

SONOS

LOCAL DIAGNOSTIC

A STEP-BY-STEP HOW-TO GUIDE

Sonos Internal & Dealer Use Only | For Advanced Troubleshooting Contact Sonos Customer Support:
1-800-680-2345 | support@sonos.com

A LOCAL DIAGNOSTIC ALLOWS AN INSTALLER TO VIEW EACH COMPONENT IN A CLIENTS NETWORK AND UNDERSTAND ITS PERFORMANCE IN RELATION TO OTHER SONOS DEVICES

TO ACCESS LOCAL DIAGNOSTIC:

- 1.) Open the Sonos App
- 2a.) On PC, click *'Help'* in the Menu Bar then click on *'About My Sonos System'*
- 2b.) On Mac, click *'Sonos'* in the Menu Bar then click on *'About My Sonos System'*
- 2c.) On iOS or Android, go into Settings and click on *'About My Sonos System'*
- 3.) Write down the IP Address of a Sonos Player
- 4.) Open a web browser
- 5.) Navigate to the following URL: <http://IP Address of the Sonos Player:1400/support/review>
- 6.) Click *'Network Matrix'*

When successful, you should see an image that looks similar to this:
(If you do not see this grid, contact Customer Support for assistance)

	Strength to 00:0E:58:81:99:7B Corner Dudes	Strength to 00:0E:58:78:F8:25 Den Bosch	Strength to 00:0E:58:7C:02:99 Den Haag	Strength to 00:0E:58:F8:10:4F Dining Room	Strength to 00:0E:58:78:B193 Pedestal
00:0E:58:81:99:7B Corner Dudes Tertiary Node Noise Floor: -88, -99, -87 OFDM Weak signal level: 5		Inbound: 46 Outbound: 45 STP state: blocking	Inbound: 59 Outbound: 55 STP state: blocking	Inbound: 40 Outbound: 38 STP state: forwarding	Inbound: 54 Outbound: 51 STP state: blocking
00:0E:58:F8:10:4F Dining Room Tertiary Node Noise Floor: -108, -112, -109 OFDM ANI level: 4	Inbound: 38 Outbound: 40 STP state: blocking	Inbound: 38 Outbound: 36 STP state: blocking	Inbound: 51 Outbound: 47 STP state: blocking		Inbound: 46 Outbound: 44 STP state: blocking
00:0E:58:78:F9:25 Den Bosch Tertiary Node Noise Floor: -107, -110, -105 OFDM ANI level: 6	Inbound: 46 Outbound: 48 STP state: forwarding		Inbound: 57 Outbound: 56 STP state: blocking	Inbound: 36 Outbound: 38 STP state: forwarding	Inbound: 47 Outbound: 49 STP state: blocking
00:0E:58:38:39:AB Den Goleta (S) Secondary Node Noise Floor: -105, -110, -105 OFDM ANI level: 2	Inbound: 50 Outbound: 53 STP state: forwarding	Inbound: 49 Outbound: 50 STP state: forwarding	Inbound: 63 Outbound: 63 STP state: forwarding	Inbound: 40 Outbound: 42 STP state: forwarding	Inbound: 47 Outbound: 50 STP state: blocking

THE NETWORK MATRIX IS USES COLOR TO ALLOW THE VIEWER TO READ THE AMOUNT OF OUTSIDE INTERFERENCE AS WELL AS THE STRENGTH OF THE COMMUNICATIONS BETWEEN THE PLAYERS

	Strength to 00:0E:58:81:98:7B Corner Dudes	Strength to 00:0E:58:78:F9:25 Den Bosch	Strength to 00:0E:58:7C:02:99 Den Haag	Strength to 00:0E:58:F8:10:4F Dining Room	Strength to 00:0E:58:78:B1:93 Pedestal
00:0E:58:81:99:7B Corner Dudes Tertiary Node Noise Floor: -88, -99, -87 OFDM Weak signal level: 5		Inbound: 48 Outbound: 46 STP state: blocking	Inbound: 59 Outbound: 55 STP state: blocking	Inbound: 40 Outbound: 38 STP state: forwarding	Inbound: 54 Outbound: 51 STP state: blocking
00:0E:58:F8:10:4F Dining Room Tertiary Node Noise Floor: -108, -112, -109 OFDM ANI level: 4	Inbound: 38 Outbound: 40 STP state: blocking	Inbound: 38 Outbound: 36 STP state: blocking	Inbound: 51 Outbound: 47 STP state: blocking		Inbound: 46 Outbound: 44 STP state: blocking
00:0E:58:78:F9:25 Den Bosch Tertiary Node Noise Floor: -107, -110, -105 OFDM ANI level: 6	Inbound: 46 Outbound: 48 STP state: forwarding		Inbound: 57 Outbound: 56 STP state: blocking	Inbound: 36 Outbound: 38 STP state: forwarding	Inbound: 47 Outbound: 49 STP state: blocking
00:0E:58:38:00:AB Den Soleta (S) Secondary Node Noise Floor: -105, -110, -105 OFDM ANI level: 2	Inbound: 50 Outbound: 53 STP state: forwarding	Inbound: 49 Outbound: 50 STP state: forwarding	Inbound: 63 Outbound: 63 STP state: forwarding	Inbound: 40 Outbound: 42 STP state: forwarding	Inbound: 47 Outbound: 50 STP state: blocking

The **Color Codes** on the LEFT column are to be interpreted as:

- GREEN** – Unit is not getting much outside interference
- YELLOW** – Unit is receiving **LOW** outside interference
- AMBER** – Unit is receiving **MEDIUM/HIGH** outside interference
- RED** – Unit is receiving **HIGH** outside interference



The **Root Bridge** is by default the first registered piece of Sonos in your network. The Root Bridge should be hardwired to a router at all times, as it is the one piece of Sonos that all other Players will communicate with.

THE WIRELESS SIGNAL STRENGTH INDICATES THE LEVEL OF COMMUNICATION BETWEEN TWO SONOS COMPONENTS

	Strength to 00:0E:58:81:99:7B Corner Dudes	Strength to 00:0E:58:7E:F9:25 Den Bosch	Strength to 00:0E:58:7C:02:99 Den Haag	Strength to 00:0E:58:F8:10:4F Dining Room	Strength to 00:0E:58:78:B1:93 Pedestal
00:0E:58:81:99:7B Corner Dudes Tertiary Node Noise Floor: -88, -99, -87 OFDM Weak signal level: 5		Inbound: 48 Outbound: 46 STP state: blocking	Inbound: 59 Outbound: 55 STP state: blocking	Inbound: 40 Outbound: 38 STP state: forwarding	Inbound: 54 Outbound: 51 STP state: blocking
00:0E:58:F8:10:4F Dining Room Tertiary Node Noise Floor: -100, -112, -109 OFDM All level: 4	Inbound: 38 Outbound: 40 STP state: blocking	Inbound: 38 Outbound: 36 STP state: blocking	Inbound: 51 Outbound: 47 STP state: blocking		Inbound: 46 Outbound: 44 STP state: blocking
00:0E:58:7E:F9:25 Den Bosch Tertiary Node Noise Floor: -107, -110, -85 OFDM All level: 5	Inbound: 46 Outbound: 48 STP state: forwarding		Inbound: 57 Outbound: 56 STP state: blocking	Inbound: 36 Outbound: 38 STP state: forwarding	Inbound: 47 Outbound: 49 STP state: blocking
00:0E:58:78:B1:93 Pedestal Tertiary Node Noise Floor: -100, -110, -85 OFDM All level: 5	Inbound: 50 Outbound: 53 STP state: forwarding	Inbound: 49 Outbound: 50 STP state: forwarding	Inbound: 63 Outbound: 63 STP state: forwarding	Inbound: 40 Outbound: 42 STP state: forwarding	Inbound: 47 Outbound: 50 STP state: blocking

MAXIMUM NUMBER FOR THE WIRELESS SIGNAL STRENGTH: 63

ADEQUATE WIRELESS SIGNAL STRENGTH: 27+

In the matrix above, notice that the list of Sonos Players in the left hand column is identical to the list of Sonos Players in the top row. This allows the viewer to see the communication levels between any and all of the Players. As an example, if you were to draw a horizontal line from the First Row (Corner Dudes) and a vertical line from the Third Column (Dining Room) you will see the **Wireless Signal Strength** listed as **Inbound:40** and **Outbound: 38**. This is considered healthy.

If you are experiencing a strength lower than anticipated you can troubleshoot by downloading the inSSider application from MetaGeek (www.inssider.com) and use it to identify the wireless channels used by all your network devices. You can then change the Sonos wireless channel (2.4GHz **Channel 1,6, or 11**) accordingly to increase your strength.

NOTE: You might also try moving the Players closer together and/or adding a BRIDGE in between to extend the network.

THE INTERFERENCE FROM OTHER WIRELESS DEVICES CAN PLAY A LARGE ROLL IN THE PERFORMANCE OF THE PLAYERS IN THE NETWORK

MAXIMUM NUMBER FOR OFDM:

PLAY:5, CONNECT, CONNECT:AMP = 5 (with 5 being the desirable number)

PLAY:1, PLAY:3, PLAYBAR, SUB = 9 (with 0 being the desirable number)

```
00:0E:58:F8:10:4F
Dining Room
Tertiary Node
Noise Floor: -108, -112, -109
OFDM ANI level: 4
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Shown in the form of the **Noise Floor** and **Orthogonal Frequency Division Multiplexing** (OFDM) Signal Level, if any player is getting lower than 5 or 9 (see above for which players max at which number), there is likely some other wireless device interfering or too close to that player (example: router, cordless phone, etc).

Noise Floor should be in the **-90s** through **-115** or so. Anything **lower than -85** would indicate wireless interference on the channel Sonos is running on. More specifically: PLAY:5, CONNECT:AMP, and CONNECT should stay between **-91** and **-98** dBm (approx), and PLAYBAR, SUB, PLAY:3, PLAY:1, and Bridge between **-105** and **-111** dBm (approx).

	Strength to 00:0E:58:81:99:7B Corner Dudes	Strength to 00:0E:58:78:F9:25 Den Bosch	Strength to 00:0E:58:7C:02:99 Den Haag	Strength to 00:0E:58:F8:10:4F Dining Room	Strength to 00:0E:58:78:B1:93 Pedestal
00:0E:58:81:99:7B Corner Dudes Tertiary Node Noise Floor: -98, -99, -97 OFDM Weak signal level: 5		Inbound: 48 Outbound: 45 STP state: blocking	Inbound: 59 Outbound: 55 STP state: blocking	Inbound: 40 Outbound: 38 STP state: forwarding	Inbound: 54 Outbound: 51 STP state: blocking
00:0E:58:F8:10:4F Dining Room Tertiary Node Noise Floor: -108, -112, -109 OFDM ANI level: 4	Inbound: 38 Outbound: 40 STP state: blocking	Inbound: 38 Outbound: 36 STP state: blocking	Inbound: 51 Outbound: 47 STP state: blocking		Inbound: 46 Outbound: 44 STP state: blocking
00:0E:58:78:F9:25 Den Bosch Tertiary Node Noise Floor: -107, -110, -105 OFDM ANI level: 6	Inbound: 46 Outbound: 48 STP state: forwarding		Inbound: 57 Outbound: 56 STP state: blocking	Inbound: 36 Outbound: 38 STP state: forwarding	Inbound: 47 Outbound: 49 STP state: blocking
00:0E:58:3E:30:40 Den Bosch 151 Secondary Node Noise Floor: -105, -107, -105 OFDM ANI level: 6	Inbound: 50 Outbound: 53 STP state: forwarding	Inbound: 49 Outbound: 50 STP state: forwarding	Inbound: 53 Outbound: 53 STP state: forwarding	Inbound: 40 Outbound: 42 STP state: forwarding	Inbound: 47 Outbound: 50 STP state: blocking