AES•*IntelliTAP*

Model 7068 Digital Dialer Interface
A Supplemental Alarm Reporting Device
Version 1.10

Installation Guide

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AES•*IntelliNet*

AES Corporation
285 Newbury Street • Peabody, Massachusetts 01960-1315 USA
Tel 978-535-7310 • Fax 978-535-7313
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AES•*IntelliTAP* "TAP" Installation Guide

HOW IT WORKS

The AES Model 7068 IntelliTAP (or "TAP") is a supplemental reporting interface for an AES Subscriber Unit. It is designed to retrieve the Contact ID or 4+2 formats from the built-in communicator of an alarm panel. The TAP acts as a digital receiver and gives the proper responses to the alarm panel. The alarm panel only has to tone dial a selected phone number for the TAP to respond and receive the event. The TAP forwards the dialer data to the central station through an AES•IntelliNet Radio Data Network.

More Features

• **Use with or without a phone line attached.**

• **Telephone Line Cut Detection:** The TAP can monitor for telephone line cuts.

• **Alternate Reporting Trigger -** The Tap also has outputs to activate an alternate communication device.

COMPATIBILITY

Alarm Panel Compatibility: The TAP works with many alarm panel's digital communicator or dialer output that is capable of blind dialing and is programmable for either 3+1, 4+1, 4+2, Contact ID or Point ID formats, with tone dialing capability. In a line cut situation, the Subscriber ID number is used. In addition to the Tap, at least one alarm panel output must be connected to a zone of the AES Subscriber Unit.

Radio Subscriber Unit Compatibility: The TAP is an accessory for the AES model 7050-**E,** 7750-**F**, 7450 Radio Subscriber Units with Version ESB/SUB 1.71 or later.

Central Receiver Compatibility: 7000/2, 7000/1, 7099, 7701/Net77 and 7703 receivers will accept TAP packets. Some earlier versions may require an upgrade. Refer to the section on central stations at the end of this manual. Note that the receiver's automation output sends dialer information from the alarm panel, including the alarm panel ID number. In a line cut the Subscriber ID number is used.

PHYSICAL INSTALLATION of 7068 TAP in an AES Subscriber Unit

The Tap is installed inside the subscriber unit.

For 7050-E or 7750-F Subscriber Unit: *See Figure 1*

• Remove four (4) lower nuts holding main board inside box. Save these nuts.

• Install 4 standoffs (provided) in place of nuts, securing the subscriber unit circuit board and providing a mount for the "TAP". Do not overtighten.

• Mount TAP board on standoffs. Secure the board with the 4 nuts removed earlier.

• Earth ground should be connected to lower right terminal.

• Install 6 wire modular cord between Tap and subscriber main board.

For 7450 Subscriber Unit: The IntelliTap board is mounted to the inside of the cover with doubleback adhesive tape. Install the 6 wire modular cord between the Tap and the subscriber board.

For 7450-XL Subscriber Unit: The IntelliTap board is mounted on standoffs to the predrilled holes on the plate inside the case. Install the 6-wire modular cord between the Tap the subscriber board.

   NOTE: For UL and NFPA72 applications, the 7068 IntelliTap must be used with a 7750-F Series subscriber unit. The Tap must be mounted inside subscriber enclosure. Also, a separate output of the alarm panel must be used to activate one zone of the AES subscriber unit on alarm.
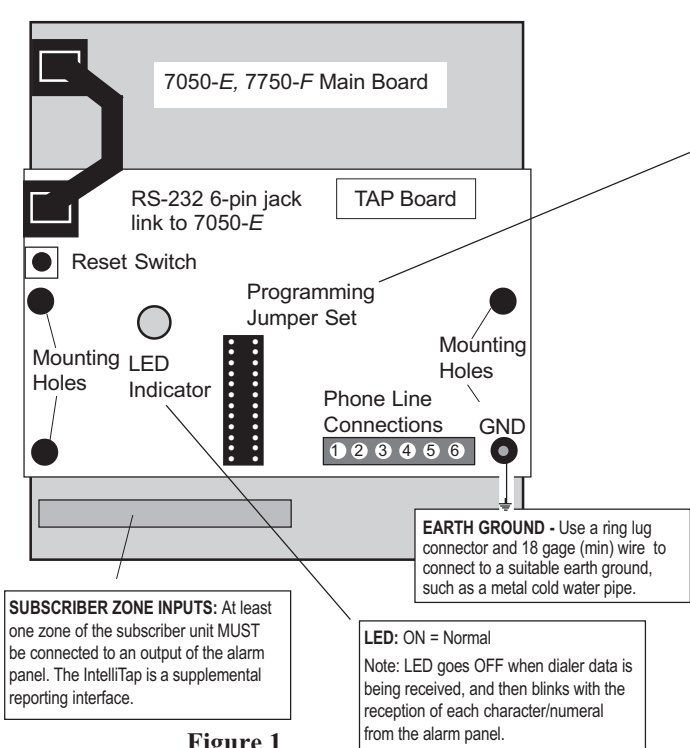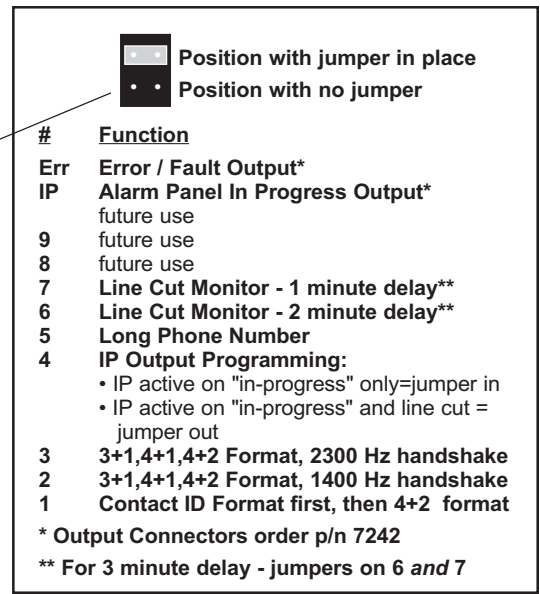
Figure 1

Figure 2

DIALER FORMAT SELECTION - *See Figure 2*

IMPORTANT NOTE: The central receiver offers Radionics 6500 and Ademco 685 outputs for automation. If you wish to use the Contact ID format for the AES•*IntelliTAP,* it is strongly recommended that you use the Ademco 685 format for the alarm automation output from your AES receiver.

A single jumper MUST be installed on position 1, 2 OR 3

• **Contact ID (CID) format = Jumper on 1 only**

   NOTE: Only Contact ID (CID) format has been evaluated by UL.

• **3+1, 4+1, 4+2 format with 1400 Hz answer tone = Jumper on 2 only**
• **3+1, 4+1, 4+2 format with 2300 Hz answer tone = Jumper on 3 only**

Note: For 3+1, 4+1, 4+2, program your alarm panel for a "single line" data format, with data range 0-9, B-F,

IMPORTANT: Alarm Panel MUST be programmed for TONE dialing only.

Program the alarm panel to dial with matching parameters.

How it Works: The TAP tries other answer tones if the selected format does not produce a response from the alarm panel:

• If 1400 Hz is selected, then 2300 Hz will also be attempted.
• If 2300 Hz is selected, then 1400 Hz will also be attempted.
• If Contact ID (CID) is selected, CID answer tones are tried 4 times, then both 2300 Hz and 1400 Hz are attempted.

NOTE: The Tap will accept signals from the alarm panel ONLY if the Subscriber Unit is enrolled in the network, and has available buffer to accept the signal from the Tap.

LINE CUT MONITOR PROGRAMMING *Refer to Figures 1 + 2*

The TAP can detect and report a telephone line cut. The TAP determines that the line is cut when the voltage across terminals 1 and 2 drops below approximately 2.5 volts for a programmable period of time. The line cut function is enabled and its parameters are set using jumpers 6 and 7 (see figures 1+2).

• **Line cut monitor:**
  - with 1 minute delay = Jumper on 7
  - with 2 minute delay = Jumper on 6
  - with 3 minute delay = Jumpers on 6 AND 7

• **No Phone Line Used, and No Line Cut Monitor = No Jumper**

• **Push Reset Switch (S1) on TAP after setting jumpers.**

• **The line cut function can also be used to supervise the line between the alarm panel and the subscriber unit. See page 8 in this manual for details.**

PROGRAM PHONE NUMBER INTO THE TAP AND ALARM PANEL - *Refer to Figures 1 + 2*

Select Phone Number and Type: You must select which phone number the TAP is to respond to. Select either the short (5-5-5) or long (any 15 digit number ending in 2-3-7).

• The short number is usually used when the TAP is not connected to an active telephone line.

• The long 15 digit number ending in 2-3-7 is preferred when the TAP is connected to an active telephone line. This allows you to dial a non-obtrusive number and prevent intercept tone, which may occur during TAP and panel communications when using the short number.

"Short" 3-digit telephone number - Remove jumper on position 5. Program the alarm panel dialer phone number with the digits **5-5-5.** During a reported event, the phone line is quiet after the 5-5-5 is dialed as it waits for more digits. During this period, the TAP provides an answer tone, signalling to the alarm panel to transmit its data, and then kisses it off. The control panel then hangs up the line. Test the setup - see next page.

"Long" 15-digit telephone number - Install jumper on position 5. Program the alarm panel with a 15 digit phone number ending with 2-3-7 (A-E-S). Any numbers can be used, but **the last 3 numbers must be 2-3-7.** Suggestion: Program the first digits with the phone number of the line in use. Add additional digits to fill up to digit #12. Avoid using dual digits such as 1-1 or 2-2. During a reported event, this results in "dead air" or a busy signal on the phone line, but data can usually be conveyed from alarm panel to the TAP if the alarm panel is capable. The control panel then hangs up the line. **Test to make sure this works: If you get a telephone company interrupt tone - a loud series of tones followed by a voice announcement ("Your call did not go through...")** *before* **alarm data has been communicated, this method will** *not* **work. Test the setup - see next page.**

NOTE - If Alarm Panel CANNOT Blind Dial, AND you are using a phone line AND you are programming the TAP for Line Cut: If the telephone line is cut, the line cut will be reported by the TAP, but because the alarm panel cannot blind dial, no alarm data will be transmitted.

Program the Alarm Panel to Dial the TAP

Follow the alarm panel manufacturer's procedure and enter the appropriate telephone number into the dialer:

• Use "5-5-5" if you've selected the "short" number for the TAP.

• Use a 15 digit number ending in "...2-3-7" if you selected the "long" number for the TAP.

Note: Program the alarm panel for Tone/DTMF dialing. Pulse dialing will NOT work.

QUICK REFERENCE CHART FOR TYPICAL INSTALLATIONS   **Figure 3**

Refer to:	Attach to Phone Line?	Alarm Panel Can Blind Dial? *	Installation Req's Detection of Tone Source (house phones) *
Figure 4 pg 5	Yes, with RJ31X	NA	No
Figure 5 pg 6	Yes, without RJ31X	NA	No
Figure 6 pg 6	No	Yes	No
Figure 7 pg 6	No	No, but responds to 12V	No
Figure 8 pg 6	No	No, but responds to Phone Line Sim	No
Figure 9 pg 7	Yes, with RJ31X	NA	Yes

* Check capabilities of Alarm Panel

Connecting the IntelliTAP to an Alarm Panel with Tel Line Attached with RJ31X

Figure 4
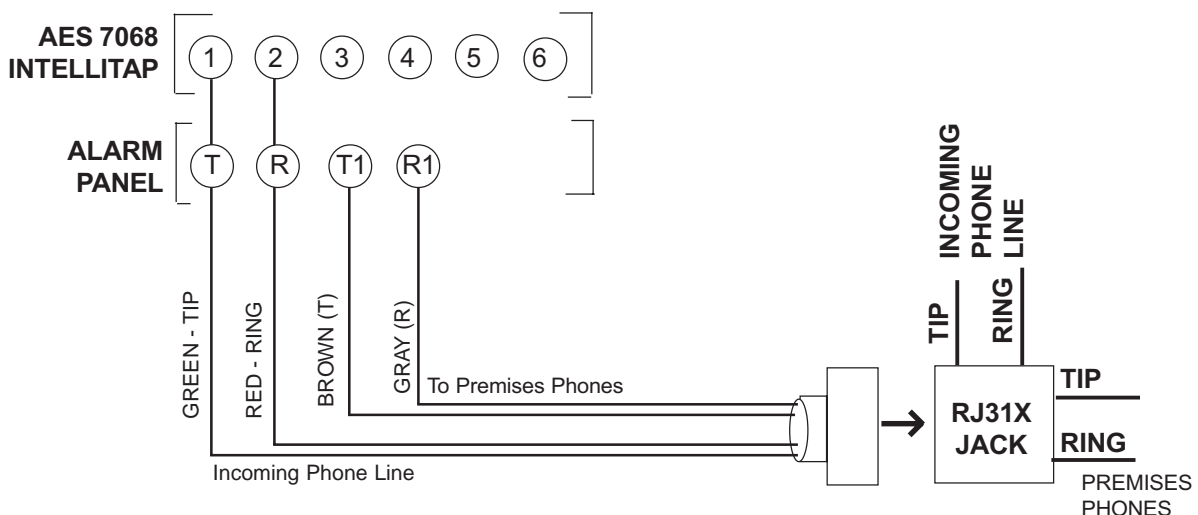
Connecting the IntelliTAP to an Alarm Panel with Tel Line Attached w/o RJ31X
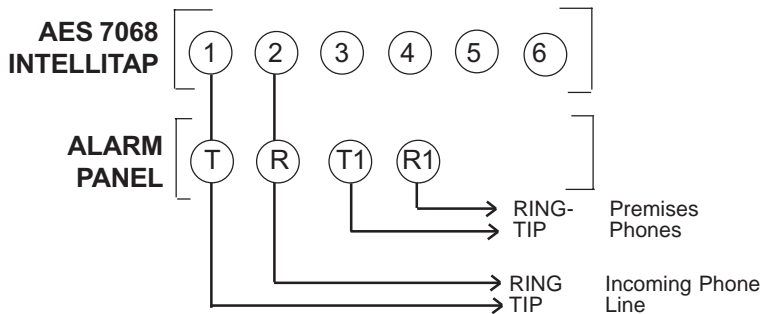

Figure 5

Installing the IntelliTAP to an Alarm Panel <u>with NO Telephone Line Connected</u>

To program the TAP for use without a phone line, make sure there are NO jumpers on positions 6 or 7.

Connect wires as shown here. Power and connections to the subscriber unit should be in place. The subscriber unit should be enrolled in the network.

If control panel can "Blind Dial", wire as shown.
• Program the panel with the phone number **5-5-5.**
• Test the setup by generating an event on the alarm panel.

Figure 6

If alarm panel can <u>not</u> "Blind Dial"- Option A:
"Wet" the phone line input of the alarm panel. Wire as shown,
• Connect a 470 ohm resistor between alarm panel's "Ring" and alarm panel's "Acc +12V" output.
• Connect the panel's "Tip" to battery ground.
• Program the panel with the phone number **5-5-5.**
• Make sure there is NO jumper on position 5.
• Test the setup by generating an event on the alarm panel.

Figure 7

If alarm panel can <u>not</u> "Blind Dial" - Option B :
Add a module, such as model PLS-1 by DSC. See manufacturer's wiring diagram for details.
• Install the phone line module to the manufacturer specifications.
• Program the panel with the phone number **5-5-5.**
• Make sure there is NO jumper on position 5.
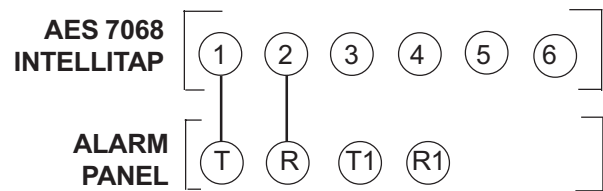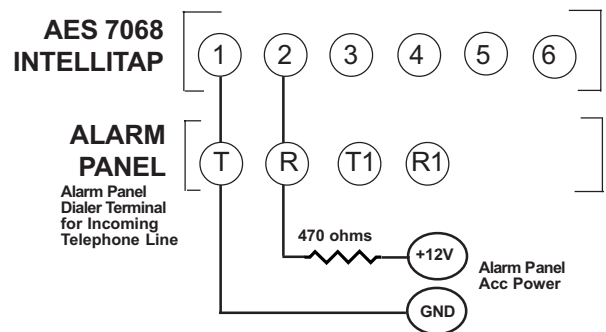• Test the setup by generating an event on the alarm panel.

Figure 8

AES•*IntelliNet* Central Alarm Reporting System   zd01b 4000571b1.p6 **Rev B**.01 **40-7068**
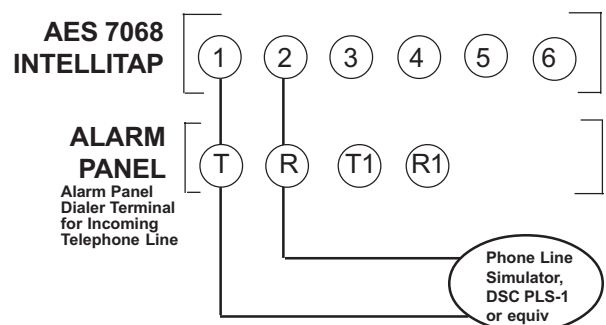
Installing the IntelliTAP to an Alarm Panel <u>with a Telephone Line Connected w/RJ31X</u> <u>*AND* the detection of the tone source required</u> (i.e. if tones are generated by house phones or by the alarm panel).
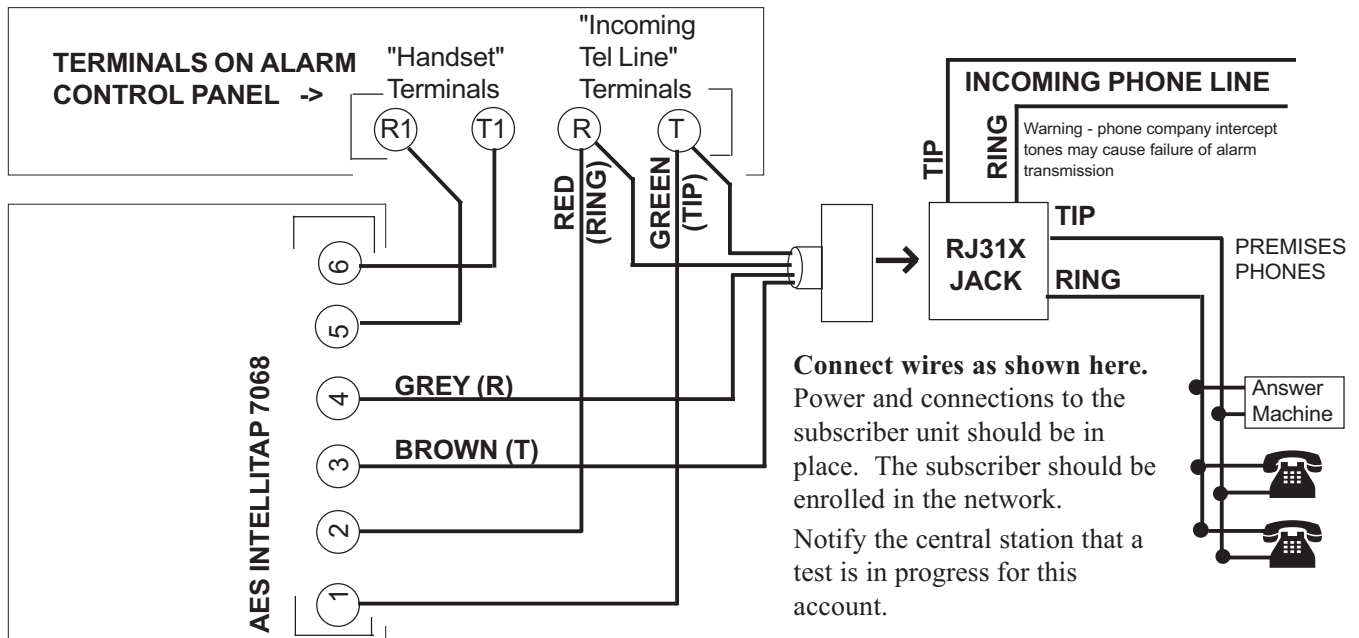

Figure 9

Proceed as follows:

- Test "Premises Off-Hook" Detection on the Tap:

• Push the reset switch on the TAP (S1) to ensure a "clean" start.

• The LED blinks at a regular rate during "normal" conditions (on-off-on-off-on...) at a rate of approximately 2 times per second.

• Take the house phone "off hook" and listen to the receiver. You should hear a dial tone. If not, recheck the wiring.

• Again, have someone take the house phone "off hook", and watch the activity of the IntelliTAP's LED. The LED should go OFF, then blink at a different rate with pronounced pauses between a series of blinks (on-off-on-------off------on...). Replace phone on hook, and normal LED status should return. This confirms that the 'TAP can differentiate between a house phone off hook and an alarm panel dialing. If this works as described here, proceed to the next step. If this test provides different results, check wiring to be sure that the phones are connected correctly, then retest.

CONNECT A ZONE ON THE SUBSCRIBER UNIT IN ADDITION TO THE TAP

At least one output of the alarm panel must be connected to the AES Subscriber Unit when using the TAP. The Tap is a supplemental reporting device.

The activated zone serves as a general alarm. The alarm monitoring screen should comment that additional information should follow and what action to take if it does not. If the alarm panel has enough outputs you can send general alarms for more specific clarification, such as General Fire, Burglary, Panic, etc.

The backup zone activation is immediate, and will likely activate faster than the TAP, which must wait for the alarm panel to go through the dialing process.

Note that the ID of the AES Subscriber Unit will be sent with the zone input signal; the ID of the alarm panel will be sent with the TAP signal.

• FOR UL Installations, one zone of the subscriber unit must be activated by the alarm panel.
The 7068 IntelliTAP unit has been investigated by UL for Supplemental Use Only.

Another Tip: To supervise the link between the AES TAP and the Alarm Control Panel when <u>NO</u> phone line is attached:

A supervisory voltage can be added to the dialer output: if the line is cut, the voltage drop will be detected by the TAP and reported as a phone line cut.

- Attach a 470 ohm resistor between +12V accessory power and "Ring"/ Incoming Tel Line Input terminal on the alarm control panel dialer.

- Connect the alarm ground and "Tip"/ Incoming Tel Line terminal on the alarm control panel dialer.

- Wire the Tap terminals 1 and 2 to Alarm Panel (incoming) Tip and Ring respectively.

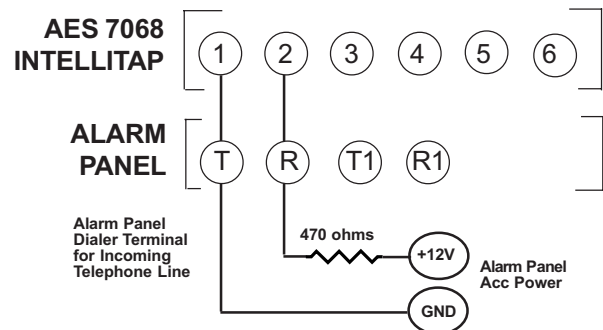- Program the Tap to monitor for line cut delay, place the jumper on "7" terminals.

Figure 10

TEST PROCEDURES

• Notify the Central Station that a test is in progress.

• Trip the alarm control panel. The TAP LED indicator will go off briefly as the panel dials, then pulse as the data is transmitted.

• The LED will then go off again as data is relayed to the Subscriber Unit, then comes on again.

• Check with the central station that the correct message was received.

A test without panel communication: To confirm that the TAP is capable of communicating to the AES Subscriber unit, use the phone line cut detection feature. When troubleshooting, this test is useful to confirm that the TAP is communicating a signal through its attached subscriber to the central station. Leave terminals 1 and 2 of the TAP disconnected to create a line cut condition. Set line cut to one minute, jumper in position 7, none in 6. Press the TAP's reset button. In 1 minute or less, the TAP should attempt to signal the line cut. Remember that line cut signals are reported using the subscriber's ID. TAP signals are reported using whatever ID the alarm panel selects.

SUPPLEMENTAL OUTPUTS

Outputs

The TAP includes 2 open collector outputs to signal or control other devices.
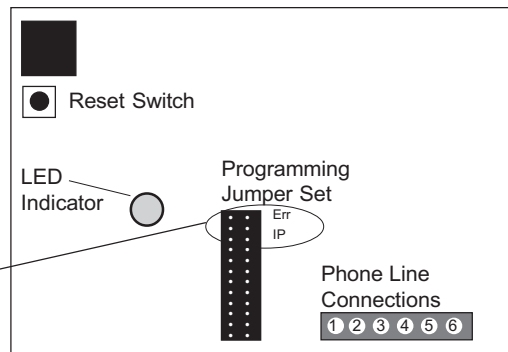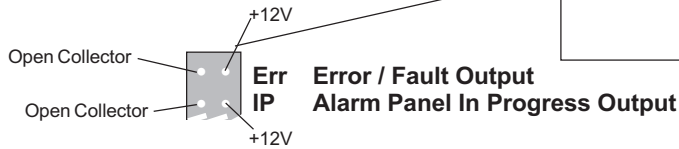

Figure 11

"Err" Error / Fault Output - open collector output at Jumper /Output Block position marked "Err".

If the subscriber is "off" the network, it will not accept messages from the TAP. The TAP detects the problem, and activates the output to annunciate the problem.

Pins "Err" - Error / Fault Output

To Annunciation Device / Zone Input of Control Panel
Max 200ma

Figure 12

The "Err" Output is Activated when:

• After 3 unsuccessful attempt to communicate with the AES Radio Subscriber Unit.

• Memory failure on the TAP module.

• If the subscriber is off the network, or the subscriber buffer is full

The "Err" Output is De-Activated when:

• The output deactivates on the 4th try.
• Reset of TAP module
• A new dialer call from the alarm panel.

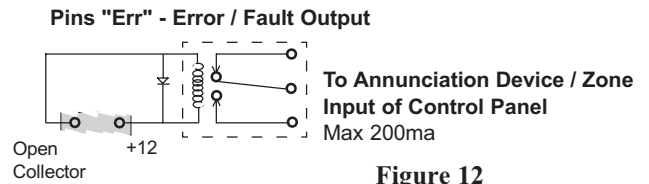• The subscriber returns to the network, or the subscriber buffer is cleared.

"IP" Output for Alarm "In Progress" and Line Cut - open collector output at position marked "IP". This output is controlled by jumper position 4.

Condition Reported:	"In Progress"	"Line Cut"
Position 4 Jumper In:	Yes	No
Position Jumper Out:	Yes	Yes

The output is activated upon reception of the designated TAP telephone number from the alarm panel. When jumper position 4 is out, it also activates when a line cut is detected.

The output goes off when no more dialer signals are received.

Note: The LED go off when dialer data is being received, and then blinks with the reception of each character/ numeral from the alarm panel.

Pins "IP" - Alarm Data Transmission In Progress Output

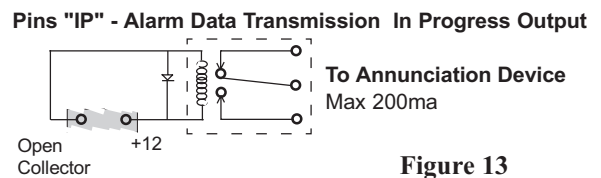**To Annunciation Device**
Max 200ma

Figure 13

Important Note: Observe polarity when connecting to ERR or IP outputs. Incorrect connections of output can damage the 7068 circuit board.

Connectors for Err and IP Outputs:

A connector and with wire leads is available from AES. **Order p/n 7242.**
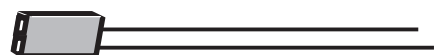
"IP" Output for Alarm "In Progress", continued

Some installers use this output to isolate the telephone line during the transmission of data from the alarm panel to the TAP. (Not for UL installations). Here is a typical wiring diagram:

Figure 14

THIS CONFIGURATION NOT FOR UL INSTALLATIONS.

CENTRAL RECEIVER COMPATIBILITY and REQUIREMENTS
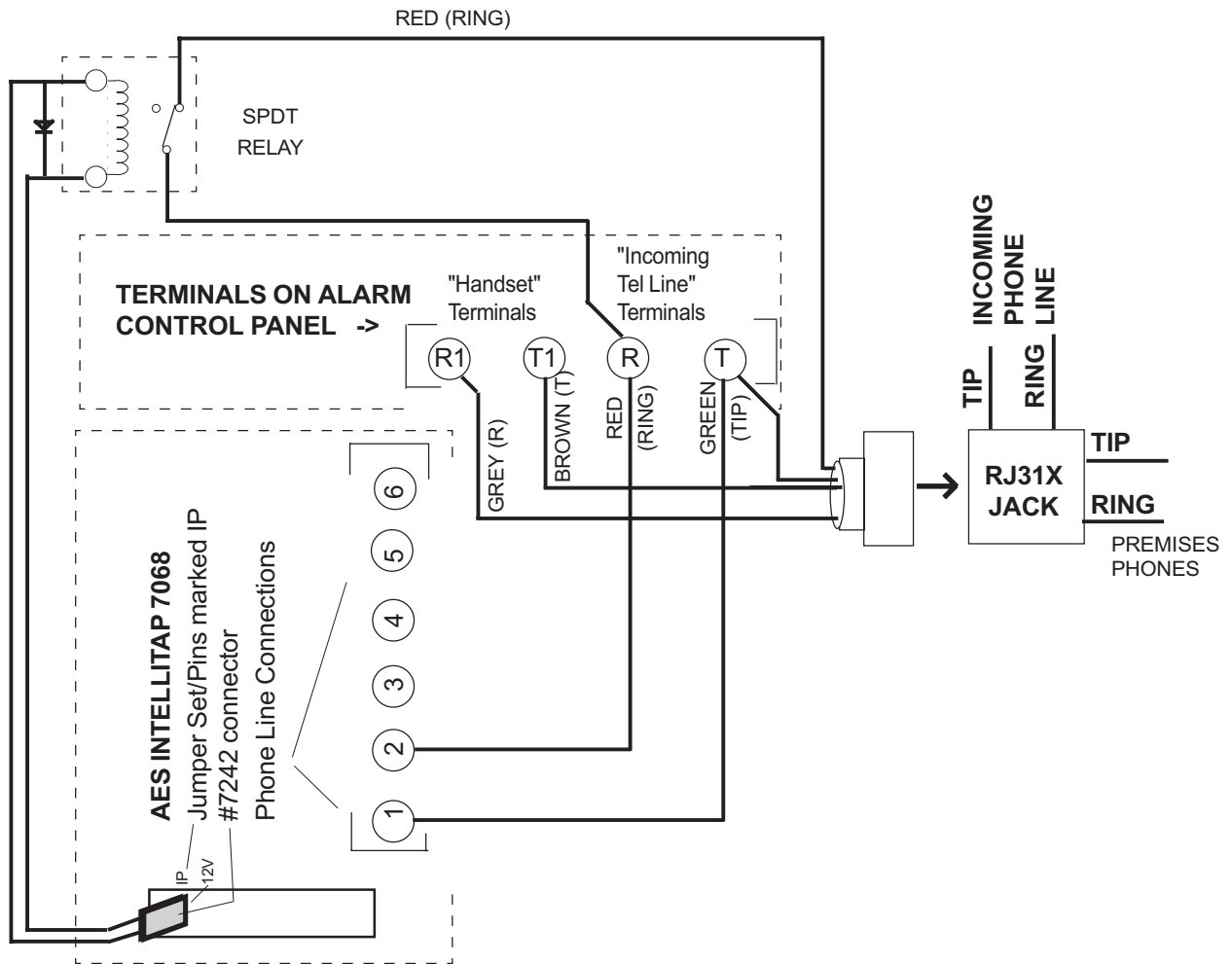
Central Receiver Compatibility: All current AES receivers 7000/2, 7000/1, 7099, 7701/Net77 and 7703 receivers will accept TAP signals. Some earlier versions may require an upgrade. If there are any questions, have the central station contact technical support at AES Corporation at tel 978-535-7310.

7000 Series (7000/2, 7000/1 and 7099) require version CEN 1.71 network controller board and version ALM 1.72 alarm output or higher. These receivers will print the TAP messages on the event printer and pass the signal to alarm automation properly.

7701 with 7700 and Net77 software requires Net77 version 1.48.4CT, 1.48.4CTD, 1.48.30 or later.

Important Note: The 7701 receiver with firmware of 1.65 or earlier will not print TAP messages on the event printer. If Net77 is not running for any reason, the TAP alarm cannot be reported. Thus it is mandatory that at least one zone of the Subscriber Unit must be activated for any system using the 7701 receiver with 1.65 or earlier firmware.

• For Net77 version 1.48.30, TAP messages are sent out the automation port with all other signals.

• For Net77 version 1.48CT and 1.48CTD send TAP messages to automation out Com port 3.

All AES 7703 and KELTRON RF7300 Receivers are compatible with the TAP.

Note: The automation output will send Contact ID information from the alarm panel, including the panel ID number. In a line cut situation, the Subscriber ID number is used.

FCC Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received including interference that may cause undesired operation.

UL / cUL Compliance Notes

• Only Contact ID format has been evaluated by UL.
• The 7068 IntelliTAP unit has been investigated by UL for Supplemental Use Only.
• The 7068 IntelliTAP unit must be mounted inside the AES Subscriber Unit.

The 7068 IntelliTAP unit has been evaluated to the following Standards:
USL:
UL 609 (10th ed) - Local Alarm Units and Systems
UL 365 (4th ed) - Police Station Connected Burglar Alarm Units and Systems
UL 1610 (2nd ed) - Central Station Burglar Alarm Units
UL 864 (8th ed) - control Units for Fire-Protective Signaling Systems

CNL:
CAN/ULC-S527-M87 (1st ed) - Standard for Control Units for Fire Alarm Systems (amend 1995)
ULC Subject C1023-1974 (1st ed) - Preliminary Standard for Household Burglar Alarm System Units
CAN/ULC-S545-M89 (1st ed) - Standard for Residential Fire Warning System Control Units (amended 1995)
CAN/ULC-S303-M91 (1st ed) - Standard for Local Burglar Alarm Units and Systems
CAN/ULC-S304-M88 (1st ed) - Standard for Central and Monitoring Station Burglar Alarm Units
ORD-C1076-1986 (5th ed) - Proprietary Burglar Alarm Units and Systems

Electrical Rating: 12VDC nominal

Current: **Typical: 50ma** (no load on ERR or IP outputs)

Maximum: 450ma (with max load on ERR and IP outputs)

OWNER WARRANTY - AES CORPORATION
LIMITED PRODUCT WARRANTY AND TECHNOLOGY LICENSE

LIMITED PRODUCT WARRANTY:

AES Corporation ("AES") warrants to the original purchaser that each AES Subscriber Product will be free from defects in material and workmanship for three (3) years from date of purchase and all other products purchased from AES including central station receivers and accessories will be warranted for one (1) year from the date of purchase. At no cost to the original purchaser for parts or labor, AES will repair or replace any AES Product or any, part or parts thereof which are judged defective under the terms of this Warranty.

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　　　285 Newbury Street
　　　Peabody, MA 01960 USA
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June 2007