



IP Device Installation and Setup

Version 1.3

8/24/2018

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Static Electric Warning



ADDITIONAL RESOURCES

Complete Support Site with User Guides & Help: <https://www.anetd.com/user-support/>

Technical Resource Guides: <https://www.anetd.com/user-support/technical-resources/>

AND Legal Disclaimer: <https://www.anetd.com/legal/>



GENERAL DESCRIPTION

Advanced Network Devices (AND) is committed to providing rich-featured, intelligent network devices for use in commercial applications. IP protocol is a perfect solution for clock/intercom systems and mass notification, allowing users to have full supervision and reporting of all end point devices.

FEATURES

All AND IP Devices products support:

- Field upgrade ability
- Web servers for logging and maintenance
- GPIO (General purpose I/O) for sensing conditions or for signaling/controlling other devices
- Clock and scrolling text (except devices which don't include a display)
- PoE/PoE+ (Power Over Ethernet) supplied via a single CAT5/5e/6 cable
- Microphones for bidirectional communications or monitoring
- Interoperates with Cisco VoIP network and Call Manager, as well as many other SIP and VoIP phone systems such as Asterisk, 3CX, ShorTel, Mitel, etc
- Integrates with several third-party mass notification systems like Singlewire InformaCast, SynApps Revolution, IPCelerate IPSession, MessageNet Systems, and Acro Vista BellComander

IDENTIFICATION

Identify each AND IP display or IP speaker uniquely by its MAC address. The MAC address consists of 12 hexadecimal digits, starting with **20:46:F9**. The main circuit board contains a decal of the factory-assigned MAC address. The exterior of the enclosure includes a copy of the same decal. In the examples provided here, we will use a MAC address of 2046f9123456.

When powered, the IP device will use LLDP-MED to discover any programmed Voice VLAN settings on the network switch port. The device will then request an IP address via DHCP. If the circumstances require a static IP address, we recommend using DHCP reservation. If DHCP reservation is not possible, an assigned static IP address will work.







POWER AND SIGNAL CONNECTIONS

The device requires only a single PoE (Power over Ethernet) CAT5/5e/6 connection in order to operate. Locate the RJ-45/CAT5 jack (J1) on the back of the device. When ready to test or install the device, connect a CAT5 cable between this connector and a PoE or PoE+ switch in order to power up the unit. If the device does not have a PoE switch available, you can use a PoE or PoE+ power injector to supply power over the CAT5 cable in conjunction with a non-PoE switch.



IP DEVICE POWER-ON SEQUENCE

When first powered, if properly installed, the device should acquire an IP address and start within a minute or less. If the device has no display, the AND jingle will play within 1-2 seconds of powering the device, then a single beep will sound when the DHCP server assigns an IP address. If the device includes a display, it will follow this boot sequence:

1		The first screen you will should appear within 1-2 seconds of powering on the device.
2		Indicates the current firmware equipped with the device. Visit or sign up at the AND Customer Portal (www.anetd.com/user-support/portal-login/) to verify the device has the latest firmware version.
3		Indicates the network MAC address of the device (configured at the factory).
4		Indicates that the device is looking for a DHCP server, among other things. If the boot process hangs in this state, check for a possible network problem (cable, switch, ISP, DHCP, etc.)
5		Indicates the IP address of the device. DHCP assigns this network-specific address. Otherwise, the static address will appear if configured as such.
6		Once all initialization completes, the time will display. If just a colon displays, it cannot find the time. Check the NTP server settings, and check that the Internet connection is working.

Local time will display if an NTP server is specified in DHCP option 42 and the proper time zone is provided as either a POSIX time zone in DHCP option 100 or a time zone name in DHCP option 101. If these DHCP options are not provided, the device may display GMT or local time based on server registration and NTP settings.



DEVICE CONFIGURATION

You can configure each device using the device's web server interface or using a network-based XML configuration file. When the device initially powers on, it will run off of the on-board settings stored in flash.

If it detects a configuration file on the network via DHCP options or SLP, the Speaker will attempt to retrieve and utilize any discovered files. The location of the configuration file and method of retrieval can be specified in one of four ways, which the Speaker will attempt in the following filename order:

1. TFTP or HTTP server, supplied by SLP
2. TFTP server supplied by an IP address in DHCP option 150
3. TFTP server supplied by an IP address in DHCP Option 66
4. HTTP server supplied by an IP address in DHCP Option 72 (directory location “/ipspeaker/”)

Please contact AND Tech Support for more information on using the SLP option. After the device finds out the configuration file location for retrieval, it will try to retrieve the file by the given method. It attempts to retrieve the file in the following order (where 2046f9123456 is the MAC address):

1. IPSpeaker2046f9123456.xml
2. IPSpeaker2046f9123456.cfg
3. IPSpeaker.xml
4. IPSpeaker.cfg

Contact AND Tech Support for the AND Gen2 Configuration Manual document for details on the configuration file syntax and content.

Based on the contents of the configuration file, the device may attempt to download new firmware and/or additional configuration file(s). All subsequent retrievals take place from the same location that the device found the initial configuration file. If the configuration file differs from the current settings stored in flash, the device may reboot in order to use the new settings. If the device finds no configuration file specified or available, the device will display a *Device Settings* link on its web page menu from which you can view and modify the on-board device settings.

Note, if using on-board settings exclusively for configuration, we recommend you save a copy of the **Device Settings** → **XML** page as a backup. Also, inhibit SLP on each device to prevent the device from processing a newly discovered or created configuration file unexpectedly, as this situation would clear the on-board settings. Go to **Device Settings** → **Network** to set the *Inhibit SLP* option to *Yes*, then save the changes, and reboot the device.



ACCESSING THE DEVICE

You can access the device by typing its IP address into a web browser, or by using the AND software application IPClockWise. You can also access the device from various third-party server interfaces, depending on your installation. Consult the third-party software documentation for details on accessing and integrating the device with your system.

IPLOCKWISE APPLICATION

Access the IPClockWise application and sound libraries by logging into the AND customer portal (www.anetd.com/user-support/portal-login/). You can also download the IPClockWise Manual, as well as the IPClockWise Installation Guide for support documentation.

After installing the application, you will find an IPClockWise icon on your desktop. Install any sound files at this time via their respective .msi installation files. Then double-click the IP ClockWise icon to start the application. The **Endpoints** tab of the application window will display a list of the devices found on your network and their assigned IP addresses, etc. If you do not see the endpoint(s) you want to access, try clicking the *Refresh* button to see if the device name or MAC address appears. Double-click on any device to access the web page interface for the device. You can also right-click on a device to see a range of commands that can be applied, from sending a text message (if applicable) to playing a sound file.

IPV6 ADDRESS WITH INTERNET BROWSER

You can access the device in a web browser using its link local IPv6 address, derived from its MAC address. In the address bar, enter the IPv6 address of the device using the following syntax (where xx:xxxx is the last 6 digits of the device's MAC address):

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http://[fe80::2246:f9ff:fexx:xxxx]
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MDNS/BONJOUR-ENABLED INTERNET BROWSER

The device will also show up in a Bonjour discovery list as *IPSpeaker2046f9123456 (Descriptive Name)* where *2046f9123456* is the MAC address. Double-click on the device in the list to open the web page.

The main status page for the device should load within a web browser, with its assigned IP address displayed in the address bar, e.g., *http://10.10.6.49/*. The device may also be addressed by its Bonjour host name *http://IPSpeaker2046f9123456.local*.