

# PROFUSION iO

## NETWORKING GUIDE



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# NETWORKING BASICS

## REBOOT THE PROFUSION iH

1. While the player is on, press the STANDBY button on the remote control (or from the online control panel) and allow the device to enter "standby" mode. The POWER indicator light should turn red.
2. Push the ON/OFF button on the back of the player to fully power down the player.
3. Remove the power cable from the back of the player for 30 seconds.
4. Re-insert the power cable into the back of the player.
5. Press the ON/OFF button on the back of the player into the ON position.
6. The player should initialize for several stages and resume music playback

**Your ProFusion iH needs to remain on at all times in order for it to successfully connect for updates.**

## CHECK CABLE CONNECTIONS

1. Confirm that the Ethernet (CAT5) cable is securely connected to the SYMBOL port on the back of the player.
2. Confirm that the other end of the Ethernet (CAT5) cable is connected to the appropriate port on your network equipment (router or switch).

Not sure where to connect to your network equipment? Consult your IT professional or Internet Service Provider for assistance.



3. Confirm that the SYMBOL network light on the front of the player is illuminated.



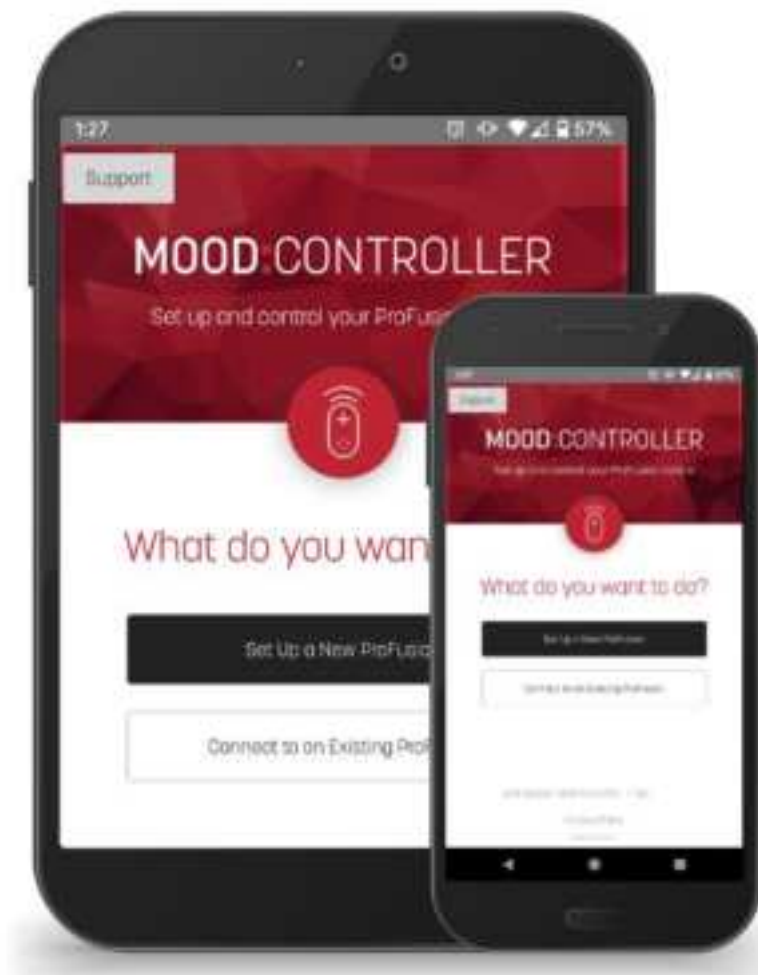
**Is the LINK indicator light red?** This indicates:

- 1) a WiFi connection is established, or 2) the player is not connecting to the network for updates.

## ACCESS ONLINE CONTROL PANEL

From a PC or mobile device **on the same network** you can access the ProFusion iO's Web User Interface by the following methods:

1. **Mood Controller app:** Download the Mood Controller app from the [Apple App Store](#) or [Google Play Store](#) and follow the instructions on the app to get connected.



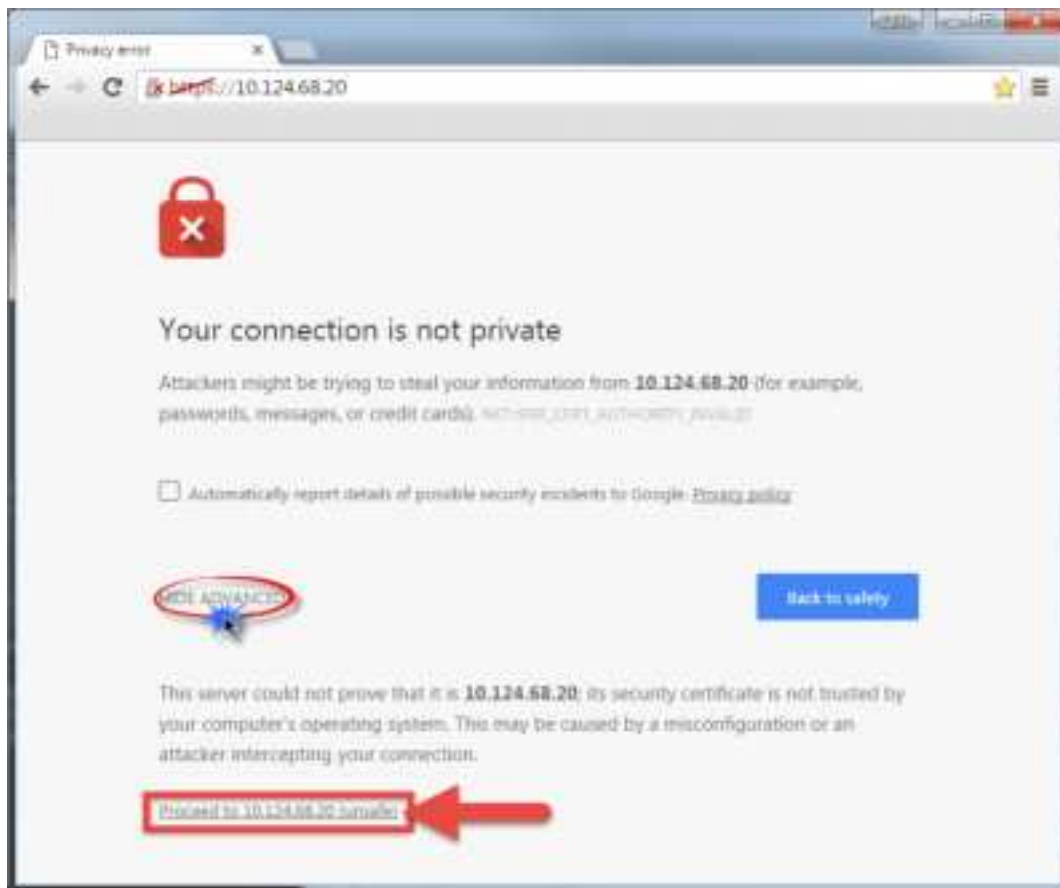
2. **Using an IP address:** From a browser like Chrome (works best), Firefox, or Microsoft Edge, navigate to the IP address of the ProFusion iO device. To obtain the IP address of your ProFusion iO, locate a paper clip and press and hold the reset button the back of the player for 2 seconds. Your ProFusion iO will begin to speak the IP address over your speakers.



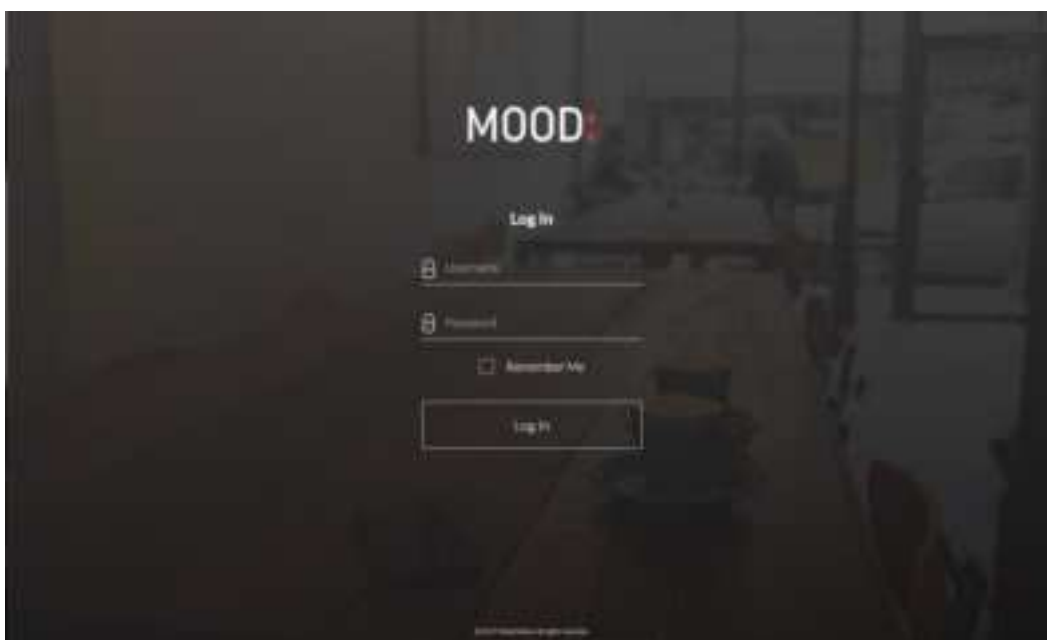
3. **Using the web link:** Type the following into your browser's address bar to access the ProFusion's control panel: [https://profusion-\[DEVICEID\].local](https://profusion-[DEVICEID].local) Replace DEVICEID with the 6 digit device ID of your ProFusion iO player. (Example: EX: <https://profusion-398994.local>) This is found on the sticker on the box the ProFusion iO came in.



Upon accessing the control panel, your browser will display a security warning; however, it is safe to answer the security warning and proceed to the site. **NOTE:** The ProFusion iO hosts an internal web server that is inside the local network and not accessible from the internet.



Once you have accessed the WEBUI and answered any security warnings, the login page will appear. The default log in username is **admin** and passcode is **23646**.



## TEST NETWORK CONNECTION / RUN DIAGNOSTIC TEST

1. From the online control panel, click **Administration** in the top-left corner.
2. Click **Update** from the menu on the left side of the online control panel.
3. Click on *Test Connection* button at the bottom of the online control panel.
4. The player will run a Test Connection and yield a test result.

### TEST RESULTS

Test Successful PIN #####	The player successfully connected to the update server.
Test Failed Network Link Down	The player was unable to locate an Ethernet cable or network. See the Check Cable Connections steps above.
Test Failed Connection Error	The player was able to locate an Ethernet cable or network, but was unable to establish a connection to the update server. Review network settings and try again.
Test Failed Authentication to Proxy Server Failed	This test result indicates that the player is configured to connect to a proxy server, but a network setting may be incorrect on the player or on the client's proxy network. Please consult your IT professional or Internet Service Provider for assistance.
Test Failed File Directory Error	This test result indicates that the Device Update Server has been changed on the player (either via disc update or manually from the player menu). Please view the <Device Update Server> setting in the Network Settings tab and confirm it matches what's listed in the Network Requirements section below.

## VIEW/EDIT NETWORK SETTINGS AND SETTING UP THE PLAYER ON WIFI

1. From the online control panel, click **Administration** in the top-left corner.
2. Click **Network** from the menu on the left side of the online control panel.
3. The current Network Settings will be shown here. You can edit these settings by clicking "Edit" at the bottom of this page.

**Need to set the player up on WiFi? – WiFi connectivity requires us of a MOOD-provided USB WiFi adapter.**

Click the Scan button to scan for available WiFi networks in your area. Choose the appropriate WiFi network and type in the WiFi password accurately to connect.

NOTE: Our player does not work with "Guest" WiFi connections that have a "splash" page.

# ADVANCED NETWORK SETTINGS

## PROFUSION IO NETWORK REQUIREMENTS

### PROFUSION IO SITE NETWORK CONSIDERATIONS

**IMPORTANT NOTE:** This document is informational only and geared toward IT technicians and system administrators. It is not intended to provide or imply any advice regarding network configuration, security, performance or equipment. This document contains basic technical networking information about Mood Media ProFusion iO platforms and network configuration considerations in order to successfully communicate with Mood Media update servers, client owned update servers and/or internal networks where applicable.

### LAN CONNECTION

- + Ethernet port 10/100 MBps.
- + Cat5 RJ45 or better
- + Wireless Adaptor Optional

### INTERNET CONNECTION SPEED REQUIREMENTS

Consistent bandwidth of 1Mbps or more is ideal for all Mood Media audio streaming services.

150 Kbps is the minimum recommended bandwidth for all configurations. ProFusion devices can be throttled as low as 64 Kbps to meet extreme bandwidth limitations for time-boxed and infrequent periodic updates.

Streaming & Dynamic playlist modification  
(continuous connection):

- + Each Mix Pro Device: 1Mbps ideal, 512Kbps Minimum
- + Social Mix : 150Kbps Minimum

Single program updates/Log Files (intermittent connection):

Non Mix devices with stored content can be throttled and time-blocked to prevent call outs to Mood Media servers. Can be configured with FTP/SFTP

- + Ideal 150Kbps.
- + Minimum 64Kbps

Heartbeats use minimal bandwidth (8Kbps) and will take advantage of either continuous or intermittent connectivity for status updates & monitoring.

All updates, heartbeats and other connections to the Mood servers are initiated from the Mood Media Profusion device - Outbound only.

### PORTS

Note: Most ProFusion device port assignments are based on generally accepted port standards and are not re-configurable, with the exception of Proxy configuration where the port assignment can be assigned from the the ProFusion device.

- + HTTPS PROTOCOL
  - Requires DNS
  - Ports 443, 80
- + FTP PROTOCOL
  - Port 21 must be allowed for FTP connections, as well as an ephemeral port range (actual port range:1025-65535) to allow data transmission. At the time of this writing ProFusion iO devices only support passive FTP and will not connect via active FTP configurations.
- + SFTP PROTOCOL
  - Port 22 must be allowed for SFTP connections.
- + HEARTBEAT FUNCTIONALITY
  - Ports 443, 80 externally

### SERVER ADDRESSES

MIX / MIX PRO:

s3.aws.amazon.com (Floating IP)  
mix.moodmedia.com (23.23.195.56)

US UPDATE SERVER: fm-wdav-01.moodmedia.com (199.204.61.120)

update-profusion.moodmedia.com (35.169.134.120)\*

\*35.169.134.120 – only SFTP & HTTPS protocols

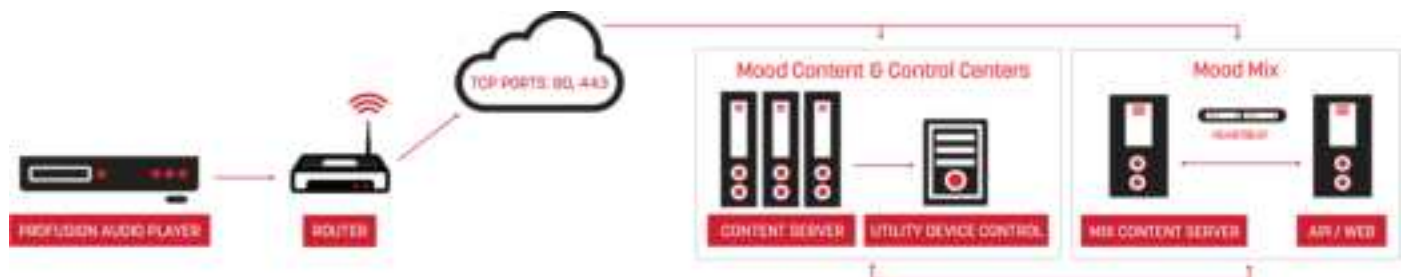
US HEARTBEAT: 184.73.209.217

EU UPDATE SERVER: upd-eu-1.moodmedia.com (193.226.133.17)

EU HEARTBEAT: 193.226.133.20

AUSTRALIA UPDATE SERVER: pubftp.moodmedia.com.au (61.68.11.242)

AUSTRALIA HEARTBEAT: heartbeat.moodmedia.com.au (61.68.11.243)





## CONFIRM PLAYER DATE AND TIME

1. From the online control panel, click **Administration** in the top-left corner.
2. Click **Settings** from the menu on the left side of the online control panel.
3. Click on the *Edit* button at the bottom of the page.
4. Adjust Date and Time as needed.
5. Click the *Save* button when finished.

Is the player defaulting to the year 1969, 1979, or 1999 after rebooting? Please contact Mood Support for assistance.

## RUND DIAGNOSTIC TEST

The ProFusion iO diagnostic test may provide additional information regarding existing network connection errors. To begin the diagnostic test:

6. From the online control panel, click **Administration** in the top-left corner.
7. Click **Network** from the menu on the left side of the online control panel.
8. Click on the *Diagnostic* tab at the top of the online control panel.
9. Click the **Start** button in the center of the online control panel.
10. The player will run a 7-step configuration test for a few seconds and yield a test result. Look for a “No issues have been found” message in green.

Received a different message? Please visit [support.moodmedia.com](http://support.moodmedia.com) and search for the article titled “Diagnostic Error Code List” for full list of errors and what they mean.

### DIAGNOSTIC RESULTS

Code	Message	Solution
-	Check Successful	Network diagnostic encountered no errors; player is connecting to the Internet successfully.
E1001	All network interfaces are disabled.	Determine which network interface should be used (Ethernet or WiFi). If Ethernet, verify an Ethernet cable is connected; if WiFi, verify WiFi adapter is inserted.
E1002	Primary network interface is not set.	Verify Ethernet cable or WiFi adapter is properly connected.
W2201	<INTERFACE>: USB network adapter was not detected.	Verify that WiFi adapter is properly connected. If so, reboot the player, test connection and run diagnostic again. If error persists, proceed to replace WiFi adapter.

W2102	<INTERFACE>: No link.	The player does not detect a properly connected Ethernet cable. Verify Ethernet cable is properly connected. Verify LINK indicator light is solid green. If possible, temporarily connect another Ethernet device to test the connection.
W2203	<INTERFACE>: Network disconnected.	The player is not connecting to the WiFi network. Verify WiFi adapter is properly connected and receiving power. Verify WiFi network settings on the player.
W2204	<INTERFACE>: Interface disabled.	The player detects a WiFi adapter, but WiFi is disabled. Verify WiFi is enabled on the player.
W2208	<INTERFACE>: Low signal level (<LVL>%).	The player detects a low WiFi signal. Verify player is close to WiFi router and that location is not such that signal is blocked (metal racks and enclosures will limit WiFi signal strength to some degree).
W2109 W2209	<INTERFACE>: DHCP - configuration not yet obtained.	The DHCP server has not assigned IP information. Connection is established, but DHCP information has not been transmitted. Allow the player one or two minutes to retrieve network info before testing the connection again. If this error still appears after performing another diagnostic test, reboot the player.
W3115	<INTERFACE>:	This is related to a warning that DNS is not configured. It's not always needed (DNS) hence why it's a warning. However, if a device is using HTTPS, and or heartbeat, a DNS is needed for name resolution.
E2110 E2210	<INTERFACE>: DHCP - configuration does not set default gateway.	The DHCP server has not assigned gateway information. Connection is established, but DHCP information has not been transmitted. Allow the player one or two minutes to retrieve network info before testing the connection again. If this error still appears after performing another diagnostic test, reboot the player.
E2111 E2211	<INTERFACE>: DHCP - No DNS configuration.	The DHCP server has not assigned DNS information. Connection is established, but DHCP information has not been transmitted. Allow the player one or two minutes to retrieve network info before testing the connection again. If this error still appears after performing another diagnostic test, reboot the player.
E2112 E2212	<INTERFACE>: STATIC - Incorrect IP address set (<IP>).	The static IP address is invalid or in conflict with another device on the network. Verify static IP information on the player for accuracy and correct as needed.
E2113 E2213	<INTERFACE>: STATIC - Incorrect mask (<MASK>).	The subnet mask address is invalid. Verify static IP and subnet mask information on the player for accuracy and correct as needed.
E2114 E2214	<INTERFACE>: STATIC - Incorrect IP of default gateway (<IP>).	The default gateway address is invalid. Verify static IP and gateway information on the player for accuracy and correct as needed.
E2115 E2215	<INTERFACE>: STATIC - No DNS configuration.	The static DNS information is not configured. No DNS entries have been provided in the static configuration. HTTPS update protocol, all streaming services and heartbeating require a valid DNS.
E2116 E2216	<INTERFACE>: IP address is a network address (<IP>).	Verify static IP information on the player for accuracy and correct as needed.
E2117 E2217	<INTERFACE>: IP address is a broadcast address (<IP>).	Verify static IP information on the player for accuracy and correct as needed.
E2118 E2218	<INTERFACE>: IP address is a loopback class (<IP>).	This error is displayed when a loop back address (127.0.0.1) is used in place of a valid network IP address. Verify static IP information on the player for accuracy and correct as needed.
E2119 E2219	<INTERFACE>: IP address is a multicast class (<IP>).	This error is displayed when a multicast address (224.0.0.1) is used in place of a valid network IP address. Verify static IP information on the player for accuracy and correct as needed.
E2120 E2220	<INTERFACE>: Default gateway address is a network address (<IP>).	Verify static IP information on the player for accuracy and correct as needed.

E2121 E2221	<INTERFACE>: Default gateway is a broadcast address (<IP>).	This error is displayed when a broadcast address used in place of a valid gateway IP address (172.19.4.255 - "255" as the last octet indicates this is the broadcast address). Verify static IP information on the player for accuracy and correct as needed.
E2122 E2222	<INTERFACE>: Default gateway is a loopback class (<IP>).	This error is displayed when a loop back address (127.0.0.1) is used in place of a valid default gateway IP address. Verify static IP information on the player for accuracy and correct as needed. (Note: Error code E2124/E2224 may also be displayed)
E2123 E2223	<INTERFACE>: Default gateway is a multicast class (<IP>).	This error is displayed when a multicast address (224.0.0.1) is used in place of a valid default gateway IP address. Verify static IP information on the player for accuracy and correct as needed. (Note: Error code E2124/E2224 may also be displayed)
E2124 E2224	<INTERFACE>: Default gateway points to the different network (<IP>).	This error is displayed when the default gateway address is valid but is not within the same network as the player's IP address (for example: player's IP address is 172.19.4.65 and default gateway is 192.168.1.1).
E2125 E2225	<INTERFACE>: Default gateway is unreachable in the local network (<IP>).	This error is displayed if the default gateway is offline, or the IP is valid for the network but is NOT the correct address for the default gateway on that network. Verify default gateway address for accuracy and verify that default server is available.
W3101 W3201	<INTERFACE>: Primary DNS is not responding (<IP>).	This error is displayed when the Primary DNS cannot be reached. Verify DNS entry for accuracy and correct as needed. Verify that assigned DNS is allowed for the network.
W3102 W3202	<INTERFACE>: Secondary DNS is not responding (<IP>).	This error is displayed when the Secondary DNS cannot be reached. Verify DNS entry for accuracy and correct as needed. Verify that assigned DNS is allowed for the network.
W3103 W3203	Current configuration requires valid DNS server.	This error is displayed when a configuration requires DNS - Pandora, Icecast, iHeart, Mix, heartbeating. Add valid DNS address for Primary, Secondary DNS or both.
W3104 W3204	No DNS server is responding.	This error is displayed when no DNS can be reached. Verify DNS entry for accuracy and correct as needed. Verify that assigned DNS is allowed for the network.
E4101 E4201	<INTERFACE>: Proxy - cannot resolve proxy server domain name (<DOMAIN_NAME>).	This error is displayed when the proxy server assigned cannot be reached. Verify that client intends to use a proxy server; if so, verify proxy address on player for accuracy, and verify that proxy is online and accessible.
E4102 E4202	<INTERFACE>: Proxy - server port <PORT> on (<DOMAIN_NAME   IP>) is blocked (Timeout).	This error is displayed when proxy service is not enabled or port setting does not match port configured on the player. Verify that client intends to use a proxy server; if so, verify proxy address on player for accuracy, and verify that proxy is online and accessible.
E4103 E4203	<INTERFACE>: Proxy - server port <PORT> on (<DOMAIN_NAME   IP>) is blocked (Connection Refused).	This error is displayed when the IP is blocked by the proxy server. Verify proxy configuration on player for accuracy; verify that player's IP address is allowed on the proxy server.
E4104 E4204	<INTERFACE>: Proxy - incorrect IP address set (<DOMAIN_NAME>).	Verify that client intends to use a proxy server; if so, verify proxy address on player for accuracy, and verify that proxy is online and accessible.
E4105 E4205	<INTERFACE>: Proxy - IP address is a network address (<IP>).	Verify proxy IP information on the player for accuracy and correct as needed.
E4106 E4206	<INTERFACE>: Proxy - IP address is a broadcast address (<IP>).	This error is displayed when a broadcast address used in place of a valid proxy IP address (172.19.4.255 - "255" as the last octet indicates this is the broadcast address). Verify proxy IP information on the player for accuracy and correct as needed.

E4107 E4207	<INTERFACE>: Proxy - IP address is a loopback class (<IP>).	This error is displayed when a loop back address (127.0.0.1) is used in place of a valid proxy IP address. Verify proxy IP information on the player for accuracy and correct as needed.
E4108 E4208	<INTERFACE>: Proxy - IP address is a multicast class (<IP>).	This error is displayed when a multicast address (224.0.0.1) is used in place of a valid proxy IP address. Verify proxy IP information on the player for accuracy and correct as needed.
E5101 E5201	<INTERFACE>: Proxy - authentication failed (<DOMAIN_NAME   IP>).	This error is displayed when a username or password used to connect to the proxy server are incorrect. Verify proxy username and password information on the player for accuracy and correct as needed.
E5102 E5202	<INTERFACE>: Proxy - unable to connect to update server (<DOMAIN_NAME   IP>:<ERR_MSG>).	This error is displayed when the update server cannot be reached through the proxy server. Verify proxy configuration on the player for accuracy and correct as needed; the update server IP/URL may need to be allowed on the proxy server.
E5103 E5203	<INTERFACE>: Proxy - unable to connect to proxy server (<DOMAIN_NAME   IP>:<ERR_MSG>).	This error is displayed when the proxy server cannot be reached. Verify proxy address/username/password on the player for accuracy and correct as needed.
E5104 E5204	<INTERFACE>: Update - cannot resolve update server domain name (<DOMAIN_NAME>).	This error is displayed when the update server IP address is incorrect OR the DNS server cannot be reached from the proxy server. Verify the update server on the player (should be 199.204.61.120). Verify DNS is configured properly on the proxy server and correct as needed.
E5105 E5205	<INTERFACE>: Update - server port <PORT> on <DOMAIN_NAME   IP> is blocked (Timeout).	This error is displayed when the server port is not responding from the proxy server. Verify that update server port is allowed through the proxy server.
E5106 E5206	<INTERFACE>: Update - server port <PORT> on <DOMAIN_NAME   IP> is blocked (Connection Refused).	This error is displayed when the server port is blocked at the proxy server. Verify that update server port is allowed through the proxy server.
E5107 E5207	<INTERFACE>: Update - incorrect IP address set (<IP>).	This error is displayed when the update server IP address is incorrect. Verify the update server on the player (should be 199.204.61.120). If error persists, contact Mood Support for assistance.
E5108 E5208	<INTERFACE>: Update - IP address is a network address (<IP>).	This error is displayed when the update server IP address is incorrect. Verify the update server on the player (should be 199.204.61.120). If error persists, contact Mood Support for assistance.
E5109 E5209	<INTERFACE>: Update - IP address is a broadcast address (<IP>).	This error is displayed when the update server IP address is incorrect. Verify the update server on the player (should be 199.204.61.120). If error persists, contact Mood Support for assistance.
E5110 E5210	<INTERFACE>: Update - IP address is a loopback class (<IP>).	This error is displayed when the update server IP address is incorrect. Verify the update server on the player (should be 199.204.61.120). If error persists, contact Mood Support for assistance.
E5111 E5211	<INTERFACE>: Update - IP address is a multicast class (<IP>).	This error is displayed when the update server IP address is incorrect. Verify the update server on the player (should be 199.204.61.120). If error persists, contact Mood Support for assistance.
E5112 E5212	<INTERFACE>: Update - communication error (<DOMAIN_NAME   IP>:<ERR_MSG>).	Contact Mood Support for assistance.
E5113 E5213	<INTERFACE>: Update - device is not registered on update server (<DOMAIN_NAME   IP>:<ERR_MSG>).	The player was not able to find its directory on the Unity update server. Verify the fulfillment status in Unity and contact Mood Support for assistance.
E6101 E6201	<INTERFACE>: Heartbeat - cannot resolve Heartbeat server domain name (<DOMAIN_NAME>).	The heartbeat server URL cannot be resolved to an address. Verify DNS settings on player are entered and valid. Verify heartbeat server status, check firewall to confirm local network allows heartbeat URL.
E6102 E6202	<INTERFACE>: Heartbeat - server port <PORT> on <DOMAIN_NAME   IP> is blocked (Timeout).	This error is displayed when the heartbeat server port is not responding on the local network. Verify that local network firewall allows heartbeat port traffic.

E6103 E6203	<INTERFACE>: Heartbeat - server port <PORT> on <DOMAIN_NAME   IP> is blocked (Connection Refused).	This error is displayed when the heartbeat server port is blocked on the local network. Verify that local network firewall allows heartbeat port traffic.
E6104 E6204	<INTERFACE>: Heartbeat - incorrect IP address set (<IP>).	Contact Mood Support for assistance.
E6105 E6205	<INTERFACE>: Heartbeat - IP address is a network address (<IP>).	Contact Mood Support for assistance.
E6106 E6206	<INTERFACE>: Heartbeat - IP address is a broadcast address (<IP>).	Contact Mood Support for assistance.
E6107 E6207	<INTERFACE>: Heartbeat - IP address is a loopback class (<IP>).	Contact Mood Support for assistance.
E6108 E6208	<INTERFACE>: Heartbeat - IP address is a multicast class (<IP>).	Contact Mood Support for assistance.
E7101 E7201	<INTERFACE>: <ZONE_NAME> - cannot resolve server domain name (<DOMAIN_NAME>).	This error is displayed when a streaming server domain name cannot be resolved - Pandora, Icecast, iHeart, Mix. Verify streaming zone URL is allowed through firewall. Verify DNS is configured correctly.
E7102 E7202	<INTERFACE>: <ZONE_NAME> - server port <PORT> on <DOMAIN_NAME   IP> is blocked (Timeout).	This error is displayed when a streaming server port cannot be reached - Pandora, Icecast, iHeart, Mix. Verify streaming port is allowed through firewall. Verify DNS is configured correctly.
E7103 E7203	<INTERFACE>: <ZONE_NAME> - server port <PORT> on <DOMAIN_NAME   IP> is blocked (Connection Refused).	This error is displayed when a streaming server port is blocked - Pandora, Icecast, iHeart, Mix. Verify streaming port is allowed through firewall. Verify DNS is configured correctly.
E7104 E7204	<INTERFACE>: <ZONE_NAME> - connection error: <ERR_MSG>	This error is displayed when the player reports recent streaming zone issues. Contact Mood Support for assistance.

## CONTACT SUPPORT

Seeking further assistance? Visit our Client Portal:

**support.moodmedia.com**

Serial Number: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

**Note: The serial number is located on a sticker on the back of the player.**