

Time Synchronization in Potter Fire Alarm Systems

Architecture, Behavior, and Best Practices for Dealers

Executive Summary

Accurate time synchronization is critical in fire alarm systems for event logging, diagnostics, network coordination, and post-incident analysis. In Potter Electric Signal Company systems, time can be established manually, synchronized via SNTP, coordinated through IntelliView cloud services, or propagated across networked panels depending on system configuration.

This white paper explains **how time synchronization works** across common Potter deployment scenarios, clarifies **dealer configuration responsibilities**, and highlights **best practices** to ensure reliable, compliant, and predictable system behavior.

Why Time Synchronization Matters in Fire Systems

For trained dealers and programmers, time synchronization is more than a cosmetic setting:

- **Event logs** rely on accurate timestamps for troubleshooting and inspections
- **Networked panels** require consistent time for correlation of events
- **Remote diagnostics** and cloud services depend on trusted system clocks
- **AHJ reviews and incident reconstruction** assume reliable timestamps

Misconfigured time settings can lead to:

- Confusing or misleading event histories
 - Apparent “out-of-order” events across panels
 - Manual correction effort during inspections or service calls
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Time Sources Used in Potter Systems

Potter panels may derive time from one or more of the following sources:

1. **Manual Entry**

- Time set locally via panel keypad
2. **SNTP (Simple Network Time Protocol)**
- External network time server configured by the dealer
3. **IntelliView Cloud**
- Used as a fallback time source when SNTP is unavailable and the IntelliCom is configured in IntelliView
4. **Panel-to-Panel Propagation**
- Time distributed across panels within the same building network

Which sources are active depends entirely on **panel configuration** and **installed options**.

Key Configuration Control: “Synchronize to Network Time”

Across all scenarios, the single most important setting is:

Synchronize to Network Time (Enabled / Disabled)

This setting determines whether the panel will:

- Attempt automated time synchronization, or
 - Rely entirely on manual time entry
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Scenario-Based Behavior

Scenario 1: Stand-Alone Panel (No IntelliCom)

When “Synchronize to Network Time” is ENABLED

- Panel attempts to connect to the configured SNTP server:
 - On boot
 - Every three days thereafter
- Requires an Ethernet connection with access to the SNTP server

When “Synchronize to Network Time” is DISABLED

- Panel never synchronizes time automatically
 - Dealer or technician must manually set time at the panel keypad
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Scenario 2: Stand-Alone Panel with IntelliCom

When “Synchronize to Network Time” is ENABLED

- On boot, the panel attempts SNTP synchronization
- If SNTP is unreachable:
 - Panel synchronizes time with the IntelliView server
- Every three days:
 - Panel retries SNTP
 - After each failure, IntelliView time is used
- If SNTP later succeeds:
 - IntelliView time synchronization is no longer used

When “Synchronize to Network Time” is DISABLED

- Panel does **not** synchronize with SNTP or IntelliView
 - Time must be set manually at the panel keypad
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Scenario 3: Networked Panels (No IntelliCom)

When “Synchronize to Network Time” is ENABLED

- Each panel independently:
 - Attempts SNTP synchronization on boot
 - Retries every three days
- No panel acts as a master time source

When “Synchronize to Network Time” is DISABLED

- Panels do not automatically synchronize time
 - Dealer sets time on **one panel** configured for the same building
 - That panel sends the time **once** to other panels configured for the same building
 - No periodic re-synchronization occurs
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Scenario 4: Networked Panels with IntelliCom

When “Synchronize to Network Time” is ENABLED

- Panel attempts SNTP synchronization on boot and every three days
- If SNTP fails:
 - Panel synchronizes with IntelliView
- If SNTP later succeeds:
 - IntelliView time is no longer used

When Time is Received from IntelliView

- Panel distributes time to other networked panels in the same building
- Time is only sent if another IntelliCom-equipped panel has not done so recently (three-day window)

When “Synchronize to Network Time” is DISABLED

- Panel does not synchronize with SNTP or IntelliView
 - Time must be set manually on one panel
 - That time is propagated once to other panels configured for the same building
 - If another panel *is* configured for network time and has IntelliCom:
 - It may still distribute time to the network when SNTP is unavailable
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Practical Dealer Guidance & Best Practices

Recommended Configuration

- **Enable “Synchronize to Network Time”:**
 - Configure for an available time server
 - If a time server is not available and an IntelliCom is connected to the panel, any time server, such as the default time server, may be configured as the time will be synchronized with IntelliView
- **Use SNTP as the primary source**

SNTP Server Considerations

- Use trusted, stable time servers
- Confirm firewall rules allow outbound SNTP traffic
- Avoid relying on public SNTP servers without customer approval

Networked Systems

- Ensure all panels are:
 - Assigned to the correct building
 - Consistently configured
- Avoid mixed assumptions about “master” time panels

Manual Time Use

- Acceptable for:
 - Isolated systems
 - Temporary commissioning
 - Not recommended for:
 - Large networks
 - Systems with remote monitoring or diagnostics
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Common Misconceptions

- “One panel automatically keeps all others in sync forever”
→ Time propagation typically occurs only once unless triggered again
 - “Disabling network time still allows cloud time updates”
→ Disabled means *no automated synchronization of any kind*
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Conclusion

Time synchronization in Potter fire systems is **intentional, deterministic, and configuration-driven**. Dealers who understand these behaviors can ensure clean event logs, consistent system operation, and smoother inspections.

Correct setup — especially the **Synchronize to Network Time** setting — prevents confusion, service callbacks, and unnecessary manual intervention.

MORE CONCISE DESCRIPTION = TBD if this remains or just use the pages prior to this...

Time Synchronization in Potter Fire Alarm Systems

One-Page Dealer Summary

Accurate time synchronization is essential for reliable event logs, troubleshooting, inspections, and post-incident analysis in Potter Electric Signal Company fire alarm systems. How time is established and maintained depends entirely on **system configuration, network availability**, and whether **IntelliCom** is installed.

The Key Setting That Controls Everything

Synchronize to Network Time

- **Enabled** → Panel attempts automatic time synchronization
- **Disabled** → Panel never synchronizes automatically; time must be set manually

This setting determines whether the panel uses **SNTP, IntelliView**, or **manual time only**.

Time Sources Used by Potter Panels

- **Manual Time** – Set locally via keypad
 - **SNTP (Network Time Server)** – Primary time source when enabled
 - **IntelliView Cloud** – Secondary (fallback) source when SNTP is unavailable
 - **Panel-to-Panel Distribution** – Used in networked systems within the same building
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Behavior by System Type

Stand-Alone Panel (No IntelliCom)

- With network time enabled:
 - Panel attempts SNTP synchronization on boot and every three days
 - With network time disabled:
 - No synchronization occurs; manual time entry required
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Stand-Alone Panel with IntelliCom

- With network time enabled:
 - Panel attempts SNTP first
 - If SNTP fails, panel synchronizes time from IntelliView
 - SNTP remains the preferred source when available
 - With network time disabled:
 - No SNTP or IntelliView synchronization
 - Manual time entry only
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Networked Panels (No IntelliCom)

- With network time enabled:
 - Each panel independently synchronizes to SNTP
 - With network time disabled:
 - Time is set on one panel and sent once to other panels in the same building
 - No ongoing automatic re-synchronization
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Networked Panels with IntelliCom

- With network time enabled:
 - Panel attempts SNTP, falls back to IntelliView if needed
 - Time may be distributed to other panels in the same building
 - With network time disabled:
 - Manual time entry required
 - Time can still be received from another networked panel that is configured for network synchronization
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Important Dealer Notes

- **SNTP is always the preferred time source** when enabled and reachable
 - **IntelliView is a fallback**, not a replacement for SNTP
 - Disabling network time disables *all* automatic time correction
 - Manual time propagation in networked systems typically occurs **only once**
 - Mixed configurations within a building can produce unexpected results
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Best Practices

- Enable **Synchronize to Network Time** whenever Ethernet connectivity is available
 - Verify SNTP server access during commissioning
 - Avoid relying on manual time for large or networked systems
 - Confirm all panels in a building are consistently configured
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Bottom Line

Time synchronization in Potter systems is **predictable, configuration-driven, and intentional**. Proper setup ensures clean logs, consistent timestamps, and fewer service calls—while misconfiguration almost always leads to confusion during inspections and troubleshooting.