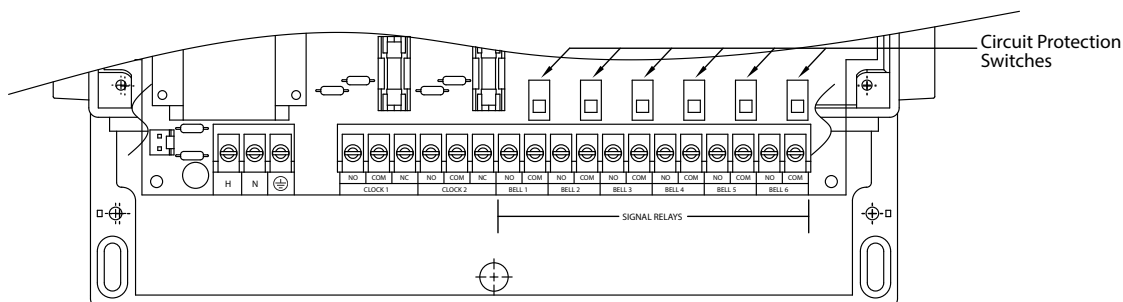
CAUTION: Warranty may be voided if LCD/Keypad cover is removed prior to contacting Technical Support at American Time at 800-328-8996.

2. Signal circuit(s) On when they should be Off:

- a. Press **MAN**, enter User Lock, if applicable, and press **OK**. Then choose circuit(s) to activate/deactivate.
b. If the circuit does not toggle On or Off, check for stray voltage on the signal relay normally open contacts.

■ **Note:** You can try disabling the surge protection circuitry by switching it off (see diagram). These switches are located inside the wiring compartment. Remove power to the AllSync IQ master and signal circuit lines before removing cover to access wiring.

If the problem cannot be resolved after following these steps, please call Technical Support at American Time at 800-328-8996.





Introduction

Installation

Troubleshooting

Appendix

Glossary

Secondary Clocks Not Synchronized

1. Make certain the AllSync IQ master is running the correct clock code.
2. If the AllSync IQ master time was recently changed, allow up to 24 hours for secondary clocks to re-synchronize to the AllSync IQ master.
3. Make sure there is sufficient voltage across each secondary clock.
4. If fewer than 25 AllSync secondary clocks are connected to the system controller, the secondary clocks might not recognize the correction from the AllSync IQ master. Connect all intended clocks to allow time for normal AllSync IQ master correction. If secondary clocks still have not corrected, you may need additional hardware. Contact American Time Technical Support for information on adding a Resistor Pack (Part #H001941) to your system.

If the problem cannot be resolved after following these steps, please call Technical Support at American Time at 800-328-8996.

Tip: Choose the time server closest to you.

URL	IP Address	Location
nist1-pa.ustiming.org	206.246.122.250	Hatfield, PA
time-a.nist.gov	129.6.15.28	NIST, Gaithersburg, Maryland
time-b.nist.gov	129.6.15.29	NIST, Gaithersburg, Maryland
time-c.nist.gov	129.6.15.30	NIST, Gaithersburg, Maryland
nist1-macon.macon.ga.us	98.175.203.200	Macon, Georgia
wolfnisttime.com	207.223.123.18	Birmingham, Alabama
nist.time.nosc.us	96.226.242.9	Carrollton, Texas
nist.netservicegroup.com	64.113.32.5	Southfield, Michigan
nisttime.carsoncity.k12.mi.us	66.219.116.140	Carson City, Michigan
nist1-lnk.binary.net	216.229.0.179	Lincoln, Nebraska
www.nist.gov	24.56.178.140	WWV, Fort Collins, Colorado
time-a.timefreq.bldrdoc.gov	132.163.4.101	NIST, Boulder, Colorado
time-b.timefreq.bldrdoc.gov	132.163.4.102	NIST, Boulder, Colorado
time-c.timefreq.bldrdoc.gov	132.163.4.103	NIST, Boulder, Colorado
utcnist.colorado.edu	128.138.140.44	University of Colorado, Boulder
utcnist2.colorado.edu	128.138.141.172	University of Colorado, Boulder
ntp-nist.lidsbc.edu	198.60.73.8	LDSBC, Salt Lake City, Utah
nist1-lv.ustiming.org	64.250.229.100	Las Vegas, Nevada
time-nw.nist.gov	131.107.13.100	Microsoft, Redmond, Washington
nist-time-server.eoni.com	216.228.192.69	La Grande, Oregon

Note: Please reference <http://tf.nist.gov/tf-cgi/servrs.cgi> for the latest NIST Internet Time servers list, which includes the status of each server.

Using the AllSync IQ Master as a Time Server

The AllSync IQ Master with Ethernet option can be used as a time server supporting the SNTP and Daytime protocols and can be used to synchronize computers or other devices via the Ethernet.

To set up your computer or other device to synchronize to the AllSync IQ, simply enter the IP address of the AllSync IQ master as the time server address for the computer or device.

In Windows XP:

1. Right-click your clock and then click **Adjust Date/Time**.
2. Click the **Internet Time** tab. Click the **Server** down arrow, and then enter the IP address of the AllSync IQ master you wish to synchronize this computer to (example: 192.168.1.200).
3. Click **Update Now**. Windows XP will connect to the AllSync IQ master and set the computer's clock.

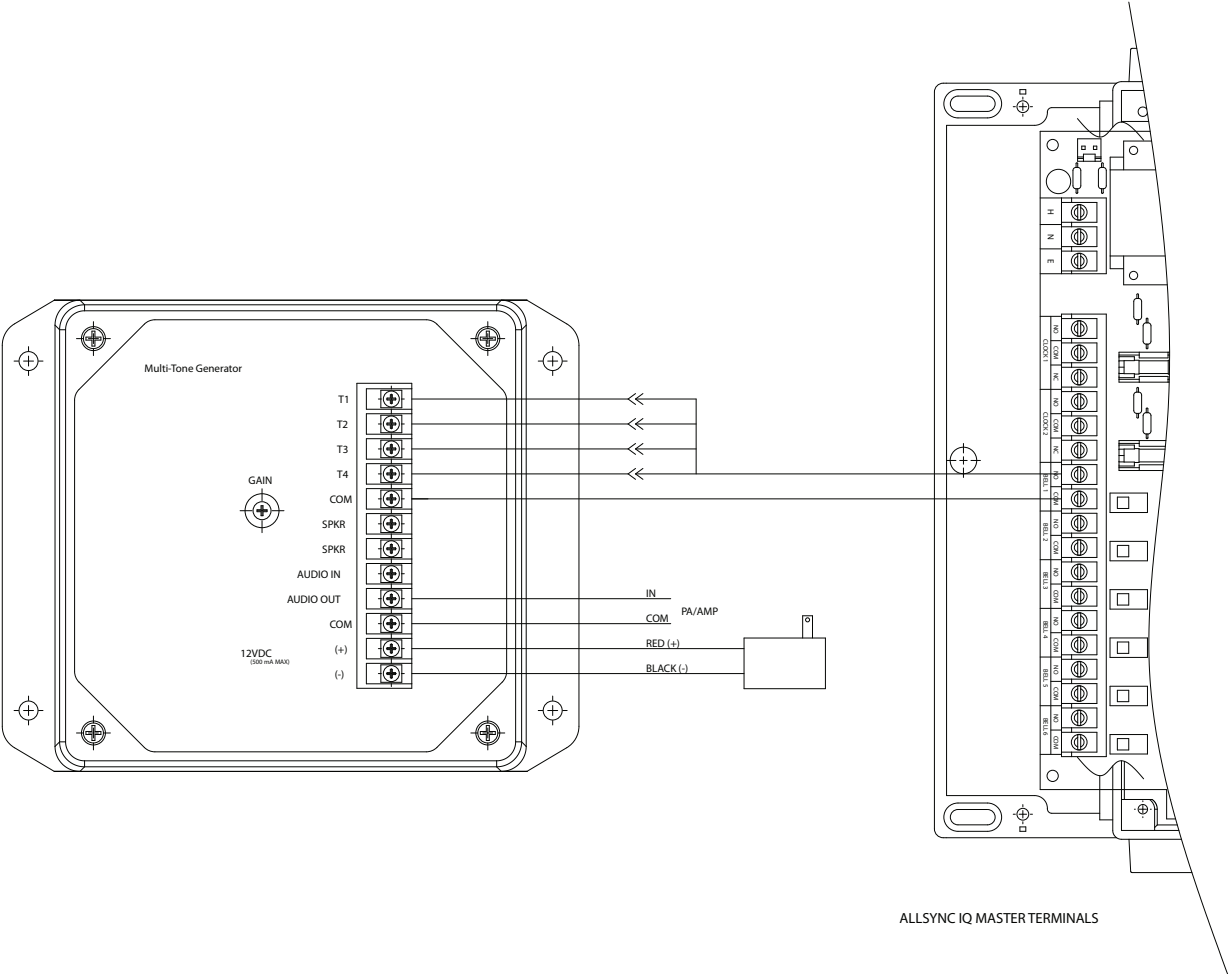
In Windows Vista/Windows 7:

1. Right-click your clock and then click **Adjust Date/Time**.
2. Click the **Internet Time** tab, and then click **Change Settings**.
3. Click **Automatically synchronize with an Internet time server**, enter the IP address of the AllSync IQ master you wish to synchronize this computer to (example: 192.168.1.200), and then click **OK**.

Important Notes:

- Setting up your computer to synchronize to the AllSync IQ master via Ethernet does not account for time zone & Daylight Saving Time settings, which must be properly set on the computer (they are not transferred via Ethernet).
- The computer or other device being synchronized to the AllSync IQ master must be on the same network as the AllSync IQ master, or have access to it through a firewall (port 123 open for SNTP and port 13 open for Daytime Protocol).
- If your computer is on a domain, it is set up to get the time from the domain controller and you will not be able to perform the above tasks. Domain controllers using the Windows Time Service can be set up by your network administrator to synchronize directly to time servers on the Internet or to the AllSync IQ master. Contact American Time Technical Support at 800-328-8996 with any questions.

Time Zone Code	Description	Hours Difference from UTC (Winter)	Hours Difference from UTC (Summer)	Automatic Daylight Saving Time Adjustment?
00	LMT (Local Mean Time) - based on longitude	CALCULATED	CALCULATED	CONFIG
01	USA Alaska	-9	-8	YES
02	USA Aleutian (HAST/HADT)	-10	-9	YES
03	USA Arizona	-7	-7	NO
04	USA Atlantic / Puerto Rico (AST)	-4	-4	NO
05	USA Central (CST/CDT)	-6	-5	YES
06	USA Chamorro (chST)	+10	+10	NO
07	USA Eastern (EST/EDT)	-5	-4	YES
08	USA Hawaii (HST)	-10	-10	NO
09	USA Indiana East	-5	-5	NO
10	USA Mountain (MST/MDT)	-7	-6	YES
11	USA Pacific (PST/PDT)	-8	-7	YES
12	USA Midway Island / Samoa (SST)	-11	-11	NO
13	USA Wake Islands (WAKT)	+11	+11	NO
14	UTC+0	+0	+0	CONFIG
15	UTC+1	+1	+1	CONFIG
16	UTC+2	+2	+2	CONFIG
17	UTC+3	+3	+3	CONFIG
18	UTC+4	+4	+4	CONFIG
19	UTC+5	+5	+5	CONFIG
20	UTC+6	+6	+6	CONFIG
21	UTC+7	+7	+7	CONFIG
22	UTC+8	+8	+8	CONFIG
23	UTC+9	+9	+9	CONFIG
24	UTC+10	+10	+10	CONFIG
25	UTC+11	+11	+11	CONFIG
26	UTC+12	+12	+12	CONFIG
27	UTC+13	+13	+13	CONFIG
28	UTC-1	-1	-1	CONFIG
29	UTC-2	-2	-2	CONFIG
30	UTC-3	-3	-3	CONFIG
31	UTC-4	-4	-4	CONFIG
32	UTC-5	-5	-5	CONFIG
33	UTC-6	-6	-6	CONFIG
34	UTC-7	-7	-7	CONFIG
35	UTC-8	-8	-8	CONFIG
36	UTC-9	-9	-9	CONFIG
37	UTC-10	-10	-10	CONFIG
38	UTC-11	-11	-11	CONFIG
39	UTC-12	-12	-12	CONFIG
99	Custom Time Zone	CONFIG	CONFIG	CONFIG



Introduction

Installation

Troubleshooting

Appendix

Glossary

Appendix D: Wired Signal Circuit Programming Examples

Example: Programming Recurring Events

To program a new event in Schedule 2 that turns on signal circuits for 5 seconds starting at 8:55 AM every weekday Monday-Friday, press:

- Step 1:
- Step 2:
- Step 3: Enter User Lock (unless User Lock is disabled)
- Step 4: (unless User Lock is disabled)
- Step 5: for Schedule/Event
- Step 6: for Schedule 2
- Step 7:
- Step 8: if necessary to display New Event
- Step 9: to deselect Saturday and Sunday
- Step 10: to accept day selection
- Step 11: for time
- Step 12: if necessary to select AM
- Step 13: to accept time
- Step 14: for event duration
- Step 15: to accept duration
- Step 16: to save event

At this point, to program a new event for the same schedule, days and duration, simply Press and enter the new start time and press . To stop programming similar events press . Press to exit Event Menu. Press again to exit Program Menu if programming is complete.

Example: Reviewing and Editing Events by Schedule

To change only the duration of Event 24 in Schedule 2 to 6 seconds, press:

- Step 1:
- Step 2:
- Step 3: Enter User Lock (unless User Lock is disabled)
- Step 4: (unless User Lock is disabled)
- Step 5: for Schedule/Event
- Step 6: for Schedule 2
- Step 7:
- Step 8: for event number
- Step 9: to jump to event 24
- Step 10: to show event weekdays
- Step 11: to accept day selection
- Step 12: to accept time
- Step 13: for event duration
- Step 14: to accept duration
- Step 15: to save event

Press to exit Event Menu. Press again to exit Program Menu if review/edit is complete.

Example: Programming Signal Circuits

To assign Signal Circuit 1 to Schedule 12 with a default duration of 5 seconds, and Signal Circuit 4 to Schedule 6 with a default duration of 8 seconds, press:

- Step 1: **PROG**
- Step 2: **TUE 3**
- Step 3: Enter User Lock (unless User Lock is disabled)
- Step 4: **OK** (unless User Lock is disabled)
- Step 5: **SUN 1** for Schedule
- Step 6: **SUN 1** to select Circuit 1
- Step 7: **SUN 1** **MON 2** to assign Circuit 1 to Schedule 2
- Step 8: **OK**
- Step 9: **MON 2** to select Duration
- Step 10: **THU 5** to set Circuit 1 default duration to 5 seconds
- Step 11: **SUN 1** to select Schedule
- Step 12: **WED 4** to select Circuit 4
- Step 13: **OFF 0** **FRI 6** to assign Circuit 4 to Schedule 6
- Step 14: **OK**
- Step 15: **MON 2** to select Duration
- Step 16: **AUTO 8** to set Circuit 4 default duration to 8 seconds

Press **PROG** to exit Signal Circuit Menu. Press **BACK** again to exit Program Menu if programming is complete.

Example: Programming Special Events

To program a new special event in Schedule 2 that turns on signal circuits for 8 seconds starting at 3:45 PM on October 31, 2008, press:

- Step 1: **PROG**
- Step 2: **MON 2**
- Step 3: Enter User Lock (unless User Lock is disabled)
- Step 4: **OK** (unless User Lock is disabled)
- Step 5: **SUN 1** for Schedule/Event
- Step 6: **OFF 0** **MON 2** for Schedule 2
- Step 7: **OK**
- Step 8: **PREV <** if necessary to display New Event
- Step 9: **OK**
- Step 10: **OFF 0** to select Special
- Step 11: **MON 2** **OFF 0** **OFF 0** **AUTO 8** to change year to 2008
- Step 12: **OK** to accept year
- Step 13: **SUN 1** **OFF 0** to change month to October
- Step 14: **OK** to accept month
- Step 15: **SUN 1** to select Set Date
- Step 16: **TUE 3** **SUN 1** to set date

Example: Programming Special Events (continued)

- Step 17: 
- Step 18:     to set start time
- Step 19:  to select PM
- Step 20: 
- Step 21:  to set duration
- Step 22: 
- Step 23:  to save event

Press  to exit Event Menu. Press  again to exit Program Menu if programming is complete.

Example: Switching Assigned Schedules

This example will demonstrate a temporary holiday schedule switch. The current schedule (01) will be switched to Sch 02 on December 23, 2008 at Midnight and then switched back after a period of time.

- Step 1:   and enter User Lock (if applicable). Press .
- Step 2: Select a circuit in which the schedule is to change (1-6). For our example, we'll select circuit 1.
- Step 3: Press  to change the schedule on circuit 1.
- Step 4: Press .
- Step 5: Use the   keys to select a schedule to change to. Only schedules with events programmed will be selectable.
- Step 6: Press .
- Step 7: Enter the year 2008 and press .
- Step 8: Enter the month 12 and press .
- Step 9: Enter the day 23 and press .
- Step 10: Enter the time (hours) 12 and press .
- Step 11: Enter the time (minutes) 00 and press .
- Step 12: Select AM using the   keys and press .
- This should return you to the replacement schedule screen (Step 4)

To change the schedule back to Sch 01 on January 15, 2009:

- Step 13: Press .
- Step 14: Use the   keys to select the original schedule.
- Step 15: Press .
- Step 16: Enter the year 2009 and press .
- Step 17: Enter the month 01 and press .
- Step 18: Enter the day 15 and press .
- Step 19: Enter the time (hours) 12 and press .
- Step 20: Enter the time (minutes) 00 and press .
- Step 21: Select AM using the   keys and press .
- This should return you to the replacement schedule screen (Step 4).
- Step 22: Press   to exit to the main screen.

Turn on the power to the AllSync IQ master

Press **PROG** **THU 5** to access the Status Menu.

1 Clock Code: From the Status Menu press **SUN 1**

This feature is currently unavailable.

2 Last Time Set: From the Status Menu press **MON 2**

This displays when the time was last set on the AllSync IQ master (and by what means).

- Press **OK** to exit.

3 Software Version: From the Status Menu press **TUE 3**

This displays the software version and the date it was created.

- Software Version:
- Press **OK** to exit.

4 Serial Number: From the Status Menu press **WED 4**

This displays the AllSync IQ master's serial number.

- Serial Number:
- Press **OK** to exit.

5 Unit Configuration: From the Status Menu press **THU 5**

This displays the model configuration of the AllSync IQ master, set at the factory.

- Unit Configuration Code:
- Press **OK** to exit.

6 Model Number: From the Status Menu press **FRI 6**

This displays the model number of the AllSync IQ master.

- Model Number:
- Press **OK** to exit.

7 Previous/Next: From the Status Menu press **AUTO 8**

This displays the next scheduled event. Pressing **NEXT >** will scroll through the events in chronological order.

- a. Regular Events
- b. Special Events
- Press **OK** to exit.

Screen shots are examples

2

```
Status Menu
Time Last Set      (ETH)
2008 - 02 - 09  01:05:00 A
                                OK=Done
```

3

```
Status Menu
Software Ver  1.00
Created  2007 - 05 - 28
                                OK=Done
```

4

```
Status Menu
Serial Number:
001160010000
                                OK=Done
```

5

```
Status Menu
Unit configuration:
0113
                                OK=Done
```

6

```
Status Menu
Model Number:
SSQMSTR-05N6GE
                                OK=Done
```

7a

```
Status Menu
Next Signal :      _ 2 _ 4 5 6
Event 0005 :      12:00 AM
SMTWTFS                                OK=Done
```

7b

```
Status Menu
Next Event :      _ 2 _ 4 5 6
Event 0009 :      10:01 AM
2008 - 02 - 09                                OK=Done
```

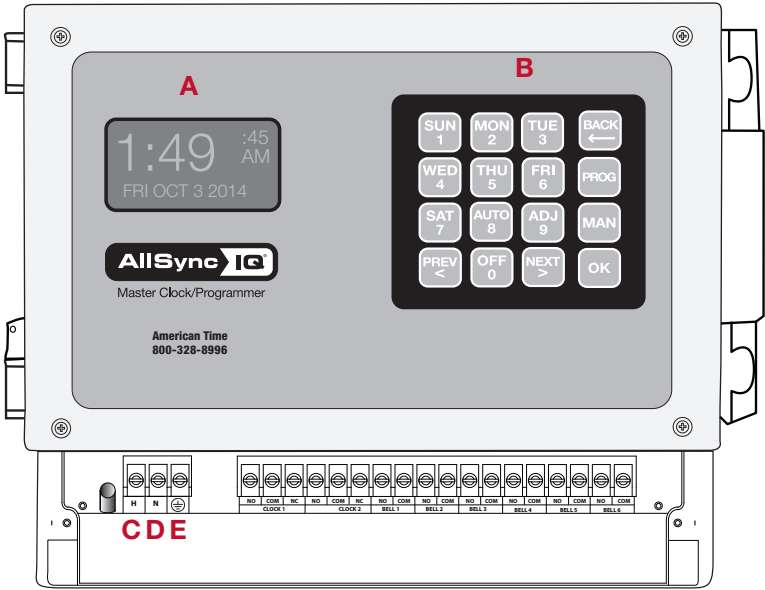
Introduction

Installation

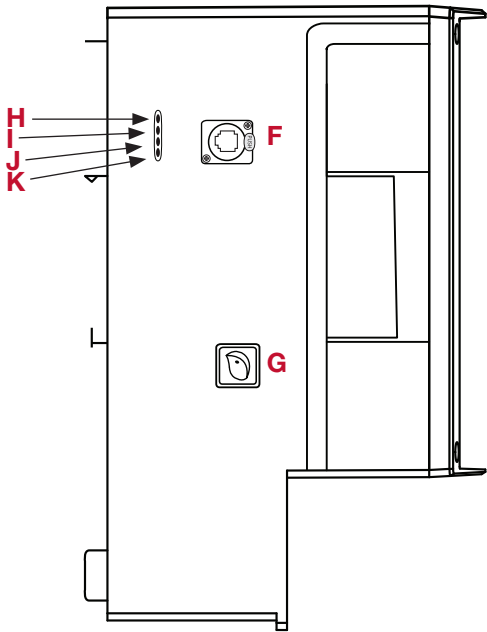
Troubleshooting

Appendix

Glossary



- A=LCD Display
- B=Keypad
- C=120vac line voltage screw terminal
- D=120vac neutral screw terminal
- E=Ground screw terminal



- F=Ethernet RJ45 port
- G=Power ON/OFF switch
- H=Ethernet (orange) full duplex LED
- I=Ethernet (red) collision LED
- J=Ethernet (yellow) 100 Base T LED
- K=Ethernet (green) link LED



1. Keep AllSync IQ Master and clocks free from dust and debris to extend service life - Annually (or as needed)
2. Visually inspect all system components, cables, etc. - Every 6 months (or before Daylight Saving Time changes twice per year)

Appendix H: Clock Circuit Wiring Diagrams

Introduction

- Clock Code 01 - 3 wire Synchronous
- Clock Code 03 - Standard Electric Time Dual Motor
- Clock Code 06 - Synchronous Wired 2
- Clock Code 09 - Simplex 59th Minute Dual Motor
- Clock Code 10 - Simplex 45th Minute Dual Motor
- Clock Code 11 - National Synchronous Wired (25 sec. hour, 25 pulses 12 hour)
- Clock Code 13 - National Synchronous Wired (25 sec. hour, 25 min. 12 hour)
- Clock Code 14 - Honeywell
- Clock Code 18 - National Synchronous Wired
- Clock Code 19 - Stromberg Synchronous Wired (56th minute)
- Clock Code 20 - National Synchronous Wired (No 12 hr. correction)
- Clock Code 23 - Standard Electric Time Dual Motor (hourly correction only)
- Clock Code 36 - Synchronous Wired 2 with Noon and Midnight Sync

Installation

Clock Code: 01, 03, 06, 09, 10, 11, 13, 14, 18, 19, 20, 23, 36

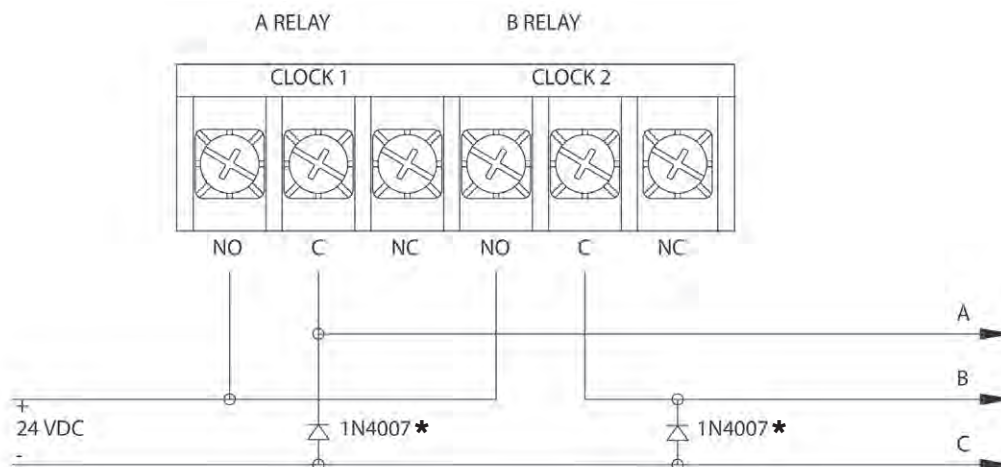
Troubleshooting

Appendix

Glossary

- Clock Code 02 - 3 wire Minute Impulse
- Clock Code 05 - 3 wire Minute Impulse (58th minute)
- Clock Code 16 - 3 wire Minute Impulse (59th minute) with 12hr Correction
- Clock Code 47 - Standard Electric Time AR-3 (3 wire Impulse)

Clock Code: 02, 05, 16, 47

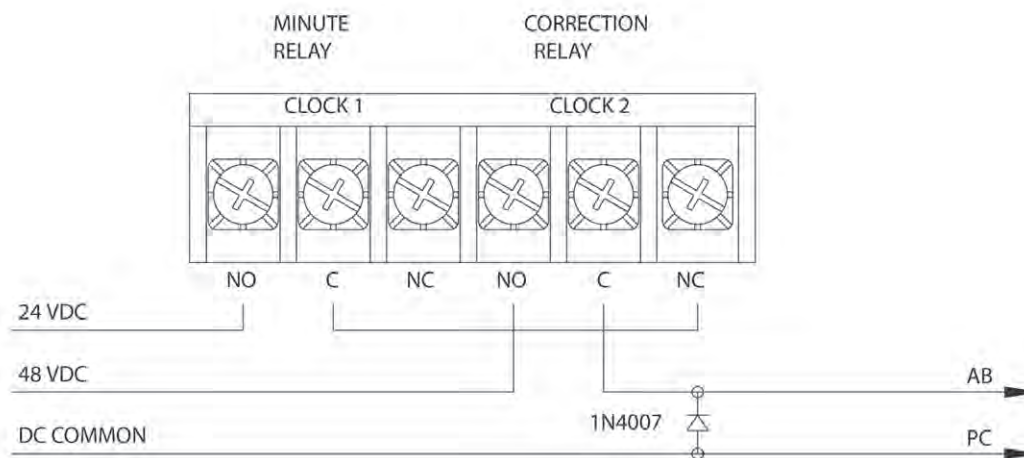


*Rectifier diodes recommended for relay protection.

Clock Code 04 - Standard Electric Time AR-2A 2 wire Dual Voltage

Clock Code 17 - Standard Electric Time AR-2 2 wire Dual Voltage

Clock Code: 04, 17



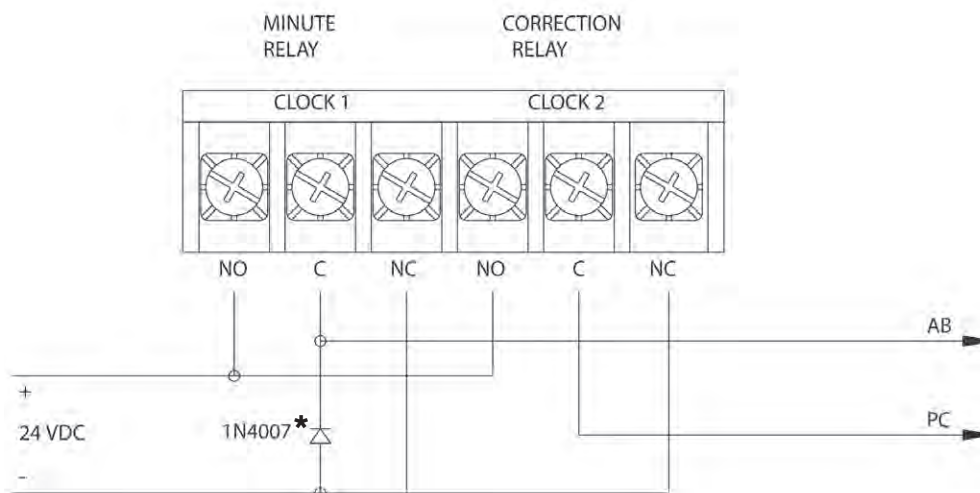
Clock Code 07 - 2 wire Reverse Polarity Minute Impulse (59th minute)

Clock Code 08 - 2 wire Reverse Polarity Minute Impulse (59th minute) with 12hr Correction

Clock Code 12 - Cincinnati D6 - 2 wire Reverse Polarity Minute Impulse (59th minute) with 12hr Correction

Clock Code 26 - Stromberg 2 wire Minute Impulse (58th minute) Hourly Correction Only

Clock Code: 07, 08, 12, 26



***Rectifier diode recommended for proper operation of reversing polarity.**

Appendix H: Clock Circuit Wiring Diagrams

Introduction

Installation

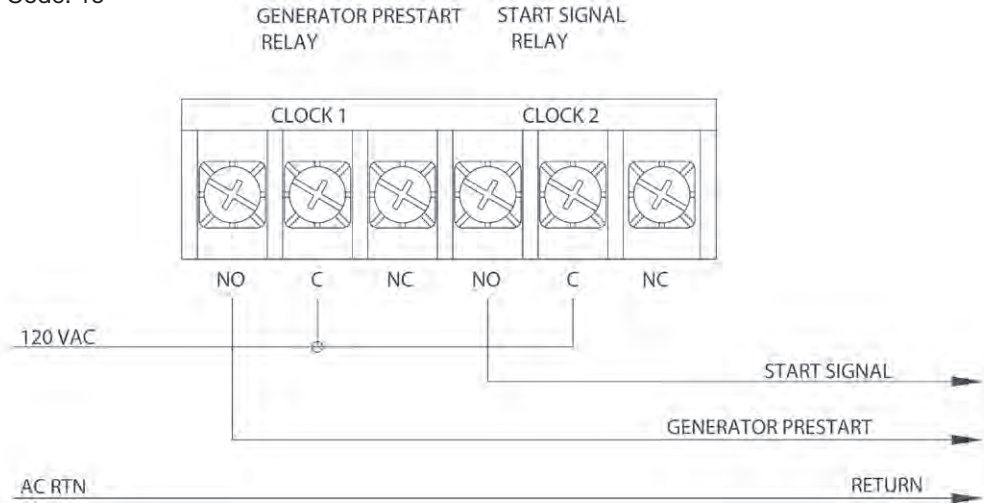
Troubleshooting

Appendix

Glossary

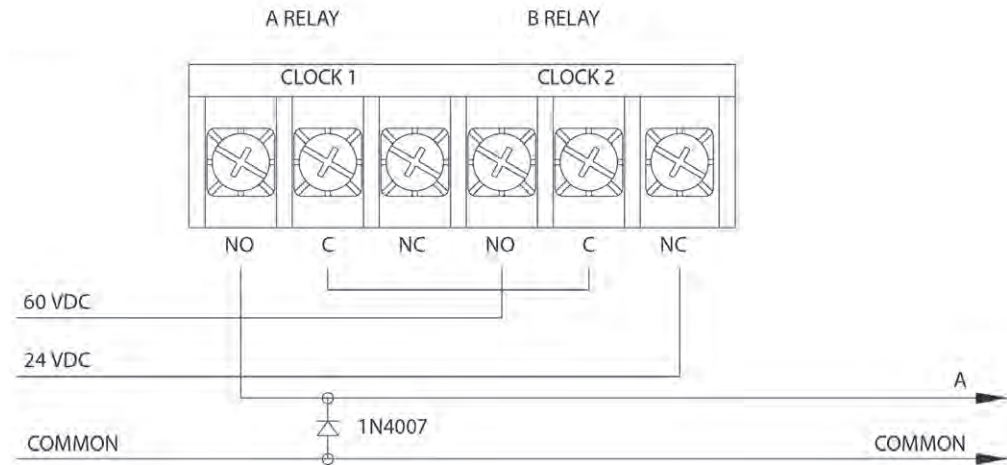
Clock Code 15 - Straight Frequency Electronic Clock

Clock Code: 15



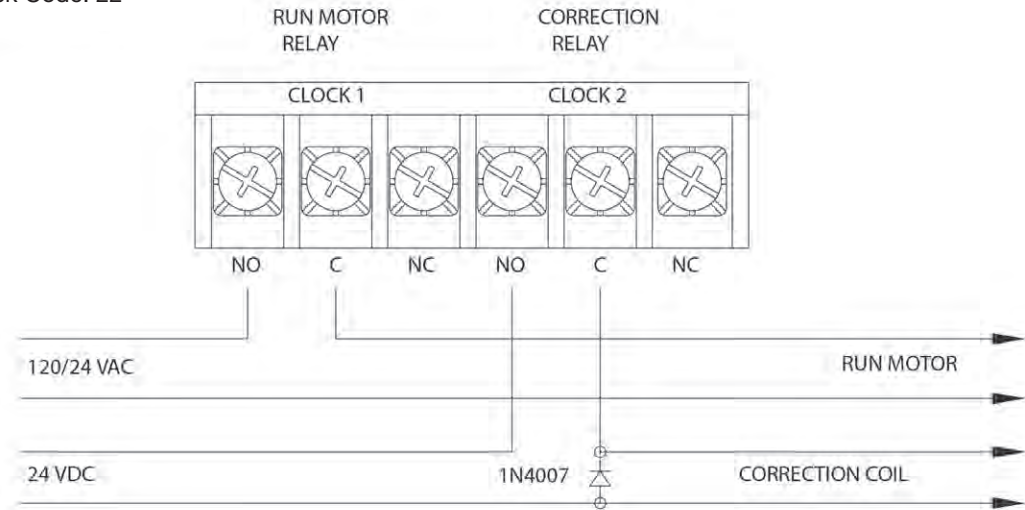
Clock Code 21 - Cincinnati D1

Clock Code: 21



Clock Code 22 - Dukane Synchronous Wired

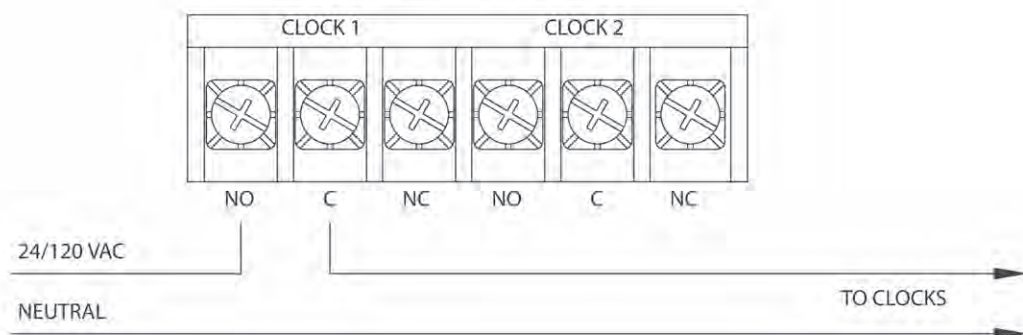
Clock Code: 22



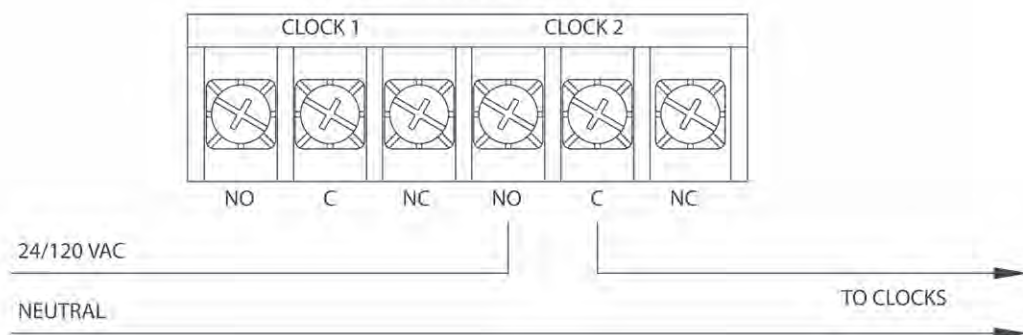
Clock Code 27 - Digital Clock Reset - 12:00 AM/PM

Clock Code: 27

NOON & MIDNIGHT CORRECTION



MIDNIGHT CORRECTION ONLY

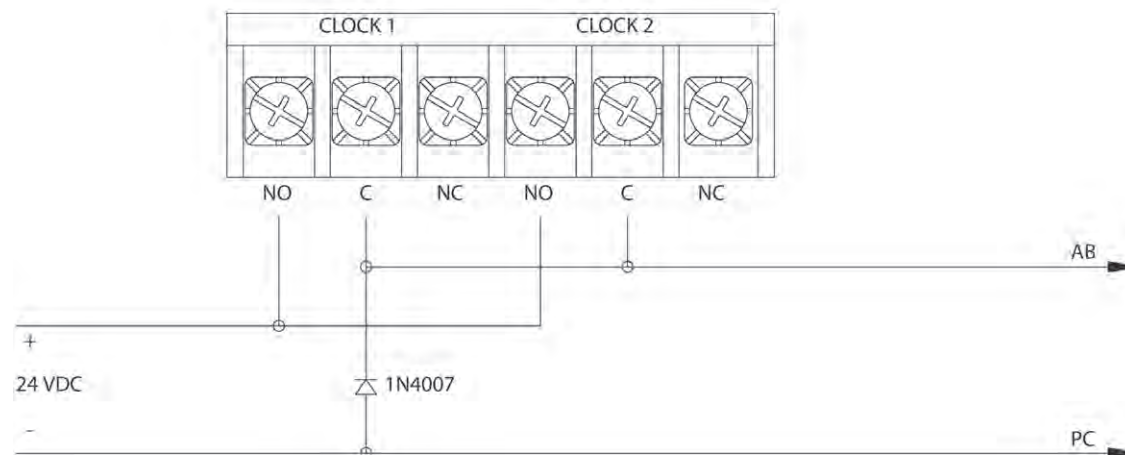


Clock Code 37 - 2 wire Reverse Polarity Minute Impulse

Clock Code: 37

MINUTE
RELAY

MANUAL
RELAY



AllSync IQ Installation Manual

Introduction

Installation



Glossary

Introduction

Installation

Troubleshooting

Appendix

Glossary

Analog Clock - A clock that represents time by position of hands on a dial.

CAT 5 Cable - Category 5 Cable. A twisted pair cable type designed for high signal integrity and commonly used in computer networks such as Ethernet. CAT 5 cable is used for Ethernet wiring on the AllSync IQ Master.

Circuit - One of the 6 relay outputs on the AllSync IQ Master.

Client - A computer or other networked device, or a software application, that connects to and request information from a server.

Daytime Protocol (RFC-867) - A standard, Internet-based timekeeping specification that calls for a timestamp to be sent from a timeserver as an ASCII character string containing the current date and time. This message is sent from the timeserver as a response to any input on port 13. The timeserver closes the connection as soon as the timestamp is sent. The AllSync IQ Master is capable of sending and receiving timestamps via UDP port 13 using this protocol.

Digital Clock - A clock that displays time with numerical display (12:00).

Ethernet - A very popular technology for networking computers and other devices. This communication method is used for transmitting and receiving precise timing signals by the AllSync IQ Master.

Event - Programmed into the AllSync IQ Master with time and date information, as well as a duration or a start/stop command. For example, Event 0001 may be programmed to execute every Monday, Wednesday and Friday at 10:00 am for 3 seconds.

FCC - Federal Communication Commission. A U.S. government agency in charge of regulating non-federal government use of radio spectrum.

Firewall - A network configuration, usually both hardware and software, that forms a fortress between networked computers within an organization and those outside the organization. It is commonly used to protect information such as e-mail and data files within a physical building or organization site.

Gateway - A network device or network point that acts as an entrance to another network, such as the server through which computers on a local area network (LAN) access the Internet.

Gateway IP Address - The address value for the Gateway device on the network (see Gateway).

Internet - A worldwide system of computer networks in which any one computer can get information from/or talk to any other connected computer using the TCP/IP protocols.

Leap Second - A second of time as measured by an atomic clock, added to or omitted from official timekeeping systems annually to compensate for changes in the rotation of the earth.

Master Clock - In a timekeeping or clock system, a device that acts as the source of time. The Master Clock, or System Controller, transmits the time to any number of secondary (slave) clocks.

Network - A group of interconnected computers or other electronic devices, capable of transferring data signals with each other.

NIST - National Institute of Standards and Technology. The Time and Frequency Division, part of NIST's Physics Laboratory, maintains the standard for frequency and time interval for the United States and provides official time to the United States.

Patch Cable - A cable with plugs or terminals on each end of the conductor or conductors used to connect circuits of equipment together. Patch cables are used to connect an individual computer or other device to a network. The AllSync IQ Master can be connected to an RJ-45 jack with an Ethernet Patch Cable.

RJ-45 - Registered Jack-45. An 8-pin (or 8-wire) modular connector used to attach data transmission devices to standard telephone wiring. Commonly used in Ethernet data connections and installed in the AllSync IQ Master for physical connection of the Ethernet port.

Schedule - A group of events. For example, a school might program Schedule 01 with 4 events for their morning Elementary recess schedule. The AllSync IQ Master allows for 99 unique schedules, with any number of events in each (up to a maximum total of 9,999 events).

Secondary Clock - Also known as a slave clock. This is a clock that synchronizes its timekeeping to that of a system master clock.

Server - A host computer or host device on a network, which shares resources and "serves" data to client computers or other servers.

SNTP - Simple Network Time Protocol. A less complex form of Network Time Protocol (NTP) commonly used for synchronization of computers and other devices. In SNTP, the client makes a single timing request to a single server (similar to the Daytime Protocol) and then uses this information to set its clock. This differs from NTP, which uses multiple servers and averages their results. The AllSync IQ Master supports SNTP as both a client and a server.

Static IP Address - An Internet Protocol (network) address permanently assigned to an individual machine, account or user.

Subnet Mask - A number that helps to define the relationship between the host (computers, routers, switches, etc.) and the rest of the network.

Synchronization - The process of bringing two clocks or time sources into phase so their difference is zero. In the case of a timekeeping system, time synchronization takes place between the master clock and all secondary clocks.

Timeserver - A system or device that acquires the correct time from a local reference clock and/or remote time servers and will answer time requests from other systems. See "Server" above.

Timeserver IP Address - The value of an address for a timekeeping server on the local computer network or Public Internet.

Timestamp - A time mark or notation that indicates the date and time.

UDP - User Datagram Protocol. An Ethernet protocol commonly used for time sensitive applications and which does not guarantee reliability, but does not delay packets (as in TCP-IP).

UL - Underwriters Laboratory. U.S. non-profit safety testing and certification organization.

UTC - Universal Coordinated Time. A time-scale that forms the basis of a coordinated distribution of standard frequencies and time signals throughout the world. It is often referred to as Greenwich Mean Time (GMT) or Zulu Time (military and aviation).