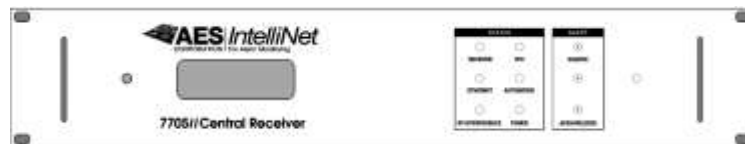




AES MultiNet Receiver System



Initial Installation and Setup Guide



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AES MultiNet Receiver

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U.S. Installation: This product shall be installed in accordance with NFPA 72, NEC, UL 827 and all applicable local codes.

Canada Installation: This product shall be installed in accordance with Canadian Electrical Code, and all applicable local codes.

1.0 Overview

This document discusses the initial installation, setup, and configuration of the AES MultiNet Receiver for U.S. and Canada installations. For U.S. installations this is the Model 7705ii and its 1st Model 7170 IP-Link Transceiver. For Canadian installations it is Model 7705ii-C and 1st Model 7170-C IP-Link Transceiver. This document is to be used along with other provided documentation. This document is setup to provide an organized process while focusing on sections of other documents that are needed for this initial installation process.

Many sections in this document will direct you to a section in another document.

Although not a requirement, it is generally a good idea to set up your MultiNet System and become familiar with its operation before putting it into an active operational mode. This can be done by a temporary simple setup followed by the relocation or connection in the intended central station network or could be the final installation but not put into active use until ready.

1.1 Product Description

General descriptions of the equipment used in the MultiNet system for U.S. installation are in the “AES 7705ii MultiNet Receiver System – User Manual” (US). For Canadian installations, this is AES 7705ii-C MultiNet Receiver System – User Manual”. Refer to this manual section to get familiar with the components and general makeup of this system.

2.0 Installation

The installation process outlined in this document suggests that you first install the IP-Link transceiver up to the point where power to the IP-Link is ready to be applied. Then continue by installing, powering and configuring the MultiNet receiver. Follow this by the powering and configuration on the IP-Link installed previously.

2.1 7170-C IP-Link Installation

The first two IP-Link transceivers are typically installed at the same physical location as the MultiNet receiver. Position the IP-Link as close to the antenna location as possible. The IP-Link location should result in the shortest and straightest run of coax to the antenna.

Place the IP-Link Transceiver and associated equipment in a location away from the outdoor environment. Refer to the provided “AES 7170 IP-Link Transceiver Installation and Operation Manual” or “AES 7170-C IP-Link Transceiver Installation and Operation Manual” for installation details.

The antenna and any surge devices must be bonded to a good earth ground in accordance with the National Electrical Code, or Canadian Electric Code, and applicable Local Codes.

Install and prepare the IP-Link transceivers to connect to power, phone and network. Follow the installation instruction in the “**AES IP-Link Transceiver Installation and Operation Manual**” provided with the IP-Link units and stop when instructed to turn on power to the unit. An outline of the process is below.

- IP-Link Transceiver installation steps:
 1. Mount the transceiver in your selected location.
 2. Install the surge protector, antenna, and coax.
 3. Prepare phone connection.
 4. Prepare network connection.
 5. Prepare but do not connect the AC power connections.
 6. Continue with MultiNet receiver installation prior to initial power up.

2.2 MultiNet Receiver Installation

Refer to the “AES MultiNet Receiver System – User Manual” and the following additional information on the Installation and Setup

- Connect a keyboard, video monitor and mouse to the receiver. These are required for initial setup.
- The Multinet receiver, monitor and any network related equipment must be connected to a suitable ULC Listed, 864 UPS to maintain power during power outages.
- Each MultiNet receiver and IP-Link Transceiver pair is shipped with identical network configurations. At least one pair requires change to TCP/IP configuration before connecting the two into the same network together.
- Refer to figures in the “AES MultiNet Receiver System – User Manual” for system illustrations.
- MultiNet receiver installation steps:
 1. Mount or locate the 19” rack mountable MultiNet receiver in your selected location. A UL-60950 listed 19” rack mount cabinet is required.
 2. Install and connect the monitor, keyboard and mouse to the proper connections on the rear panel of the Receiver as shown in manual diagrams. This is for initial setup only.
 3. Do not connect Ethernet ports to a live network. Until network settings are confirmed and/or modified, leave the Ethernet cables disconnected for 1st time power up.
 - a. Because the MultiNet Receiver is preconfigured as shown in the MultiNet Receiver System User Manual, it is OK to connect a IP-Link Transceiver to Port 1 of the MultiNet Receiver using an Ethernet Crossover cable like the one supplied.
 - b. After configuring TCP/IP, you can connect the Ethernet port(s) to appropriate connections of your network. This will allow communication to the IP-Link Transceiver(s), secondary MultiNet Receiver(s).
 4. Connect the printer. Use a printer listed by UL or ULC for “Signaling Use” such as an AES 75-0101.
 5. Plug the MultiNet receiver, monitor and printer power cords into power outlets. A UL Listed UPS (UL864) or UL1481 power supply is required.

3.0 Software Installation

All necessary software is pre-installed on your MultiNet receiver.

If your system has a catastrophic failure it may require the reinstallation of the Linux operating system and the specialized IP-Link software programs. BIOS settings should also be checked to confirm that the unit would initialize and operate properly.

Contact AES technical Support for software assistance.

4.0 Initial Programming and setup

Follow the steps for system startup and access in the “MultiNet Receiver System User Manual”. Power up the receiver, login, and perform the steps needed to configure your MultiNet Receiver for operation in your local area network (LAN).

The simplest configuration is connecting a IP-Link Transceiver Ethernet Port directly to Ethernet Port the MultiNet receiver and operating without a network. Use a CAT5 network crossover cable (provided). This configuration is useful for quick setup to become familiar with the system before its final deployment in your target network. Refer to the illustration in the manual.

5.0 Additional Configuration

See the section describing Admin GUI for Configuration and Administration of the MultiNet Receiver User Manual for details that follow below. Instructions in that section assume you are connected to a network that has a workstation with a Web browser.

5.1 Operating in Simplest Configuration

If you are operating in the temporary simplest configuration as shown in the User Manual, you may not have access to a remote workstation. Follow these steps to start a Web Browser using the directly connected Keyboard, mouse and monitor to continue.

1. Login as root
2. Enter the following to start the GUI. startx<Enter>
3. Start a new terminal. Right click and select New terminal
4. At the command prompt in the terminal type the following command:
konqueror<Enter>
5. This will start the Konqueror Web Browser. It may take a minute to start.
6. Enter the following URL in the location box:
<http://localhost/Admin/home.php>
7. You may now continue with section 6 to login to the Admin GUI.

5.2 MultiNet User Manual – Admin GUI

Once you have logged in to the Admin GUI, you can select links to perform a number of configuration functions. Listed below are sections of the Admin GUI to check if this is your first time using the Admin GUI.

- Server Configuration where you will set some important server parameters
- Define your first Business Unit.
 - No user Business was created at the factory. You need at least one.
 - If you cannot select a name at this time “use a name like “PrimaryBusinessUnit” or the name of an organization or a word related to the purpose of this Business Unit. You could later delete it and create one once you become familiar with its purpose.
 - Select Data Type: “Security” with no automation parameters, especially serial device name and heartbeat signal frequency.
 - Select “Universal ID”. You need to know the ID of the IP-Link. Factory default for the IP-Link is ID 1111
- If you did not select Universal ID then add Subscriber ID’s to the Business Unit. By selecting Universal ID on the first page of creating the Business Unit, all messages from the IP-Links listed will automatically be associated with this Business Unit. If you do not select Universal ID then every Subscriber ID must be entered into each Business Unit’s database manually. Any messages from an ID not in a database will be sent to the Business Unit named orphan.

After successfully completing the tasks outlined “MultiNet Receiver System – User Manual”, you should be ready to power up, configure, as shown in figure 4-2 or figure 4-3 of 40-7705ii-C-UM and bring your IP-Link transceiver(s) online.

If you are finished using the Admin GUI Web pages then you should:

- Close the Konqueror Web Browser and...
- Logout the user.

6.0 Setup IP-Link Transceivers

A IP-Link Transceiver attempts to connect to the assigned MultiNet Receiver when powered up. You will want MultiNet receiver configured and started as outlined in to this point.

Refer to sections for programming and setup in the “IP-Link Transceiver – Installation and Operation Manual” for specific details.

Prerequisites:

- The AES MultiNet Receiver(s) must be powered on and connected to the network, or ready for direct network connection to the IP-Link Ethernet Port.
- The MultiNet receivers must have AES software (programs) running.
- If using static IP then you need to know the IP address, Netmask and Gateway for each IP-Link being configured. Even if using DHCP you need to have the static IP address of the Gateway.
- You need to know the telephone number(s) of the MultiNet receiver(s) modem(s). Even if the telephone connection is not in place, you can still continue but will receive messages when communication attempts fail.
- You will need a serial terminal to attach to the serial port of the IP-Link to access the built-in programming functions. Microsoft HyperTerminal or similar program on a Windows PC will work well for this purpose.
- Make sure the antenna or a proper RF load is attached to the antenna connection of the IP-Link Transceiver.

Continue with IP-Link Installation and Operation Manual:

It is now time to return to where you left off in the AES IP-Link Transceiver – Installation and Operation Manual.

7.0 Test your Network Settings

Assuming you completed all the tasks in the IP-Link Installation and Operation manual you have already performed testing from the IP-Link. It is now time to return to the MultiNet Receiver and perform some additional testing.

Refer to the AES MultiNet Receiver System - User Manual for the following:

- Log in to the MultiNet Receiver as user root.
- Start the GUI with the startx command
- Start a terminal program in AES Menu
- Ping another device on the network.

Ping another known computer or device that is on your network to determine if the configuration is working properly. At the command prompt in the terminal, issue the following command replacing {network ID of another computer} with the IP address of the gateway PC on the network.

ping -c4{network ID of another computer}<Enter>

Example: ping -c4 192.168.0.1<Enter> (Default Gateway PC)

or ping -c4 192.168.0.11<Enter> (Default System 1 IP-Link setting)

The above listed ping commands will ping 4 times (-c4), either the default Gateway, assuming it is 192.168.0.1 or the 1st IP-Link assuming it is set to 192.168.0.11.

You can even ping the IP address of the receiver itself to see how the ping program works.

Example: **Ping -c4 192.168.0.101**<Enter> (Default Receiver setting)

Pressing <Ctrl> + C stops ping attempts.

You should receive responses indicating how long the response took, if it failed or timed out.

The example screen below shows the “ping -help” response, a successful and a failed ping.

```
Using username "root".
root@10.0.1.202's password:
Last login: Tue Sep 28 10:05:07 2004 from 10.0.1.124
[root@aesSecurity root]# ping -help
Usage: ping [-LRUbdfnqrVvAa] [-c count] [-i interval] [-w deadline]
        [-p pattern] [-s packetsize] [-t ttl] [-I interface or address]
        [-M mtu discovery hint] [-S sndbuf]
        [-T timestamp option] [-Q tos] [hop1 ...] destination
[root@aesSecurity root]# ping -c4 10.0.1.1
PING 10.0.1.1 (10.0.1.1) from 10.0.1.202 : 56(84) bytes of data.
64 bytes from 10.0.1.1: icmp_seq=1 ttl=255 time=0.376 ms
64 bytes from 10.0.1.1: icmp_seq=2 ttl=255 time=0.221 ms
64 bytes from 10.0.1.1: icmp_seq=3 ttl=255 time=0.201 ms
64 bytes from 10.0.1.1: icmp_seq=4 ttl=255 time=0.199 ms

--- 10.0.1.1 ping statistics ---
4 packets transmitted, 4 received, 0% loss, time 3007ms
rtt min/avg/max/mdev = 0.199/0.249/0.376/0.074 ms
[root@aesSecurity root]# ping -c1 10.0.1.203
PING 10.0.1.203 (10.0.1.203) from 10.0.1.202 : 56(84) bytes of data.
From 10.0.1.202 icmp_seq=1 Destination Host Unreachable
```

Figure H - Example of a ping to a gateway PC.

8.0 Test Communication from Subscribers

- Power up and program a Subscriber
- Program it with a unique ID and the same Cypher Code programmed into the IP-Link Transceiver.
- Generate some signals and confirm reception of expected messages using one or more of the following methods:
 - If available, using the IPCtrl program.
 - If connected and functional, using the attached Event Printer.
 - If connected and configured using the Alarm Monitoring System.
 - Using subscriber database section of the Admin GUI (Subscribers/View).

9.0 Initial Installation Complete

You have completed your initial installation if your testing was successful.

You should now be ready to familiarize yourself with the MultiNet System operation and use. Then, once you have become familiar with the system, you should be confident with introducing it into your existing or new central station network and environment. You will then be ready to begin using your MultiNet system to provide your customer base with the reliable data communication capability they expect and deserve.

10.0 Contact information

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