



AES 7707 RF Subscriber

Installation, Operation and Programming Manual



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Table of Contents

1.	Safety Considerations	7
2.	Technical Specifications	8
3.	Pre-Installation	9
3.1	Equipment List	9
3.2	Mounting	9
	Subscriber Location	9
	Antenna Selection and Location	9
3.3	Requirements	10
	Environmental	10
	Electrical Supply	10
	Wiring Specifications	10
	Power Options	10
	Battery Size	11
4.	Installation.....	11
4.1	7707 Installation	11
4.2	Enclosure Installation	13
	Water Damage Prevention	13
	Mounting the Enclosure	13
	Removing the 7794A IntelliPro	14
	Removing the Zone Input Board	14
	Removing the Mainboard	14
5.	Wiring.....	15
5.1	Primary Power Wiring.....	15
	Plug-In Transformer	15
	Earth Ground Connection	16
	DC-DC Isolated Power Converter Installation	16
5.2	Secondary Power Wiring	16
	Battery Connection	16
	Battery Replacement	17
	Battery Only Restart.....	17
	Battery Supervision	17
	Low Battery Voltage Cutoff	17
	Discharge/Recharge	17
6.	External Antenna	17
6.1	Antenna Selection.....	17
6.2	Coaxial Cable and Connector Selection	17
6.3	Antenna Location.....	18
6.4	Antenna Installation	18
6.5	Antenna and Surge Suppressor Grounding	18
7.	System Configuration.....	19
7.1	Compatible Device List	19
	Zone Input.....	19
	Digital Dialer Interface	19
	Compatible Device Installation and Field Wiring Connections	19

7.2	System Configuration Diagram	20
7.3	System Communication Configuration	20
7.4	Trouble Output	23
8.	Programming	23
8.1	Programming Options (UL Notice to Users)	23
8.2	Programming Interface	25
8.3	Logging In	25
8.4	Configuration Interface	25
	Navigation	25
	Making Configuration Changes	26
	Saving Configuration Changes	26
8.5	View 7707 Subscriber Software Version	27
8.6	View 7794A IntelliPro Software Version	27
8.7	Change Login Password	27
8.8	Subscriber Configuration	27
	Subscriber ID	27
	Event Reporting Route	27
8.9	Radio Configuration	28
8.10	Central Receiver Configuration	29
8.11	Advanced Configuration	29
8.12	Zone Input Configuration	30
8.13	Restoral	32
	7794A IntelliPro Configuration	32
8.14	Status LED Indicators	32
8.15	LCD Front Panel Display System Messages	33
	Display Operation	33
	System Status Display and 7707 Version Number	34
	Unit ID and Serial Number	34
	Link Layer and NetCon	34
	Route Table	35
	Zone Input Configuration	35
	Network Connectivity Status	35
	Battery and AC Power Status	35
	Ground Fault and Battery Charger Status	35
	7794A IntelliPro Software Version	36
8.16	Off-Normal Operation	36
	Fault Display	36
8.17	Disable On Board Buzzer	37
8.18	Subscriber Status Check	37
	General	37
	Routing Table	37
	Hardware	37
8.19	Tools 38	
	Text Message	38

	Alarm History	38
	RF Traffic	38
	IP Traffic	38
	RF Antenna Test	39
	Ping	39
	System Activity Log	39
8.20	IP Configuration	39
	IP Address – DHCP.....	39
	IP Address – Static.....	39
9.	System Settings	39
9.1	Product License.....	39
9.2	Change Password.....	39
9.3	Add User	39
9.4	Buzzer – Onboard Subscriber	40
9.5	Uploading/Downloading Settings	40
	Download Current Settings	40
	Upload Preconfigured Settings	40
	Reset to Default Configuration	40
9.6	System Firmware Update	40
	Upgrading.....	40
	Download Support Files	40
	Restart System	40
10.	Flexible Power Option	40
11.	Reporting.....	44
11.1	AES Mesh Network	44
11.2	Compatible Receiver.....	44
12.	Testing.....	44
13.	Maintenance.....	44
14.	Troubleshooting	44
15.	Repair Information	44
16.	Battery Replacement Instructions.....	45
17.	AES Model 7740 Annunciator Installation Instructions	45
17.1	Out of the Box.....	45
17.2	Installation Instructions	45
18.	AES Corp. Contact Information	46
19.	Warranty	47

List of Tables

Table 1.	Battery Size Requirements.....	11
Table 2.	Installation Tasks.....	11
Table 3.	Limitations in Programming Features and Options	23
Table 4.	System Status LED Indicators	32
Table 5.	ALM LED Blink Patterns.....	33
Table 6.	Faults and Alarms with Off-Normal Operation	36

List of Figures

Figure 1.	Enclosure Mounting – Hole Location and Sizes	14
Figure 2.	Wire Separation Non-Power Limited – Power Limited	15
Figure 3.	Earth Ground Connection	16
Figure 4.	Connecting the Backup Battery.....	17
Figure 5.	Antenna and Surge Suppressor Grounding.....	18
Figure 6.	Field Wire Connections – 7707 Fire Subscriber Unit.....	22
Figure 7.	7740 Wiring Diagram	45
Figure 8.	7740 Wire Inputs.....	46

1. Safety Considerations

Warning! Subscriber antenna or other cables that come in contact with electrical power lines may result in **DEATH** or **SERIOUS INJURY**.

Warning! Do **NOT** install the subscriber unit or antenna during a lightning storm.

- Equipment must be installed in accordance with National Electric Code, NFPA 70, NFPA 72, local building codes, and any specific requirements of the Authority Having Jurisdiction (AHJ). Equipment in Canada must be installed in accordance with CAN/ULC-S524, all other applicable sections of the Canadian Electrical Code, and any specific requirements of the AHJ (Authority Having Jurisdiction).
- Ground the antenna, the 7707 Subscriber enclosure, and any surge protector devices to help dissipate surges away from equipment and personnel. Antenna grounding and surge protectors should not be neglected; they are for your safety and the safety of your equipment.
- Periodically test the system for proper operation. AES assumes no responsibility for the equipment's failure to operate. AES's sole responsibility is to repair or replace any AES device found to be defective during the warranty period.
- Exposing the Subscriber electronics to water or moisture environments, such as rain, shower, bath, pool, sauna, etc., can cause damage and unexpected operation.
- Avoid dropping or exposing the unit to physical impact that could damage the enclosure or internal components.
- Equipment used with the IP path must be installed according to NFPA 72 and must be listed to either UL 60950-1 Information Technology Equipment (ITE) – Safety, or to UL Fire.
- ITE equipment requires backup/secondary power such as a building generator backup, UPS, or other power supply with battery backup.

2. Technical Specifications

Power Supply	
Source	Requirements
External Class 2 AC Transformer and Rechargeable Backup Battery in 7707	Transformer Voltage/Frequency: 120 V AC 60 Hz Input Current: 1.9 A max. current (40 VA min.) Input Voltage: 16.5 V AC 12 V DC – Lead Acid Gel Cell – 10 to 12 Ah – configuration dependent. See Table 1– Battery Size Requirements for details.
24 V DC from External Regulated, Limited Power Output Supply 12 V DC Rechargeable Backup Battery in 7707 Subscriber	UL Listed 24 V DC Regulated Power Supply with 12 V DC Rechargeable Backup Battery in Subscriber Input Voltage: 24 V DC Input Current: 1.3 A Maximum
24 V DC Regulated Power Supply from FACP AUX Power (Limited Power Output) Rechargeable Backup Battery in FACP	UL Listed FACP with Rechargeable Backup Battery Input Voltage: 24 V DC Input Current: 1.3 A Maximum

Note: All Circuits are Power Limited except for Battery Leads.

Current Consumption

7707 – Standby w/o backup battery: 200 mA (1.2 A Transmitting)
 7707 – Standby w/ charged backup battery: 200 mA (1.2 A Transmitting)
 7707 – Standby + charging backup battery: 900 mA (1.3 A Transmitting – Maximum)

Environmental Specifications

Operating Temperature: 32°F to 120°F (0°C to 49°C)
 Storage Temperature: 14°F to 140°F (–10°C to 60°C)
 Relative Humidity: 0 to 93% RHC, non-condensing

Mechanical Specifications

Dimensions: 13 in. H × 8 ½ in. W × 4 ½ in. D (33 cm × 21.5 cm × 11.4 cm)
 Weight: 5.8 pounds (2.6 kilograms) without battery
 13 pounds (5.9 kilograms) with 10 Ah battery
 Enclosure Material: Steel with paint finish
 Finish Color: Red

Inputs

Alarm Signal Inputs:

7707 + 7711 Input Card (eight (8) each EOL type)
 7707 + 7712 Input Card (four (4) each EOL type and four (4) each reverse polarity)
 All inputs supervised with trouble and restore

Alarm Panel Phone Line Input:

7794A IntelliPro Fire Module

Reporting

AC Failure (low primary AC voltage limit: 96 V AC)
 Low Battery (low battery voltage limit: 11.6 V DC)
 Zone Input Ground Fault (impedance to earth ground is less than 50k ohm)

Antenna Cut
Battery Charger Failure

Transceiver

Output Power: 2 Watts

Frequency Range: 450–470 MHz standard (Contact AES for other UHF and VHF frequencies.)

Signaling Type

1-Way RF Type 6

Conduit Knockouts

Trade (Nominal) Sizes:

1/2 2 ea.

3/4 2 ea.

Full (Actual) Size:

2 in. 1 ea. (rear of enclosure)

3. Pre-Installation

3.1 Equipment List

The following materials are available out of the box:

- Enclosure with key lock and two keys
- 7707 Subscriber Main Circuit Board Assembly
- 7085UE or 7880 2-Watt Transceiver set to authorized frequency
- 7214 Case Top Flexible Tamper Resistant Antenna with cable assembly
- 40-7707-QSG Model 7707 Quick Start Guide
- 02-0029-4L 2.2 kΩ E.O.L. Resistors (quantity is variable depending on zone input card(s) supplied)

Configuration dependent:

- 7711 8 Zone EOL Input Card
- 7712 4 Zone EOL and 4 Zone Reverse Polarity Input Card
- 7794A IntelliPro Fire Module

3.2 Mounting

Subscriber Location

Important! A fire alarm installation that complies with UL 864 or ULC-S559 using the 7707 Subscriber must be located where a NetCon of 5 is present. Refer to [Link Layer and NetCon](#) on page 34 for additional details on how to view NetCon. It is important to verify that a location is suitable before deciding on the antenna used and mounting the subscriber enclosure. A check of the location can be done with the AES Network Connectivity Tool (NCT). The AES NCT provides a quick means for verifying NetCon or finding suitable locations for Subscriber installation.

Antenna Selection and Location

The Case Top Flex Tamper Resistant Antenna is part of the standard package for the 7707 System and mounts on top of the steel cabinet.

Depending on cabinet mounting, Subscriber physical location, and mesh network connectivity, a remote mount antenna may be required.

A separately purchased remote antenna may be used with the 7707 unit in UL installations. See [External Antenna](#) on page 17 for information on antennas available from AES. The frequency range is 450–470 MHz. Contact the factory at (800) 237-6387 or info@aes-corp.com for other frequencies.

3.3 Requirements

Environmental

Select an installation location that meets the Environmental Specifications described in the [Technical Specifications](#) section on page 8.

Exposing the subscriber to temperatures below 32°F (0°C) or above 122°F (49°C) can damage the backup Gel-Cell battery. Exposure to extreme temperatures can cause unexpected operation of the subscriber electronics.

Exposing the subscriber electronics to water or moisture environments (rain, shower, bath, pool, sauna, etc.) can cause damage and unexpected operation.

Electrical Supply

For power supplied to the subscriber from an outlet, connect to an outlet on a dedicated branch circuit that is *not* controlled by a switch. Refer to the [Power Options](#) section.

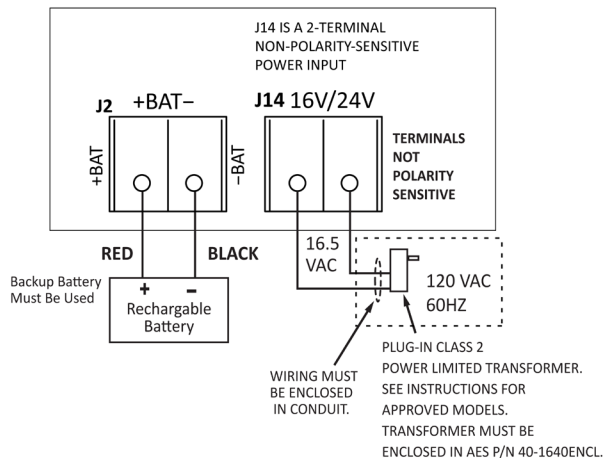
Wiring Specifications

The plug-in transformer must be placed in Transformer Enclosure AES P/N 1640-ENCL (available separately). The wiring from the low-voltage output of the plug-in transformer enclosure to the subscriber enclosure must be enclosed in conduit.

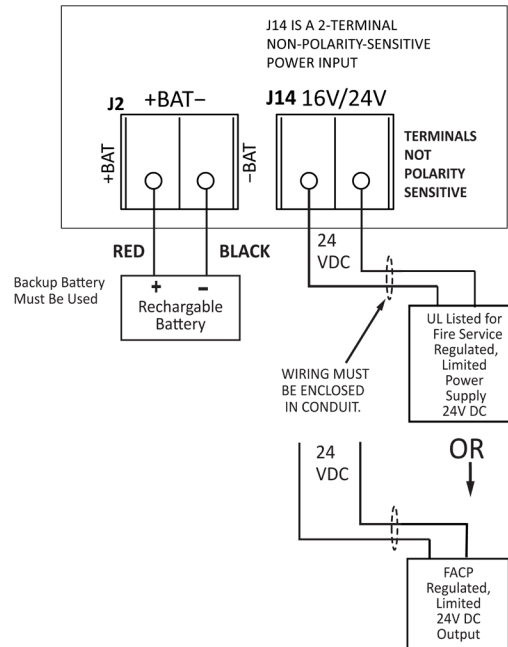
Power Options

The following diagram shows three options to supply the subscriber with power. The [Flexible Power Option](#) section on page 40 provides instructions on how to configure the Subscriber software for the power option used.

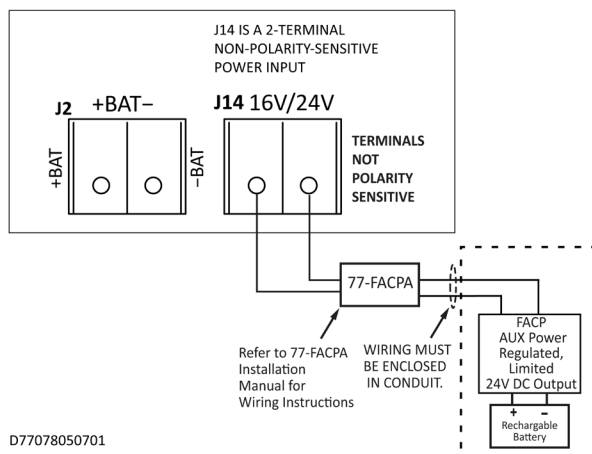
Power Option No. 1



Power Option No. 2



Power Option No. 3



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Battery Size

Battery size requirements are listed in the following table:

Table 1. Battery Size Requirements		
System Configuration Description	Current (mA)	Battery Size (12 V)
7707 7711 (8 zone input card)	See Current Consumption under Technical Specifications on page 8 and 7711 Installation and Operation Manual	10 Ah
7707 7712 (8 zone input card - 4 ea. EOL and 4 ea. reverse polarity)	See Current Consumption under Technical Specifications on page 8 and 7712 Installation and Operation Manual	10 Ah
7707 7794A (IntelliPro Fire Module) 7711 (8 zone input card)	See Current Consumption under Technical Specifications on page 8, 7794A Installation and Operation Manual, and 7711 Installation and Operation Manual	12 Ah
7707 7794A (IntelliPro Fire Module) 7712 (8 zone input card - 4 ea. EOL and 4 ea. reverse polarity)	See Current Consumption under Technical Specifications on page 8, 7794A Installation and Operation Manual and 7712 Installation and Operation Manual	12 Ah
7707 7794A (IntelliPro Fire Module)	See Current Consumption under Technical Specifications on page 8 and 7794A Installation and Operation Manual	12 Ah

4. Installation

Warning! Do NOT install the subscriber unit during a lightning storm.

4.1 7707 Installation

Table 2 lists tasks to perform when installing the AES 7707 Subscriber. Use the list to verify that installation tasks have been identified and completed. Tasks do not have to be performed in the order listed unless specifically identified.

Important! Verify AES mesh network connectivity for the subscriber before installing the subscriber enclosure.

Table 2. Installation Tasks	
	Page Reference
Out of the Box	9
Subscriber Location/Network Connectivity	9
Antenna Selection and Location	9
Antenna Installation	18
Requirements	
Environmental	9
Electrical Supply	10

Table 2. Installation Tasks	
	Page Reference
Wiring Specifications	<u>10</u>
Battery Size	<u>11</u>
Enclosure Installation	
Water Damage Prevention	<u>13</u>
Mounting the Enclosure	<u>13</u>
Removing the Mainboard	<u>14</u>
Removing the Zone Input Board	<u>14</u>
Removing the 7794A IntelliPro	<u>14</u>
Primary Power Wiring	
Plug-In Transformer	<u>15</u>
Secondary Power Wiring	
Battery Connection	<u>16</u>
Zone Input Wiring	
7711 Zone Input (eight EOL resistor input)	<u>19</u>
7712 Zone Input (four EOL resistor and four reverse polarity inputs)	<u>19</u>
DACT Wiring	
7794A IntelliPro	<u>19</u>
Configuration	
Programming Options (UL Notice to Users)	<u>23</u>
Setup	
Unit ID #	<u>27</u>
System Cipher Code (dealer code)	<u>28</u>
Timers	
Check-In Time	<u>23</u>
AC Fail Report Delay	<u>24</u>
Communication Timeout	<u>23</u>
Zone Inputs	
Set Zones (Bypass/Supervised/Fire)	<u>31</u>
Zone Restoral message	<u>32</u>

Table 2. Installation Tasks	
	Page Reference
Advanced Configuration Ground Fault Report Secondary Alarm Delay TTL Subscriber IP Address Subscriber Subnet Mask, Gateway, DNS	29
Saving Configuration Changes	26
System Operation	
LCD Front Panel Display System Messages Display Operation	33
System Status Display and 7707 Version Number	34
Unit ID and Serial Number	34
Link Layer and NetCon	34
Route Table	34
Zone Input Configuration Status	35
Network Connectivity Status	35
Battery and AC Power Status	35
Ground Fault and Battery Charger Status	35
Testing and Troubleshooting	
Testing	44
Troubleshooting	44

4.2 Enclosure Installation

Water Damage Prevention

To prevent water damage, take the following precautions when mounting the unit:

- Avoid mounting directly on exterior walls, especially masonry walls (condensation).
- Avoid mounting directly on exterior walls below grade (condensation).

Important!

Protect unit from plumbing leaks.

Protect unit from splash caused by sprinkler system inspection ports.

- Avoid mounting in areas with humidity-generating equipment (such as dryers or production machinery).

Important! Route conduit to prevent moisture in the conduit from entering the subscriber.

Mounting the Enclosure

Check the [Environmental Requirements](#) on page 9 before starting. Mount in an area that is secure, as well as accessible for service and testing. When mounting on an interior wall, use anchors and fasteners appropriate for the wall material and total weight of subscriber and battery.

When mounting on a concrete wall, the unit must be placed to prevent moisture or water from entering the enclosure. Use standoff material attached to the concrete surface to mount the enclosure. Two keyhole and two circular mounting holes are available. Refer to the diagram below for location and sizes of mounting hole.

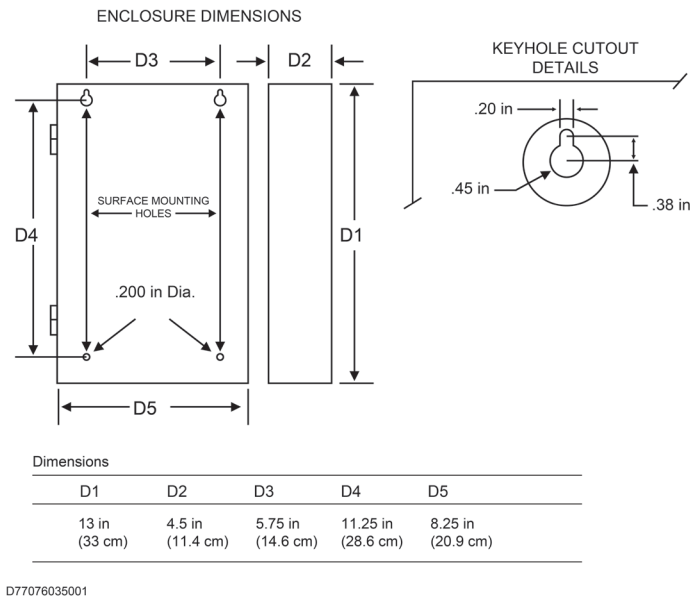


Figure 1. Enclosure Mounting – Hole Location and Sizes

Important! Use knockout plugs to close any unused conduit holes in the enclosure.

To remove electronic boards mounted in the enclosure, perform the following steps for boards installed.

Removing the 7794A IntelliPro

1. If the subscriber is supplied with a 7794A IntelliPro, remove the cabling. Remove the hex nuts holding the board to the four standoffs.
2. Grasp the card and pull straight upward off the standoffs.
3. Remove the hex standoffs.

Removing the Zone Input Board

1. If the subscriber is supplied with a zone input board, remove the hex nuts holding the board to the standoffs.
2. Grasp the board at each end by the standoff, and pull straight upward to unseat the card from the socket connector on the Subscriber mainboard.
3. Remove the hex standoffs.

Removing the Mainboard

1. With all mounted boards removed from the top of the mainboard, remove the remaining hex nuts or standoffs holding the mainboard to the enclosure.
2. Grasp the board on each side, and pull straight upward to lift the card off the mainboard support standoffs attached to the enclosure.

5. Wiring

5.1 Primary Power Wiring

Plug-In Transformer

Warning! Turn off or disconnect all power before attempting to connect the 7707 Subscriber. Do **NOT** apply power until all accessories are properly connected.

For U.S. installations, use only one of the Class 2 Direct Plug-in Transformers listed below:

Manufacturer	Model	Rating
ELK	ELK-TRG1640	16.5 V AC, 45 VA
MG Electronic Sales	MGT1640	16.5 V AC, 40 VA
AES Corp.	1640	16.5 V AC, 40 VA

For Canadian installations, use the CSA Listed Class 2 Direct Plug-in Transformer in the table below:

Manufacturer	Model	Rating
ATC-Frost Model	FPS4016	16.5 V AC, 40 VA

Important! All installations using plug-in transformers must use the AES Model 1640-ENCL Transformer Enclosure for mechanical protection of the transformer. Wiring from the Transformer to the Subscriber must be protected in conduit.

Refer to the wiring diagram for connection details, as well as for routing the battery, enclosure mounted antenna, and the transceiver control cable. Leave a minimum of ¼ inch of spacing between non-power limited (battery wiring) and power limited wiring as shown in the photo below and in the diagram below.

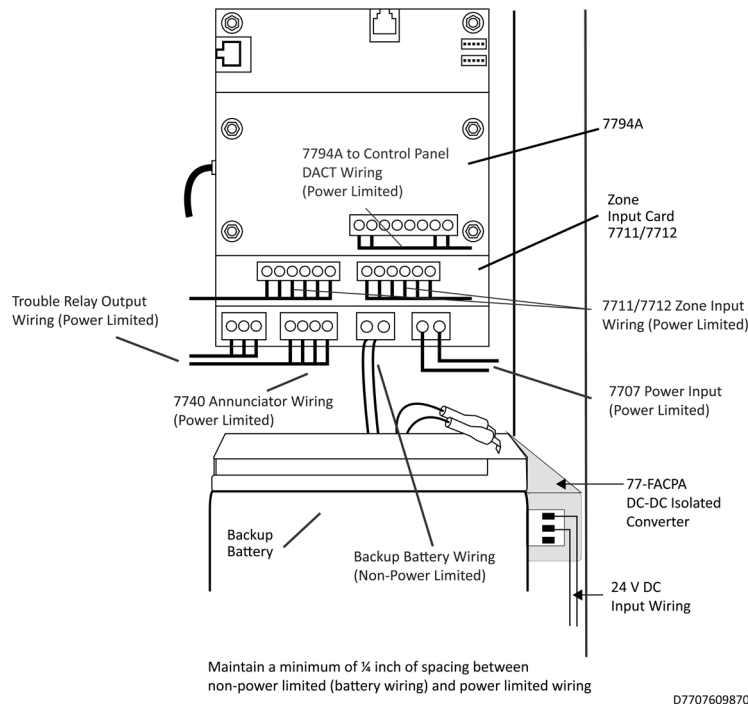


Figure 2. Wire Separation Non-Power Limited – Power Limited

Earth Ground Connection

Earth ground and battery minus (–) are not separate connections in the 7707 Subscriber. Zone input terminals, including the "G" terminals on zone input cards, are isolated from earth ground. Connect a suitable gauge wire as specified in the applicable electrical code to the #8 ground stud as shown in the diagram below. Connect the wire to a suitable earth ground, which includes building steel, buried metallic cold water pipe, driven grounding rod, and other electrical code approved grounding systems. Electrical noise present on the ground wire from an electrical panel may make it un-suitable for use. Testing of an electrical panel ground source may need to be conducted by a trained electrical technician.

Use a ring terminal to connect the ground wire to the ground stud on the enclosure back box. Assemble the connection as shown in the diagram below. Scrape paint from beneath the ring lug to ensure good metal contact.

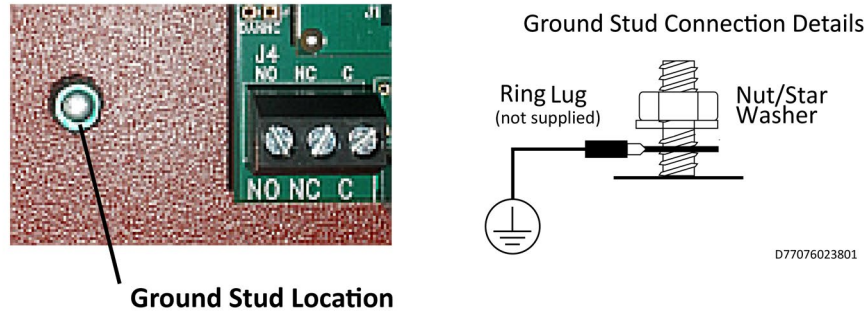


Figure 3. Earth Ground Connection

DC-DC Isolated Power Converter Installation

The 77-FACPA provides isolated DC power when connected to a FACP or other DC power supply as shown under [Power Options](#) on Pg. 10. Refer to AES P/N 77-FACPA for wiring instructions.

Attach the 77-FACPA using the mounting holes on the right hand side of the enclosure as shown in the photo below:



5.2 Secondary Power Wiring

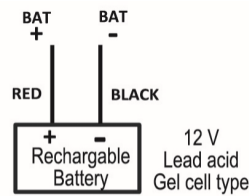
Battery Connection

Determine the correct Ah rating for the application using the [Battery Size](#) information on page 11.

Place the battery in the subscriber enclosure with the battery quick-connect terminals located to the right side of the enclosure (refer to [Figure 2, Wire Separation - Non-Power Limited and Power Limited Circuits](#) on page 15).

The following steps and diagram below explain how to connect the backup battery.

1. Connect the BLACK wire from J2 to the negative (–) side of the battery.
2. Connect the RED wire from J2 to the positive (+) side of the battery.



D77076050101

Figure 4. Connecting the Backup Battery

Battery Replacement

The battery should be replaced every 3 years or when testing indicates replacement is required. Replace with the same size and type installed. See [Battery Replacement Instructions](#) on page 45 for details.

Battery Only Restart

The 7707 Subscriber without AC power (for test or diagnostic purposes) will power up and self-test with only the battery connected.

Battery Supervision

When AC power is present, the battery is tested at approximately 30-second intervals.

When the battery voltage is below 11.6 V DC for two consecutive test intervals (approximately 60 seconds total time), a low-battery trouble message is transmitted.

When AC power is present and a low battery reaches a charge voltage above 12 V DC, a restoral message is transmitted.

Replacing a low-charge battery with a fully charged battery may result in the subscriber not immediately detecting the charged battery. Due to the test cycle time, up to 60 seconds can pass before the fully charged battery is recognized.

Low Battery Voltage Cutoff

To prevent deep battery discharge damage, the 7707 subscriber disconnects the battery when voltage is less than 10 V DC.

Discharge/Recharge

The 7707 Subscriber float charges the battery using a 40 VA transformer. The battery voltage level conditions are:

- Low Battery (Trouble message): Below 11.6 V DC
- Subscriber Battery Disconnect: Below 10 V DC
- Battery Reconnect (Restoral message): Above 12 V DC

6. External Antenna

6.1 Antenna Selection

A remotely mounted external antenna may be required for optimal performance on the mesh network, depending on installation location requirements or conditions. Contact AES Corporation for additional antennas that may be used with the 7707 Fire Subscriber unit.

6.2 Coaxial Cable and Connector Selection

- Use 50-ohm impedance coaxial cable only. RG-8, 9913, LMR-400, and LMR-600 are acceptable coaxial cables. RG-58 may be used for installations where cable is not more than 25 feet long.
- Always use the shortest possible length of coaxial cable. Long lengths of coaxial cable result in greater transmitted signal loss.
- Always use the most direct routing in any coaxial cable installation. Unnecessary and tight bends add to transmitted signal loss.
- Use the proper coaxial connectors and crimp tool for the cable selected. Incorrect or poorly installed connectors can cause transmitted signal power loss.
-

6.3 Antenna Location

When selecting an antenna location, keep the following in mind:

- The supplied tamper-resistant and flexible 2.5-dB antenna mounts on top of the enclosure.
- Remotely located antennas should be mounted as high as possible, either on top of or inside the building structure. Rooftops and attic spaces are preferable.
- The antenna needs to be high enough to overcome nearby obstructions to the RF signal path.
- A remote antenna should be mounted in a location near the transceiver to minimize coaxial cable signal loss. Do not use cable longer than needed to reach the antenna.
- Avoid installing the antenna in close proximity to metal surfaces. Nearby metal may degrade radio communications through signal reflections or antenna detuning.
- Remember that pipes, conduit, wiring, ductwork, and other metal commonly installed within building walls can affect antenna performance.
 - Take into account foil-backed insulation and wallpaper.
 - Metal objects can also be located in adjacent rooms or above ceilings.
 - Metallic framing and supports are commonly used in buildings. Do not mount the antenna directly over, or close to, metal studding, beams, or other supports that can interfere with the RF signal.

6.4 Antenna Installation

Warning! Do NOT install Subscriber or antenna during a lightning storm.

The following installation guidelines must be followed when installing the antenna:

- The remotely mounted antenna must be properly grounded to help reduce surge damage from lightning.
- Grounding must be done in accordance with local building codes and in accordance with other requirements from the Authority Having Jurisdiction (AHJ).
- Mount the remote antenna vertically.
- Do not coil or bunch coaxial cable.
- Install the remote antenna in accordance with National Electric Code and local electric code.

6.5 Antenna and Surge Suppressor Grounding

A protective surge suppressor (AES Model 7230) must be installed in line with any type of remotely installed antenna outside a building as shown in the diagram below. The surge suppressor and remote antenna must be earth-grounded. For U.S. installation, check National Electrical Code (NEC), state, or local electrical code requirements. For Canadian installations, check Canadian Electrical Code, province, or local electrical code requirements.

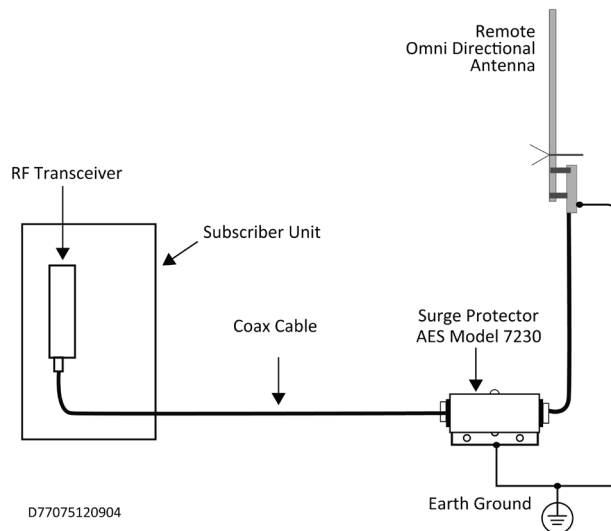


Figure 5. Antenna and Surge Suppressor Grounding

7. System Configuration

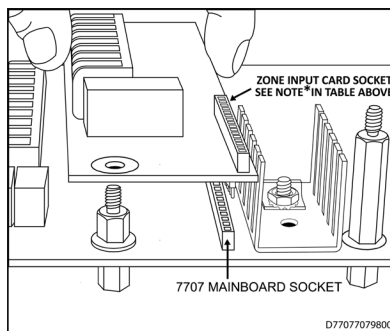
7.1 Compatible Device List

Zone Input

- 7711 8 zone conventional EOL input
- 7712 8 zone (four EOL input and four reverse polarity input)

The 7707 will accept a single zone input card mounted in the Mainboard socket or stacked zone input cards using the 7707 Mainboard Socket and Zone Input Card Socket. The table below shows input card and whether a Zone Input Card Socket is present on the card.

7707 Mainboard Socket	*Zone Input Card Socket Present
7711	No
7712	No



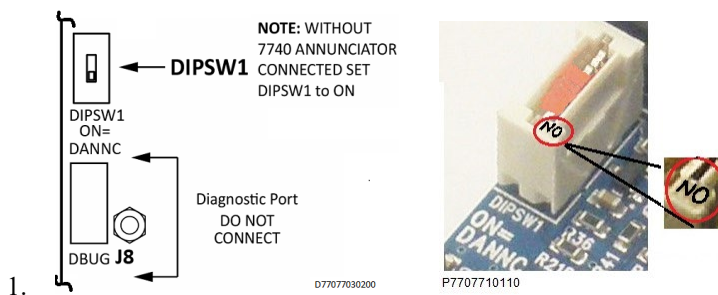
Digital Dialer Interface

- A single 7794A IntelliPro

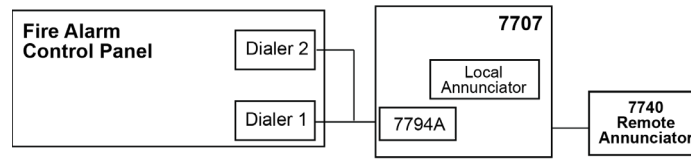
Compatible Device Installation and Field Wiring Connections

- 7711 8 zone conventional EOL input: Refer to 7711 Install Manual AES, Part No. 40-7711
- 7712 8 zone input (four EOL input and four reverse polarity input): Refer to 7712 Install Manual AES, Part No. 40-7712
- 7740 Remote Annunciator: Refer to page 45 of this document [AES Model 7740 Annunciator Installation Instructions](#).
- DC-DC Isolated Power Converter – AES P/N 77-FACPA. The converter provides isolation for power from a FACP or DC other power supply. Refer to 77-FACPA Wiring Diagram shown in 40-FACPA-IM.

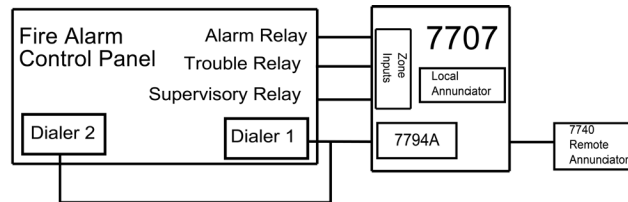
IMPORTANT! : When **no** 7740 Remote Annunciator is installed, set DIPSW1 to “**ON**”. The **ON** side switch position is shown in the photo below.



7.2 System Configuration Diagram



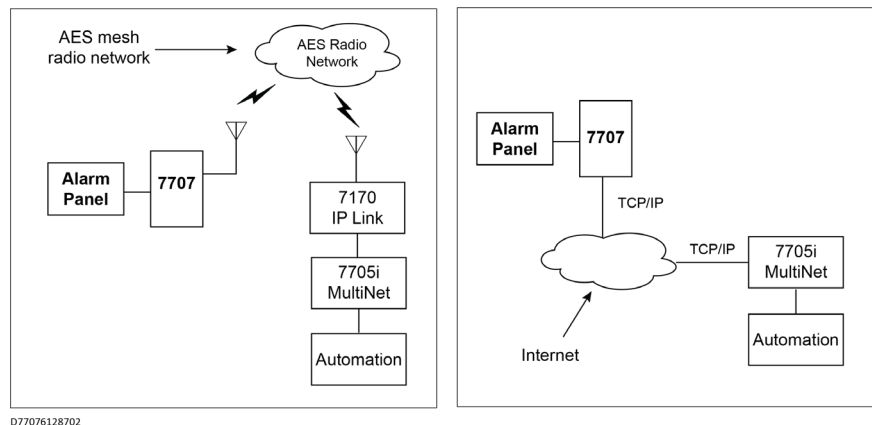
D77077030102



D77075100203

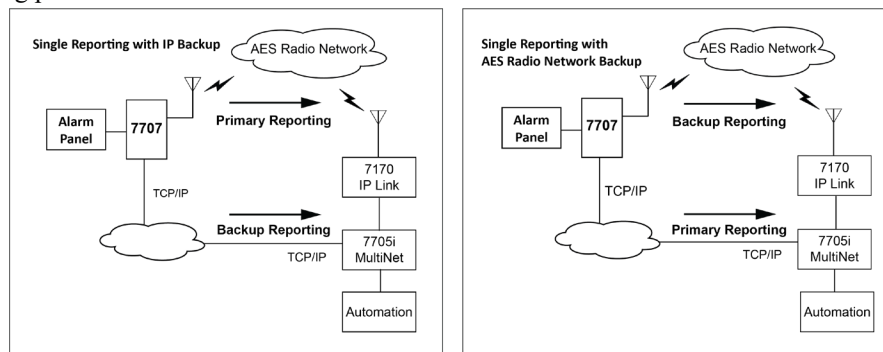
7.3 System Communication Configuration

Sole Path (Single Reporting) utilizes either the AES mesh radio network or a TCP/IP broadband connection to deliver messages from the subscriber to the central monitoring station.



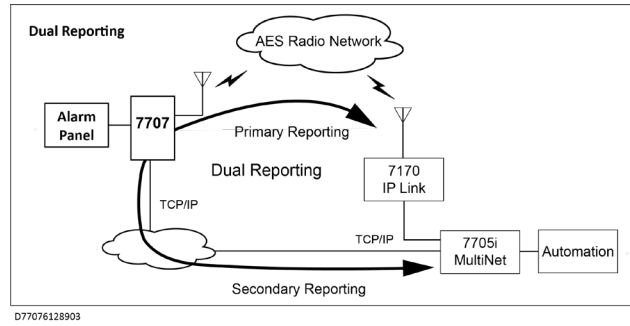
D77076128702

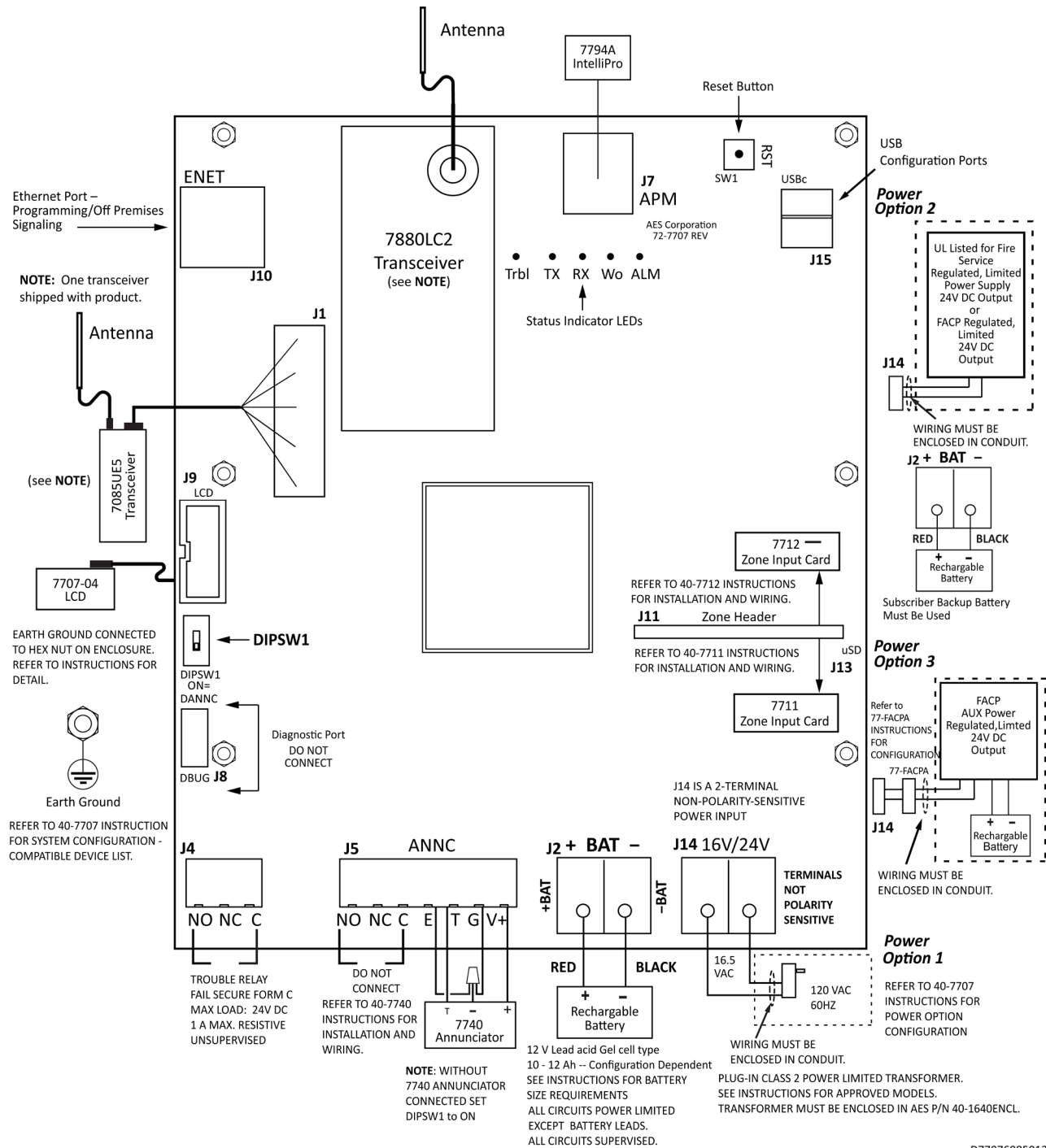
Single Reporting with Backup utilizes either the AES mesh radio network, or a TCP/IP broadband connection, to deliver messages from the subscriber to the central monitoring station. The Backup Reporting path works when the Primary Reporting path is down.



D77076128802

Dual Reporting utilizes both the AES mesh radio network and the TCP/IP broadband connection. Messages from the subscriber to the central monitoring station are launched on both paths together.





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Figure 6. Field Wire Connections – 7707 Fire Subscriber Unit

7.4 Trouble Output

- J4 – Trouble Relay Contacts – 24 V DC 1A Max. Resistive Load Unsupervised
- Annunciator – AES Model 7740 Remote Annunciator – 21 V DC 25 mA Typ. (50 mA max.) Supervised. Refer to the [Compatible Device Installation and Field Wiring Connections](#) section on page 19 for instructions on installing and connecting field wiring on the Model 7740.

8. Programming

8.1 Programming Options (UL Notice to Users)

NOTICE TO USERS, INSTALLERS, AUTHORITIES HAVING JURISDICTION, AND OTHER INVOLVED PARTIES

This product incorporates field-programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, certain programming features or options must be limited to specific values or not used at all as indicated below.

Table 3. Limitations in Programming Features and Options					
Topic	Feature or Option	Permitted in UL 864/ULC S559	Possible Settings	Setting(s) Permitted in UL 864/ULC S559	Comment
Radio Configuration	Secondary Alarm Delay	Y	1–330 seconds	1–10 seconds	
	Check-in Time	Y	0–24 hours	0–24 hours	
	Communication Timeout	Y	1–300 seconds	UL: 1–120 sec ULC: 1–60 sec	
	Repeating	Y	Y or N	Y	
Zone Configuration	Zone Programming	Y	Supervised, Fire, or Bypass	Zone in use: Fire Zone not in use: Bypass	Supervised not to be used in fire applications.
	Fire Zones	Y	Y or N	Y	
	Consecutive AT Events	Y	Y or N	Y	Y for verbose zone input alarm and trouble message reporting. Refer to Pg. 31 for details.
	Restoral	Y	Y or N	Y	
Power Options	Power from 16.5 V AC and Backup Battery	Y	16.5 V AC and Backup Battery	Y	Plug in Class 2 transformer with rechargeable backup battery in Subscriber
	24 V DC Regulated Power Supply with Backup Battery	Y	24 V DC and Battery	Y	UL Listed for Fire Service Regulated Power Supply 24 V DC or FACP 24 V DC output. Rechargeable backup battery in

Table 3. Limitations in Programming Features and Options

Topic	Feature or Option	Permitted in UL 864/ULC S559	Possible Settings	Setting(s) Permitted in UL 864/ULC S559	Comment
					Subscriber.
System	24 V DC Regulated Power Supply	Y	24 VDC only	Y	FACP AUX Power 24 V DC Regulated output. Rechargeable backup battery in FACP.
	12 V DC Regulated Power Supply	N	N/A	N/A	12 V DC Regulated Power Supply not allowed.
	AC Fail/DC Fail Report Delay	Y	0–60, or R (0–60 minutes, or random time between 0–60 min.)	0–60 (minutes) R (random time from 0–60 minutes)	
	Locally Announce AC Fault/DC Fault	Y	Y or N	Y	
	Suppress AC Fault/DC Fault	N	Y or N	N	
	Suppress Charger Fault	N	Y or N	N	
	Suppress Battery Fault	N	Y or N	N	
Advanced Configuration	Suppress Ground Fault Reporting	N	Y or N	N	
Central Receiver Configuration	Inet Check-In	Y	1 minute to 24 hours	6 hours maximum	
	MCT Timeout	Y	0 to 120 seconds	10 seconds maximum	

Important! UL and NFPA standards do not allow remote programming of an installed Model 7707 subscriber unless an authorized person is present at the unit to enable temporary remote programming capability. **Note:** When any zone is configured as **Fire**, remote programming can be performed only up to 10 minutes after the subscriber is reset or powered up.

8.2 Programming Interface

Important! Eliminate false alarms by notifying the central station operator ahead of time *before* the Subscriber is powered on. A false alarm/report and dispatch of services to the *previous* Subscriber location may occur if this is not done.

The Model 7707 is programmed using a graphical interface through a smartphone, a laptop/tablet, or other web browser capable device.

The Subscriber is connected to a LAN through the J10 Ethernet connector. The default network protocol is DHCP. The IP address obtained is shown on the LCD display during Subscriber power-up. An example display is shown below. The actual IP address will depend on the network a Subscriber is connected to.

LAN: 10.0.3.111

Note: If DHCP is not available, the IP address is set to 169.254.100.1.

8.3 Logging In

Connecting to the 7707 configuration page requires a login. Enter the IP address of the subscriber in the web browser. Then enter your username (in the Username box) and password at the login screen. The default User Name and Password is admin (lower case):



The login screen features the AES Corporation logo and 'IntelliNet 2.0' text. Below this are two input fields: 'User Name' and 'Password'. A blue 'Login' button is positioned at the bottom.

The following screen appears after a successful login:



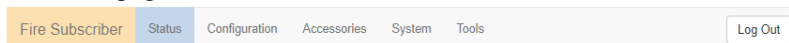
The main interface has a top navigation bar with tabs: 'Fire Subscriber' (highlighted), 'Status', 'Configuration', 'Accessories', 'System', and 'Tools'. A 'Log Out' button is on the right. Below the tabs are three expandable sections: '7707 FIRE Ver.' with a '+' icon, 'Routers' with a '+' icon and a small circular icon, and 'Hardware' with a '+' icon.

Note: A **Fault Details** control window automatically appears when the subscriber has fault conditions. The **Fault Details** control window is not present when there are no subscriber faults.

8.4 Configuration Interface

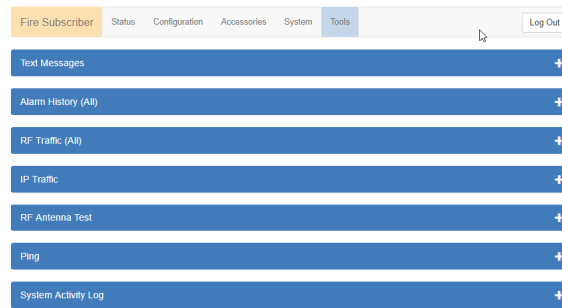
Navigation


Individual pages are listed in a tab bar:

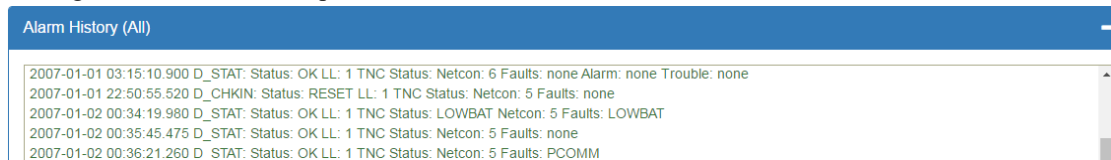



The navigation bar shows the same tabs as the main interface: 'Fire Subscriber', 'Status' (highlighted), 'Configuration', 'Accessories', 'System', and 'Tools'. A 'Log Out' button is on the right.

To go to a page, select a tab by clicking on it. For example, the **Tools** page is accessed by pointing and clicking on **Tools**. Each page displays a set of controls as shown below:



Use the  control to expand the control window. In this example, expanding **Alarm History** allows view of messages similar to the example below:



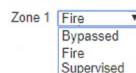
Use the  control to collapse the window.

The **Log Out** control ends the configuration session and returns to the Login screen.

Making Configuration Changes

Configuration settings are made and changed using either the dropdown or slider switch controls in the window.

The dropdown provides a list to select from:



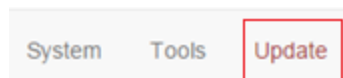
The slider switch provides one of two values to select:



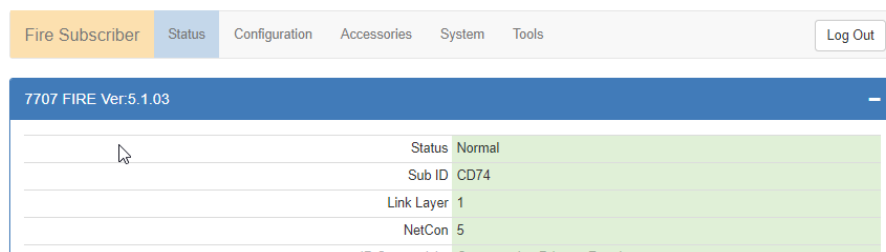
Saving Configuration Changes

Saving configuration changes requires the following steps:

1. When you are finished making changes, select and click the **Save Changes** button. The **Saved new settings!** acknowledgement appears:
2. **Saved new settings! Click "Update" from menu bar to confirm changes.**
2. You may finish and save your changes immediately, or you can make additional changes and then save all changes at once afterward.
3. If done making changes, click the **Update** tab shown in the browser (highlighted in red in the figure below):



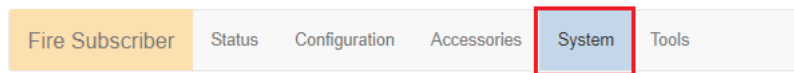
4. The **Status** window is displayed after changes are saved as shown below:



8.5 View 7707 Subscriber Software Version

The 7707 software version is visible in the **System** tab window under **System Firmware Upgrade**.

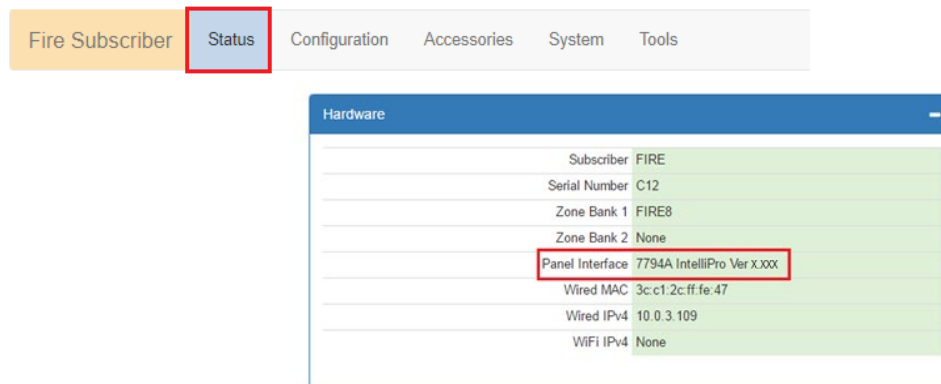
1. Select the **System** tab, as shown highlighted in the following figure:



2. The version number is displayed in the **System Firmware Update** section.

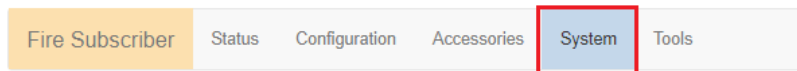
8.6 View 7794A IntelliPro Software Version

The 7794A IntelliPro software version (when installed) is visible in the **Status** tab window under **Hardware**.



8.7 Change Login Password

1. Select the **System** tab as shown highlighted in red below:



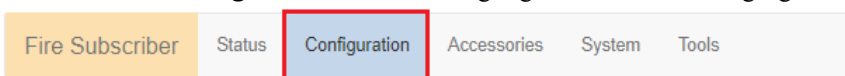
2. Place the cursor in the **Current Password** text box, then type the current password.
3. In the **New Password** text box, type the new password. Type the new password again into the **Confirm** box and click **Change Password**.

8.8 Subscriber Configuration

Subscriber ID

Subscriber ID and is set in the **Configuration** tab.

1. Select the **Configuration** tab shown highlighted in the following figure:



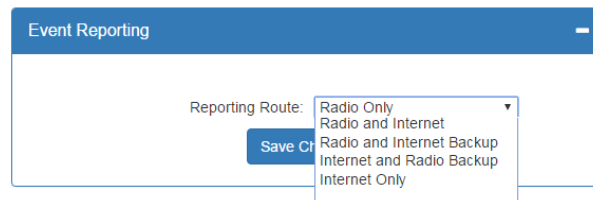
Note: Remote programming of ID and Cipher Code is not possible. The ID number entered must be unique from any other ID number in the system.

2. Change the **Sub ID** by entering a 4 character hex (0-9 and A-F) identification number. Valid values are **0001** to **FFFF**.

Important! See [Programming Options \(UL Notice to Users\)](#) which starts on page 23 for software settings permitted for the following parameters.

Event Reporting Route

1. From the main menu, click the **Configuration** tab.
2. In the **Event Reporting** panel click the **Reporting Route** dropdown and select the path for the subscriber to communicate. Refer to [Section 7.3 System Communication Configuration](#) for diagrams showing each Reporting Route selection.

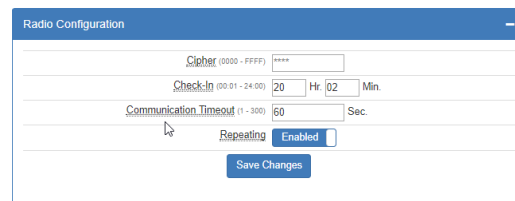


Complete the configuration using the links shown below for the Event Reporting path selected for the Subscriber:

- Radio Only: [Radio Configuration](#) (refer also to the AES Mesh Radio Network diagram on page 20)
- Radio and Internet: [Radio Configuration](#), [Central Receiver Configuration](#) and Subscriber IP Address under [Advanced Configuration](#) (refer also to the Dual Reporting diagram on page 21).
- Radio and Internet Backup: [Radio Configuration](#), [Central Receiver Configuration](#) and Subscriber IP Address under [Advanced Configuration](#). Refer also to the Single Reporting with Backup diagram on page 20.
- Internet and Radio Backup: [Radio Configuration](#), [Central Receiver Configuration](#) and Subscriber IP Address under [Advanced Configuration](#). Refer also to the Single Reporting with AES Radio Network Backup diagram on page 20.
- Internet Only: [Central Receiver Configuration](#), and Subscriber IP Address under [Advanced Configuration](#). Refer also to the Internet diagram on page 20.

8.9 Radio Configuration

The Radio Configuration panel contains subscriber cipher code (dealer code), Check-In, Communication Timeout and Repeating settings.



To set Radio Configuration:

1. Click the **Configuration** tab.
 2. Scroll to the **Radio Configuration** panel.
- **Cipher:** Enter the four-character hex (0–9 and A–F) cipher code (dealer code) assigned by the system administrator. Valid values are 0000 to FFFF.

Note: The code must match the AES 7170 IP-Link cipher code for the network that the Subscriber is to join. The Subscriber will not join the mesh network if the cipher code is incorrect.

Important! See [Programming Options \(UL Notice to Users\)](#) which starts on page 23 for software settings permitted for the following parameters.

- **Check-In Time:** Enter check-in hours and minutes. The default is 23:45 (23 hours 45 minutes).

Note: Using short check-in times generates more traffic on the network.

- **Communication Timeout:** Communication Timeout is the time the Subscriber waits for an **ACK** as a reply to a transmitted packet or when the Subscriber is at NetCon 7 and is waiting to join the mesh network. The range is 1–300 seconds. The default and maximum time allowed for this option is 120 seconds.
- **Repeating:** Set Repeating to **Enabled/Disabled** by clicking on the **Repeating** switch.

Important! UL-864 compliant Fire Alarm installations require **Repeating** to be set to **Yes**. See the [Programming Options \(UL Notice to Users\)](#) which starts on page 23 for software settings permitted for the following parameter.

8.10 Central Receiver Configuration

The Central Receiver panel contains Internet connection settings to the MultiNet receiver.

Note: Central Receiver Configuration must be set when using IP Reporting.

To set Central Receiver Configuration:

1. Click the **Configuration** tab.
2. Scroll to the **Central Receiver** panel.
 - **IP Group ID:** Enter the assigned ID as found in Business Unit Settings.
 - **Primary Receiver IP:** Enter the Primary Receiver IP address.
 - **Primary Receiver Port:** Enter the Primary Receiver Port number.
 - **Secondary Receiver IP:** Enter the Secondary Receiver IP address.
 - **Secondary Receiver Port:** Enter the Secondary Receiver Port number.

Important! See [Programming Options \(UL Notice to Users\)](#) which starts on page 23 for software settings permitted for the following parameter. (Inet Check-In)

- **Inet Check-In:** Enter the check-in time interval for the subscriber.
- **MCT Timeout:** Enter the MCT (Multiple Communications Technology) Timeout. The MCT Timeout sets the amount of time the subscriber tries to send messages though one communication technology before giving up and switching to the other technology.

8.11 Advanced Configuration

From the Advanced Configurations menu, you can configure the ground fault reporting, Secondary Alarm Delay, TTL (Time to Live) and the subscriber IP address. To configure these settings:

1. Select the **Configuration** tab.
2. Scroll to the **Advanced Configuration** panel.
 - Suppress Ground Fault Report

Important! UL-864 compliant Fire Alarm installations require **Suppress Ground Fault Reporting** to be set to **No**. See the [Programming Options \(UL Notice to Users\)](#) which starts on page 23 for software settings permitted for the following parameter.

Set **Suppress Ground Fault Report** to **Yes/No** by clicking the Suppress Ground Fault Report switch.

- Secondary Alarm Delay
Enter the number of seconds allowed between data transmissions from the Subscriber. The range is 1–330 seconds. The default and maximum time allowed for this setting is 10 seconds.

Note: The first message is sent immediately without delay. Messages that follow are delayed.

- TTL (Time-To-Live) Configuration

Time-to-Live settings are for managing the performance of the AES mesh network. TTL is the length of time a packet message transmission for a specific setting is retried by a Subscriber in the AES mesh network. The Subscriber will stop attempting to transmit the packet when the TTL limit has expired.

To set Time-to-Live:

1. Scroll to the **Configuration** tab.
2. Select the **Advanced Configuration** panel and configure the setting:

Message Type	TTL
CHECK-IN	10 minutes
STATUS	10 minutes
ALARM	3:00 hours
TROUBLE	3:00 hours
RESTORAL	3:00 hours
INTELLIPRO	3:00 hours
SPECIAL	10 minutes

- Subscriber IP Address Information

To set Subscriber IP Address

1. Scroll to the **Configuration** tab.
2. Select the **Advanced Configuration** panel and configure the settings:

Subscriber IP Address type: Select **STATIC** or **DHCP**

If **STATIC** address is selected, enter the following information:

IP Address – The IP address of the subscriber

Subnet Mask

Gateway

DNS Server 1 (Optional)

DNS Server 2 (Optional)

8.12 Zone Input Configuration

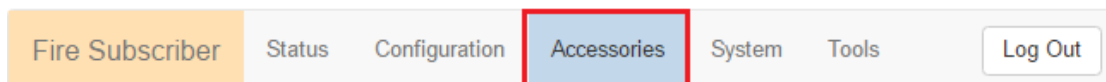
Zone input cards and Model 7794A IntelliPro are configured under the **Accessories** tab in the browser.

You can verify that a zone input card for 7794A IntelliPro is installed by selecting the **Status** tab and checking the **Hardware** panel. In this example, a single 8 zone input card is installed in the first zone bank (Zone Bank 0) and nothing installed in the second zone bank:

Hardware	
Model Type	7707 FIRE
Serial Number	D17
Zone Bank 1	FIRE8
Zone Bank 2	None

To configure zone input cards for the 7794A IntelliPro:

1. Select the **Accessories** tab shown in red below:



A **Bank Zone** panel will appear when the Model 7707 has a zone input card installed.

If a 7794A IntelliPro is installed, the **IntelliPro** panel will appear as shown below:

A Model 7711 8 Zone Input Card menu appears as shown below:

The 7711 Zone Input Card for use with Fire Alarm Control Panels (FACP) can be programmed for:

- **Fire** – The EOL 2.2k ohm resistor circuit reports trouble for open circuit and alarm for short circuit.
- **Bypassed** – Zone input is ignored.

Zone Input Condition	Zone Programming	
	Fire	Bypass
2.2k ohm EOL resistor circuit	Normal	Input Ignored
Open circuit	Trouble	Input Ignored
Short/closed circuit	Alarm	Input Ignored

2. Set the **Fire Zones** switch to **Yes** to set the input type as fire.
3. Set **Consecutive AT Events** (Consecutive Alarm/Trouble Events) to **Yes** for verbose reporting of alarm and trouble messages. When Consecutive AT Events is enabled and an event occurs, an alarm or trouble message will be sent regardless of the number events. One example is the sequence of messages “alarm – trouble – alarm – trouble ...” Set to **No** for non-verbose reporting. When disabled, an alarm and a trouble will be sent once only, even when a zone might be continually changing state multiple times.
4. Select the zone behavior (either **Bypassed** or **Fire**) for each zone using the dropdown box.

Important! Wiring of any FACP relay output to any 7707 zone input must use an EOL resistor supervised zone programmed as Fire (F). Zone inputs Z1 through Z8 on the Model 7711 meet this requirement.

Note: Set all unused zones to **Bypassed**. Do NOT install EOL resistors on **Bypassed** zones.

8.13 Restoral

Restoral messages are sent for the zone when the Restoral switch is set to **Yes**. When finished with Configuration, save the configuration by clicking **Save Changes**.

7794A IntelliPro Configuration

Note: You will need a copy of the *7794A IntelliPro Fire Installation Manual* (AES P/N 40-7794A) for IntelliPro configuration settings.

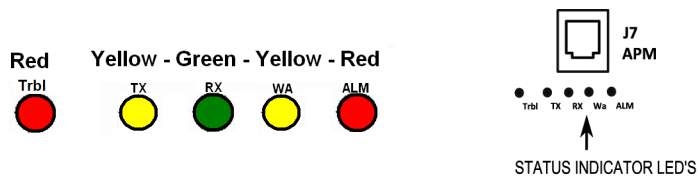
The IntelliPro panel will appear if a Model 7794A IntelliPro is installed in the Subscriber. The configuration menu will appear as shown below:

Refer to the *7794A IntelliPro Fire Installation Manual* (AES P/N 40-7794A) for instructions on configuring the settings.

When done with changes, click the **Save Changes** button.

8.14 Status LED Indicators

The five LED indicators on the main circuit board of the Model 7707 show system status. The LEDs are located near the top edge of circuit board below the J7/APM connector and near the **RESET** button as shown below:



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Table 4. System Status LED Indicators		
LED	Color	Function
ALM	Red	Status/troubleshooting indicator, “blink” (see ALM LED Blink Patterns table below)
WA	Yellow	Steady On = Waiting for acknowledgment of last transmission Steady Blinking = Not on Network Off = Normal
TX	Yellow	On = Radio transmit

Table 4. System Status LED Indicators		
LED	Color	Function
RX	Green	On = Radio transceiver receiving RF signal NOTE: If RX is on steady for longer than 20 seconds, an interfering RF signal exists. Any RF signals that are on the same frequency as the subscriber and which are strong enough to break the squelch will also cause the RX light to remain on.
Trbl	Red	Blinking Continuously = Trouble Condition. Refer to Table 6 for trouble details.

ALM LED Blink Pattern Chart

The chart below shows blink patterns utilized by the ALM LED, as well as possible meanings:

Table 5. ALM LED Blink Patterns		
Blink Type	Pattern	Possible Meaning(s)
Steady blink	■ ■ ■ ...	Normal operation
Short-short blink	■ ■ ■ ■ ■ ■ ...	Low battery
Short-long	■ ■ ■ ■ ■ ■ ■ ■ ■ ...	Zone input in alarm or trouble/off normal
Short-short-long	■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ...	Low battery and zone in alarm/trouble
Short-short-pause-short	■ ■ ■ ■ ■ ■ ■ ■ ■ ...	AC Fault
Short-short-pause-short-short	■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ...	AC Fault and low battery
Steady/no blink	—————	Self-test failure (excluding low battery and AC)

Symbols as follows: "■" = short blink, "■ ■ ■" = long blink

The period between patterns is about 1 second (the chart shows each pattern repeating three times).

8.15 LCD Front Panel Display System Messages

Display Operation

The 7707 subscriber uses a combination LCD display and a **MENU** pushbutton switch to navigate through the system message screens.



Note: Pressing and releasing the **MENU** button allows you to advance in a loop through the display screens until returning the System Status display screen.

System Status Display and 7707 Version Number

When the Model 7707 is operating normally, the Normal System Status screen is shown in the LCD. The model number, software version number, and status message are displayed as shown below:

```
7707   VER:X.XXXX
STATUS: NORMAL
```

Press the **MENU** button on the front of the enclosure once to advance to the Unit ID and Serial Number status display.

Note: Pressing and releasing the **MENU** button allows you to advance in a loop through the display screens until returning the System Status display screen.

Unit ID and Serial Number

```
ID: B10B
Serial No: B07
```

Note: The Subscriber ID can be *viewed* but *cannot* be set through the System Messages display. Use the configuration web page to change the Subscriber ID.

Link Layer and NetCon

Press the **MENU** button once to advance to the Local Status Check screen, where Subscriber Link Layer and NetCon values are displayed.

```
LINK LAYER: 1
NETCON: 5
```

Press the **MENU** button once to advance to the Routing Table Display screen:

Routing Table ID Number	Peer ID		Signal Quality	
	Link Layer	NetCon		
1. AAAA	L:00	N:0	Q:03	
2. 1119	L:01	N:5	Q:03	

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A total of four display screens are available to show the routing table. Up to eight peers, subscribers, or IP Links may be listed in the table. Each screen displays two subscribers. The total number of display screens will vary depending on the total number of peers listed (a number from 1 to 8). Press the **MENU** button once to advance to the next routing table screen.

Routing Table ID#: A routing table lists up to eight other subscribers ID#'s or IP Links in a table. The purpose of the list is to select a peer for passing off data packets. The table is sorted with the best quality

Subscriber placed at preference location 1. Quality is a measure of the neighbor Subscriber's ability to pass data packets.

- **L:** Link Layer as reported by last transmission from the peer ID# shown.
- **N:** NetCon (NETwork CONnectivity) – An internal rating used in the automatic positioning of this unit in the network. A NetCon value of 5 is required for a subscriber that is compliant with UL-864, 10th Edition.
- **Q:** Signal Quality – The first digit is either an 8 or a 0 (zero). The second digit is a measure of how old the data is (a 3 is assigned to the newest data; a 1 is assigned to older data). Routing preference is given to strong, recently heard subscribers (03) versus weaker subscribers heard a long time ago (81).

Route Table

```
1.AA1A L:00 N:0 Q:03
2.A21A L:01 N:5 Q:03
```

Press the **MENU** button to view the next status message. Additional routing table screens may appear depending on the number of routes available.

Zone Input Configuration

The status of each zone input for a 7711 zone input card is shown. Values are F for Fire, S for Supervised, or B for Bypass.

```
ZONE:1-F 2-F 3-F 4-F
ZONE:5-F 6-F 7-F 8-F
```

Press the **MENU** button to view the next status message.

Network Connectivity Status

The IP address and IP connection (DHCP or Static Address) are shown:

```
LAN: 10.0.3.111
```

When no IP network is available, the **No LAN IP** message appears as shown below:

```
LAN: No LAN IP
```

Press the **MENU** button to view the next status message.

Battery and AC Power Status

```
BATTERY OK
AC POWER OK
```

Press the **MENU** button to view the next status message.

Ground Fault and Battery Charger Status

```
GROUND OK
CHARGER OK
```

Press the **MENU** button to view the next message.

7794A IntelliPro Software Version

If a 7794A IntelliPro is installed in the Subscriber, the software version will appear as shown below, where X.XXX is the version number:

```
Panel Interface:
7794A Ver X.XXX
```

When no 7794A is present, the display will show **None** as shown below:

```
Panel Interface:
None
```

Press the **MENU** button to return to the home screen, which is the System Status Display.

8.16 Off-Normal Operation

Faults and alarms that cause off-normal operation are shown with fault messages in the LCD display. See table below for more information.

Table 6. Faults and Alarms with Off-Normal Operation	
Off-Normal Condition Fault Message	Problem
AC POWER FAIL	AC power to Subscriber disconnected or below minimum voltage
DC POWER FAIL	DC power to Subscriber disconnected or below minimum voltage
CHARGER	Battery charger failure
NETCON	Subscriber NetCon value below minimum required
GROUND FAIL	Resistance to earth ground below limit on zone input
AP IFACE FAIL	7794A IntelliPro card failure
RF COMM FAIL	Failure to communicate with another unit on mesh network
ANNUNC FAIL	7740 Remote Annunciator failure
BATTERY FAIL	Backup battery voltage below minimum
Alarm/Trouble Messages	
ZONE 2 ALARM	Example of Alarm condition; Zone 2 input
ZONE 7 TRBL	Example of Trouble condition; Zone 7 input

Fault Display

Faults are shown on the LCD display on the enclosure. The following behavior occurs depending on whether single or multiple fault conditions exist.

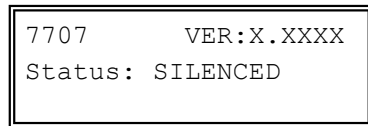
- **Single fault** – A single fault condition is shown on the display, and the Subscriber buzzer sounds as shown below:

```
7707      VER:X.XXXX
Status: AC FAIL
```



When the single fault condition clears, the cleared fault message no longer displays and the buzzer stops sounding.

- **Buzzer Silence** – Press the **MENU** button and *hold down* for at least 5 seconds. The status display will show the following, and the buzzer will be silenced.



- **Multiple faults** – Multiple faults are shown in the LCD display one fault at a time for approximately 2 seconds each. Faults appear in sequential order, and the Subscriber buzzer sounds as shown below:
- **Buzzer Silence** – Press the **MENU** button and *hold down* for at least 5 seconds.

8.17 Disable On Board Buzzer

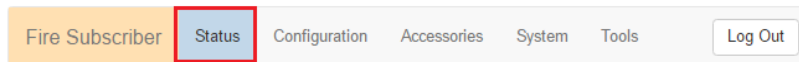
The front panel buzzer can be disabled through the configuration interface if a remote annunciator is used. To disable the onboard buzzer in the Subscriber:

1. Select the **System** tab.
2. Under the **Buzzer** panel, set the **On Board Buzzer** switch from **Enabled** to **Disabled** to silence the buzzer.
3. Click the **Save Change** button.
4. Click **Update**.

8.18 Subscriber Status Check

General

Information about the Model 7707 Subscriber is shown in the **Status** panel. The Subscriber model, firmware version, and status can be viewed by selecting the **Status** tab as shown in red below:



The Subscriber model number and software version are displayed:



The **Status** page shows any faults, as well as the unit (subscriber) RF ID, Link Layer, and NetCon values:

Status	Normal
Sub ID	AE54
Link Layer	1
NETCON	5

Faults are displayed below the status panel.

Routing Table

The Subscriber routing table is displayed in the **Routes** panel as shown below. Up to eight routes may be included:

Routes	
1	AAAA L:00 N:0 Q: Good (03)
2	B003 L:01 N:6 Q: Good (03)

Hardware

Information about the Subscriber type, serial number, zone input configuration, alarm panel type, and IP addresses are shown in the **Hardware** panel.

- **Model type** – The Model 7707, a Fire Subscriber, displays as type **FIRE**.

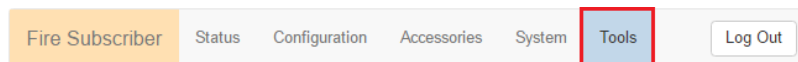
- **Serial Number** – A unique serial number is assigned to each Model 7707 Subscriber at the factory.
- **Zone Bank details** – A zone bank can have a zone input card connected, or it may be empty depending on how the Model 7707 is configured. When no zone input card is present, the zone bank displays **None**.
- **Panel Interface** – 7794A IntelliPro
- **Wired MAC/Wired IPv4** – The Media Access Control (MAC) address (which is the physical address) is a unique network identifier assigned to the Model 7707 Subscriber.
- **WiFi IPv4** – The address of a USB WiFi adapter (optional, supplied by others) used for wireless connection to the Subscriber during configuration is shown.

8.19 Tools

The **Tools** tab provides access to the following:

- Text Messages
- Alarm History
- RF Traffic
- IP Traffic
- RF Antenna Test
- Ping
- System Activity Log

To access these features, select the **Tools** tab as shown in red below:



Text Message

A text message can be sent from the 7707 Subscriber to the central monitoring station. Messages from the central station can also be received.

In the **Text Messages** panel, use the message line at the bottom of the panel to enter the message. Messages have a 200-character limit. Click the **Send** button to transmit the message.

 A panel titled 'Text Messages over Air' with a blue header. Below the header is a large, empty rectangular text input area. At the bottom of the panel is a smaller text input field with the placeholder text 'Type message here (limited 200 characters) ...' and a blue 'Send' button to its right.

Alarm History

Messages sent from the Model 7707 Subscriber, or the alarm panel connected to the Model 7707 Subscriber, are displayed in the **Alarm History** user interface panel.

RF Traffic

Receive and transmit traffic to/from the Subscriber can be viewed using the **RF Traffic** panel. Traffic from other subscribers can also be viewed.

IP Traffic

Messages that are sent to and from the Subscriber, and which are used for debugging purposes, are displayed in the **IP Traffic** panel.

RF Antenna Test

The RF Antenna Test turns the transceiver transmitter on for approximately 5 seconds and allows use of RF test equipment, such as a SWR meter or power meter. This function allows you to check transceiver RF power output, coaxial cable connections, antenna tuning, and other parameters.

Ping

The ping utility checks network connectivity of the Subscriber. Enter a network address on the form line and click **Submit** to verify the connection.

System Activity Log

The System Activity Log shows 7707 subscriber information used for diagnostic purposes.

8.20 IP Configuration

The IP address of the Subscriber is set in the **Configuration** tab under the Advanced Conf. Fixed (static) or automatically assigned (DHCP) addresses may be used. DHCP addressing is the default setting.

Select the **IP Configuration** tab.

IP Address – DHCP

The Subscriber is set to Dynamic Host Configuration Protocol (DHCP) by default. An address is automatically obtained when the Subscriber is connected to a network, or if already connected, when the Subscriber is powered on.

IP Address – Static

When **Static** is selected, the form expands to show:

- IP Address
- Subnet Mask
- Gateway
- DNS Server 1
- DNS Server 2 (Optional)

Obtain information for these settings from the network administrator or other individual who manages network services.

9. System Settings

The **System** tab provides access to system setting features.

9.1 Product License

Subscriber product license information is displayed in this panel.

9.2 Change Password

Change Password allows the logged in user to set another password for the login account. If the user is logged in with a default account password, a warning about changing the password appears in red letters.

The **Login User** line displays the current user logged into the Subscriber.

To change the password:

1. Enter the existing password into the “Current Password” field.
2. Enter a new password into the “New Password” field.
3. Re-enter the new password again into the “Confirm” field.

9.3 Add User

Add User allows you to add additional users to the system.

To add a user:

1. Enter the user name into the “Username” field.
2. Enter the password into the “Password” field.
3. Re-enter the password again into the “Confirm” field.
4. When through, click the **Add User** button.

9.4 Buzzer – Onboard Subscriber

The buzzer control enables or silences the onboard Subscriber buzzer. The onboard buzzer can be silenced when a remote annunciator is used. The default setting is **Enabled**.

1. To disable, click the **Enable** control so that it changes to **Disabled**.
2. When through, click the **Save Change** button.

9.5 Uploading/Downloading Settings

Download Current Settings

Setting information can be downloaded from the Subscriber. Click the **Download** button.

Upload Preconfigured Settings

To upload Subscriber settings to the Model 7707, click the **Choose File** button, select the file, and click the **Upload** button.

Reset to Default Configuration

Subscriber and IntelliPro settings can be set to factory defaults.

1. Set the **Subscriber Config** and/or **IntelliPro Config** switch to **Yes**.
2. Click the **Reset Configuration** button.

Note: Reset with **Subscriber Config** does not change the existing Subscriber ID and cipher code programmed into the unit.

9.6 System Firmware Update

Upgrading

To upgrade the Subscriber software, clicking the **Choose File** button, select the upgrade file, and click the **Update** button.

Download Support Files

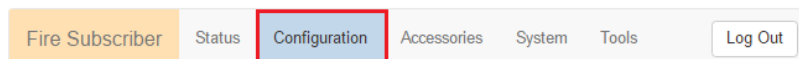
To download system information files, select the file type from the **Select file type** dropdown box, then click the **Download** button.

Restart System

Clicking the **Restart** button causes the Subscriber to halt communication and any system software that may be running. The system software restarts and the Subscriber resumes communication. **Note:** Remote programming is enabled for 10 minutes after a **Restart/Reset**.

10. Flexible Power Option

Subscriber power can be provided by several different types of power sources. This control configures the type of power source and the features associated with the power source. From the **Configuration** tab, select the **Flexible Power Option** panel.



For power source details, see [Power Options](#) on page 10. See also [Programming Options \(UL Notice to Users\)](#) which starts on page 23.

- **Power From: 16.5 V AC Adapter and Battery**

Refer to the diagram shown in the [Power Options](#) section on page 10 for supply and connection requirements.

Important! When using this selection, **16.5 V AC** is the **primary** power source and the **battery** is the **secondary** power source.

- **AC Report Delay:** AC Report Delay is active when **Suppress AC Fault** is set to **NO**. The report delay is the time that must pass before the Model 7707 Subscriber will send an AC failure or AC restoral message. This feature helps prevent mesh network congestion in an area where many Subscribers have an AC power outage at the same time. Messages can be set to transmit in a staggered fashion using the **Random** time setting.

Note: Primary (16.5 V AC) power failure fault reporting must be enabled for compliance with UL 864 standard in fire installations.

The combined AC Fail detection time delay of 100 minutes plus the random **AC Report Delay** between 0–60 minutes results in time that does not exceed 160 minutes. This is within the UL-864 requirement of reporting AC power failure within 180 minutes (3 hours) of loss.

Primary (16.5 V AC) power must be lost for 100 minutes in order to be reported as a failure. Primary (16.5 V AC) power must be restored for at least 100 minutes to be reported as a restore. Once either is detected, a message is created by the Subscriber to send to the central station. An AC Report Delay is selected based on both this parameter and the setting of **Suppress AC Fault Reporting**.

Available settings:

- **Random Delay** — A random time ranging from 0–60 minutes after 100 minutes of primary (16.5 V AC) power loss. Enter **R** into the box to select this option.
 - **Fixed delay** — A specific time ranging from 1–60 minutes after 100 minutes of primary (16.5 V AC) power loss.
 - **No Delay** — Immediate transmission after 100 minutes of primary (16.5 V AC) power loss.
- **Locally Announce AC Fault**

Important! UL-864 compliant fire alarm installations require that **Locally Announce AC Fault** be set to **Yes**. See the [Programming Options \(UL Notice to Users\)](#) on page 23 for software settings permitted for the following parameter.

Set **Locally Announce AC Fault** to **Yes/No** by clicking the **Locally Announce AC Fault** switch.

- **Suppress AC Fault Reporting**

Important! UL-864 compliant fire alarm installations require that **Suppress AC Fault Reporting** be set to **No**. See the [Programming Options \(UL Notice to Users\)](#) on page 23 for software settings permitted for the following parameter.

Set **AC Fault Reporting** to **Yes/No** by clicking the **AC Fault Reporting** switch.

- **Suppress Battery Fault Reporting**

Important! UL-864 compliant fire alarm installations require that **Suppress Battery Fault Reporting** be set to **No**. See the [Programming Options \(UL Notice to Users\)](#) which starts on page 23 for software settings permitted for the following parameter.

- **Suppress Charger Fault Report**

Important! UL-864 compliant fire alarm installations require that **Suppress Charger Fault Reporting** be set to **No**. See the [Programming Options \(UL Notice to Users\)](#) which starts on page 23 for software settings permitted for the following parameter.

Set **Suppress Charger Fault Report** to **Yes/No** by clicking the **Suppress Charger Fault Report** switch.

- **Power From: 24 V DC and Battery**

Refer to the diagram shown in the [Power Options](#) section on page 10 for supply and connection requirements.

Important! When using this selection, **24 V DC** is the *primary* power source and the **battery** is the *secondary* power source.

- **DC Report Delay:** DC Report Delay is active when **Suppress DC Power Fault** is set to **No**. The report delay is the time that must pass before the Model 7707 Subscriber will send a primary power failure or primary restoral message. This feature helps prevent mesh network congestion in an area where many subscribers have a power outage at the same time. Messages can be set to transmit in a staggered fashion using the **Random** time setting.

Note: Primary power (24 V DC) failure fault reporting must be enabled for compliance with UL-864 standard in fire installations.

The combined DC fail detection time delay of 100 minutes plus the random **DC Report Delay** between 0–60 minutes results in time that does not exceed 160 minutes. This is within the UL-864 requirement of reporting DC power failure within 180 minutes (3 hours) of loss.

Primary (24 V DC) power must be lost for 100 minutes in order to be reported as a failure. Primary (24 V DC) power must be restored for at least 100 minutes to be reported as a restore. Once either is detected, a message is created by the Subscriber to send to the central station. A DC Report Delay is selected based on this parameter and the setting of **Suppress DC Fault** reporting. Available settings:

- **Random Delay** — A random time ranging from 0–60 minutes after 100 minutes of primary (24 V DC) power loss. Enter **R** in the box to select this option.
- **Fixed Delay** — A specific time ranging from 1–60 minutes after 100 minutes of primary (24 V DC) power loss.
- **No Delay** — Immediate transmission after 100 minutes of primary (24 V DC) power loss.

- **Locally Announce DC Fault**

Important! UL-864 compliant Fire Alarm installations require **Locally Announce DC Fault** to be set to **Yes**. See the [Programming Options \(UL Notice to Users\)](#) on page 23 for software settings permitted for the following parameter.

Set **Locally Announce DC Fault** to **Yes/No** by clicking the **Locally Announce DC Fault** switch.

- **Suppress DC Power Fault**

Important! UL-864 compliant Fire Alarm installations require **Suppress DC Power Fault** to be set to **No**. See the [Programming Options \(UL Notice to Users\)](#) which starts on page 23 for software settings permitted for the following parameter.

Set **Suppress DC Power Fault** to **Yes/No** by clicking the **Suppress DC Power Fault** switch.

- **Suppress Battery Fault Reporting**

Important! UL-864 compliant Fire Alarm installations require **Suppress Battery Fault Reporting** to be set to **No**. See the [Programming Options \(UL Notice to Users\)](#) which on page 23 for software settings permitted for the following parameter.

- **Suppress Charger Fault Reporting**

Important! UL-864 compliant Fire Alarm installations require **Suppress Charger Fault Reporting** to be set to **No**. See the [Programming Options \(UL Notice to Users\)](#) which starts on page 23 for software settings permitted for the following parameter.

Set **Suppress DC Power Fault** to **Yes/No** by clicking the **Suppress Charger Fault Reporting** switch.

- **Power From: 24 V DC Only**

Refer to the diagram shown in the [Power Options](#) section on page 10 for supply and connection requirements.

Note: Selecting the **24 V DC only** option causes **Suppress Battery Fault** and **Suppress Charger Fault** to be grayed out in the interface. The two options cannot be changed.

- **Suppress DC Power Fault**

Important! UL-864 compliant Fire Alarm installations require **Suppress DC Power Fault** to be set to **No**. See the [Programming Options \(UL Notice to Users\)](#) which starts on page 23 for software settings permitted for the following parameter.

Set **Suppress DC Power Fault** to **Yes/No** by clicking the **Suppress DC Power Fault** switch.

- **Power From: 12 V DC Only**

Important! **12 V DC Only** setting is **not allowed** for UL-864 compliant fire alarm installations.

Note: Selecting the **12 V DC only** option causes **Suppress Battery Fault** and **Suppress Charger Fault** to be grayed out in the interface. The two options cannot be changed.

11. Reporting

11.1 AES Mesh Network

The 7707 Subscriber can eliminate the need for POTS telephone lines by communicating with the 7705i MultiNet using the AES mesh radio network.

11.2 Compatible Receiver

The 7707 Subscriber is compatible with the AES Corp. Model 7705i MultiNet Receiver.

12. Testing

Some of the tests to be performed at the installation site require a response from a person at the central station:

- Trigger alarm conditions: Confirm that the proper message is received at the Central Station.
- Cause fault conditions: Confirm that the proper message is received at the Central Station.
- If any 7794A IntelliPro is installed, activate the alarm panel connected to the 7794A and confirm that the 7794A handles alarm panel messages.

13. Maintenance

Once installed and normal operation is confirmed, minimal maintenance is required. Monitoring the automatic check-in test messages will confirm proper RF operation. Batteries should be periodically tested to be certain they have sufficient capacity to operate the system.

14. Troubleshooting

The most common causes of an RF failure or trouble are due to:

- Antenna type
- Antenna location
- Coaxial cable
- Coaxial connectors
- Transceiver malfunction

Antennas close to metal or conductive material that block or reflect the transmitted signal are the most common problems.

Try different locations for the antenna or use a remotely mounted long-range RF antenna. Try replacing the transmission components, including the coaxial cable, coaxial connectors, or antenna.

Note: No user serviceable components are located on the circuit boards. Defective circuit board units must be returned to AES. For information on returning units, see the AES Service Procedure under [Warranty](#) on page 47.

15. Repair Information

Other than the backup battery, no user serviceable parts are located in the 7707 Subscriber.

16. Battery Replacement Instructions

1. Remove the positive battery lead (red) from the battery.
2. Remove the negative battery lead (black) from the battery.
3. Verify that the POWER LED indicator is NOT illuminated.
4. Remove the battery from the enclosure.
5. Discard the battery in accordance with local disposal codes.
6. Install the new battery into the enclosure.

Note: Observe $\frac{1}{4}$ in. minimum separation between non-power limited wiring and power limited wiring.

7. Connect the negative battery lead (black) to the battery.
8. Connect the positive battery lead (red) to the battery.
9. Perform Subscriber power-up and self-test procedure.

17. AES Model 7740 Annunciator Installation Instructions

17.1 Out of the Box

- One Rocker Switch Annunciator with standard ring back
- One Faceplate (red)
- One Gang Back Box (red)

Assembly hardware is included. Wall mounting hardware *is not included*.

17.2 Installation Instructions

Utilize a standard single-gang mounting box. One gang space is required for each module to be installed. A standard cover plate is required to cover the assembly.

1. Label the legend sheet for the AES Model 7740.
2. Mount the box securely into the wall.
3. Connect conduit and/or pull wiring as required.
4. Remove the faceplate from the frame.

Note: Notice the routing of the Silence switch cable if applicable. In most cases, this cable need not be disconnected. Use the slack cable to allow the faceplate to be moved out of the way.

5. Terminate wires and connect the AES Model 7740 Local Annunciator, as shown in the following diagram. The 7740 is powered and supervised by the AES Model 7707 Subscriber.

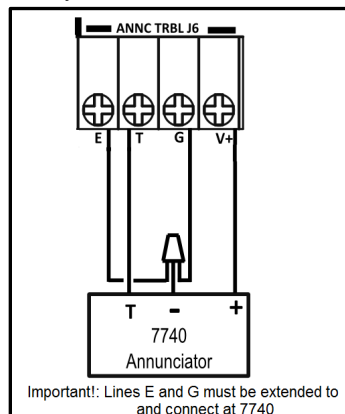


Figure 7. 7740 Wiring Diagram

6. Attach the frame to the box using frame screws.
7. Reinsert the faceplate into the frame.
8. Single-gang installation only.

9. Review and confirm field wiring and setup.
10. Damage and/or malfunction can result from improper wiring and/or setup.
11. Place the cover over the faceplate and secure with cover screws.
12. Power up the system and test for proper operation of all zones and functions.

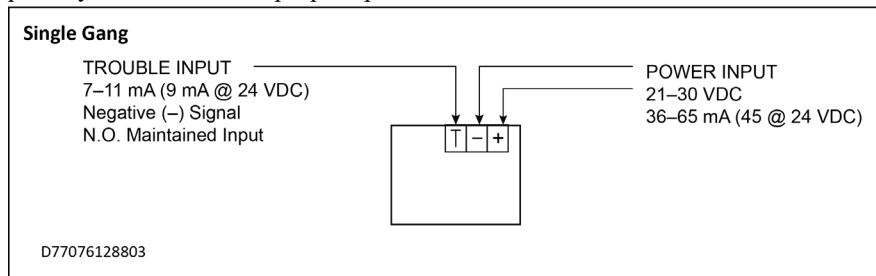


Figure 8. 7740 Wire Inputs

18. AES Corp. Contact Information

AES Corporation

285 Newbury Street
Peabody, Massachusetts 01960 USA
Website: <http://www.aes-corp.com>
AES corporate Phone: (800) 237-6387 (800) AES-NETS
USA (978) 535-7310
Fax: USA (978) 535-7313
Email: Check Website for latest email addresses

19. Warranty

LIMITED PRODUCT WARRANTY

AES warrants to the original purchaser that the AES Subscriber Unit will be free from defects in material and workmanship under normal use and service for three (3) years from the date of original purchaser's purchase. Except as required by law, this Limited Warranty is made only to the original purchaser and may not be transferred to any third party.

This Limited Product Warranty is made in lieu of any other warranties, expressed or implied, it being understood that all other warranties, expressed or implied, inclusive of merchantability or fitness for a particular purpose, are hereby expressly excluded.

AES assumes no liability for any personal injury, property damage, consequential damages, or any other loss or damage due, among other things, to this product's failure to operate or provide adequate warning. AES's sole responsibility is to repair or replace, at AES's sole option, the AES product that is judged defected by AES during the limited warranty period under the terms of its Limited Warranty.

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AES SERVICE PROCEDURE: Contact AES by Phone (978) 535-7310, Fax (978) 535-7313 or Email service@aes-corp.com, to receive a Return Material Authorization Number. Have the AES part number and serial number ready. Repack equipment in original or equivalent packaging. Inside the box, please include a contact name, telephone number, address and a brief description of the reason for return.

Ship items freight-prepaid to:

Repair Services, RMA# _____
AES Corporation,
285 Newbury Street
Peabody, MA 01960 USA

(Contact AES for Return Material Authorization number.)