

# Overview

When debugging AI behaviors, one of the most useful console variables is **ai\_DebugDraw**.

Setting this cvar to 1 will result in debug information being drawn above the head of any active AI. In game mode, you can also press **F11** to set **ai\_DebugDraw** to 1 or zero.

You can use **ai\_AgentStatsDist** to set the radius within which entity debug info will be drawn.

Generally, it will look like this:



There's a lot of information here, so it's broken down below:



A) **REGENERATE COVER SURFACES** - This means that the cover surfaces haven't been generated. If the game that you're working on supports cover surfaces, speak to a designer about this.

B) This is the name of the Entity - The name will be **green** for vehicle AI (i.e. the actual vehicle). The driver and passenger names will be in white).

C) Pipe User Group ID.

D) These are cover/combat state indicators. The conditions are true when they're lit up **red**, false if **grey**:

Abbreviation	Description
<b>MC</b>	Moving to Cover
<b>MIC</b>	Moving in Cover / In Cover
<b>CC</b>	Cover Compromised
<b>AL</b>	Is Alarmed

E) Current Behavior Name.

F) Current Target Name.

G) Current Target Perception:

Abbreviation	Description
<b>VIS</b>	Visual
<b>MEM</b>	Memory
<b>SND</b>	Sound
<b>AGG</b>	Aggressive
<b>THR</b>	Threatening
<b>INT</b>	Interesting

H) Current Goal Pipe Name.

I) Current Goal Op Name - If the goalop is active, it will be rendered **white**. If paused, it will be rendered **grey**.

J) Stance name and Speed.

K) Aim information and Fire mode.

## More AI Debug Draw

More information on AI Debug Draw can be found [here](#). (OLD AI SYSTEM IN LINK, NEEDS UPDATING)

## Network AI Debug Draw

In multi-player sessions, AI is updated on the server. If it's a dedicated server, there may be a need to transmit AI debug draw data to the client to display. This is controlled by the following CVars:

CVar	Description
<b>ai_NetworkDebug</b>	Disable (0) or enable (1) the transmission of AI debug draw data to the client. To display transmission summary (on the client's display), use <b>ai_NetworkDebug 2</b> .
<b>ai_NetworkDebugBytesPerSecond</b>	Maximum transmission rate in bytes per second.
<b>ai_NetworkDebugChannel</b>	Network channel which the server uses to send AI debug draw data.
<b>ai_NetworkDebugClientHost</b>	Network address of the client.
<b>ai_NetworkDebugMinDelay</b>	Delay between successive transmissions.
<b>cl_serveraddr</b>	Server address that the client will try to connect to when the user types <b>connect</b> . Default is "localhost".