integriti
INTEGRATED SOLUTIONS

INTEGRITI SECURITEL COMMUNICATIONS TASK

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Integriti Securitel Communications Task

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The Securitel network and protocol:

The Securitel network was a “direct-line” alarm transmission network that was supplied and maintained by Telstra. Alarm panels in the field were connected to a Subscriber Terminal Unit (a STU) and the STU would communicate events via the PSTN to Nodes that were hosted by Telstra. These events were then transmitted to a Central Monitoring Station for processing/actioning.

The Alarm panel communicates to the STU via the Securitel communication protocol. The Securitel protocol allows for either Channel/PIN data or Serial data. When an Alarm panel is reporting Channel data there are simply 16 bits of data that represent Alarm or Normal input states when they are set or cleared. One of these Channel data bits will be designated as the Area Open/Close bit. When an Alarm panel is reporting Serial data to the STU, the event description from the Alarm panel to the STU is much more verbose. The Serial data can describe:

- 255 inputs being in one of the following states
  - Priority1
  - Priority2
  - Priority3
  - Tamper
  - Trouble
  - Man. Isolate
  - Auto Isolate
- Area 1 to 31 being Open or Close
- General Area Open or Close and a few other miscellaneous events

Description of the Integriti Securitel Comm Task:

The Integriti Controller's Securitel Comms Task communicates reportable events to a STU. The Securitel Comms Task uses the Serial Securitel data to communicate with the STU. The Integriti Controller has thousands of inputs and the STU can only accept an input number from 1 to 255.

In an attempt to report meaningful event information to the Central Monitoring Station, the Securitel Comms Task collates the events that are reported to the STU in one of two different modes, either input collation or Area event collation.

Input collation involves checking multiple inputs across multiple modules. When a new Alarm type (E.g. Alarm, Tamper etc.) event is detected the mapped event is sent immediately. When a new Restore type event is detected all of the collated inputs are checked and if all of the inputs are sealed then a Restore event is sent to the STU.

When using Area event collation, when an input in an Area generates a new Alarm, Tamper or Isolate, an Area Alarm, Area Tamper or Area Isolate event is sent to the STU. When the Area is eventually disarmed, an Area Alarm Restore, Area Tamper Restore or Area Isolate Restore is generated (one Restore event per event type that was reported during this arming cycle).

The Securitel Comms Task has options to report Input events, Area events or both.

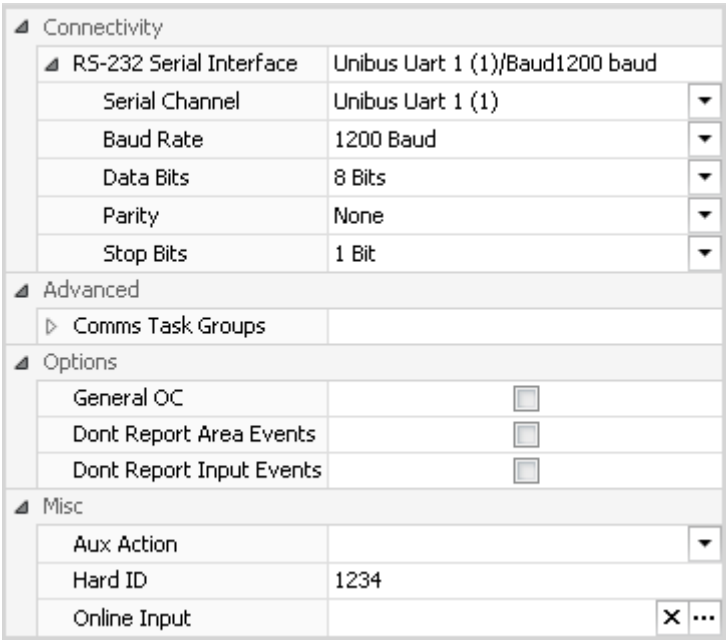


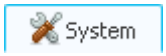
Figure 1: Securitel Comms Task from the Integriti System Designer

Interface between Integriti and a STU:

The connection between the Integriti Controller and the STU is made via a serial interface, by connecting one of the Integriti Controller's UARTs to the STU. Securitel STUs were capable of communicating to Alarm panels at 300, 1200 or 9600 BAUD. The recommended port configuration for communications between the Integriti Controller and a STU is 1200,N,8,1 (as per the Figure 1: Securitel Comms Task from the Integriti System Designer).

Configuring the communications task:

To create the Securitel communications task, follow the procedure below.

1. Click on the 

tab followed by 

.
2. Click 

to create a new communications task.
3. In the window that appears, enter a name for the communications task and enter any necessary notes in the notes field.
4. Under Comms Task Setup drop down the type list box and select Securitel.
5. Expand out Connectivity followed by RS-232 Serial Interface under Securitel programming.
6. Drop down the Serial Channel list box and select the UART that will be used to communicate with the STU.
7. Drop down the Baud rate list box and select 1200 Baud.
8. Under the miscellaneous tab, enter a Hard ID in the field provided.
9. Save the communications task by clicking the  button.
10. Start the communications task by clicking the  button.

Integriti Input to Securitel mappings

When multiple inputs across multiple modules are collated the reporting logic is as follows:

1. If a new input event (E.g. an Alarm) is being reported then the appropriate Securitel Input Number is looked up and the event is sent to the STU.
2. If a new input restore (E.g. going from Alarm to Seal) is being reported, look up all of the other module's inputs of the same type that the Securitel Input Number is collated with. If all of the inputs found are sealed then the restore event is sent to the STU. If an input(s) is unsealed then when the last input seals then the restore event is sent to the STU.

For Example: There are 4 Expander modules and 1 RF module on the Integriti Controller. Expander 2 has a Cabinet Tamper event, this is reported to the STU immediately. Then Expander 3 has a Cabinet Tamper event, this is reported to the STU immediately. Then Expander 3 has a Cabinet Tamper restore, this is not reported to the STU because Expander 2 still has its Cabinet Tamper unsealed. Expander 2 has a Cabinet Tamper restore and this is reported to the STU indicating that all Expander module Cabinet Tamper inputs are sealed.