

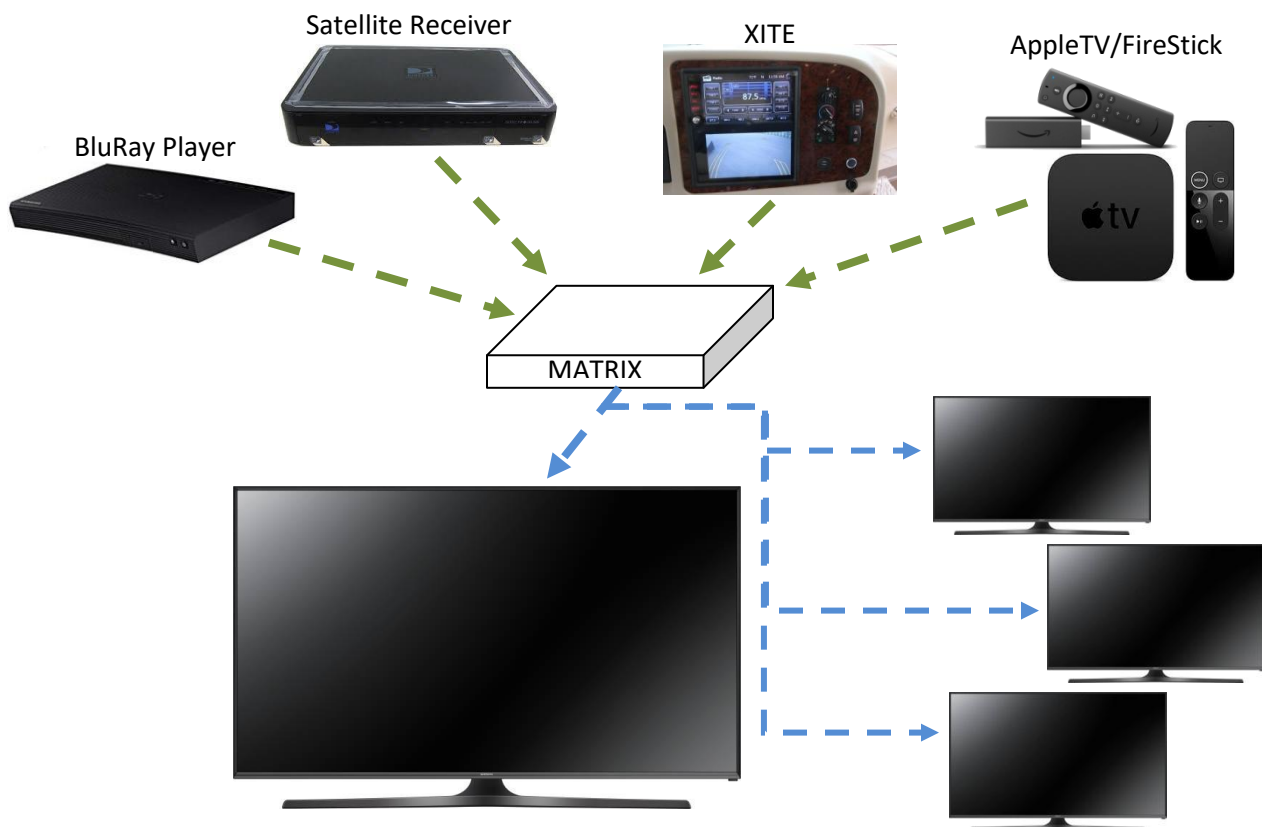
The Matrix - Theory

Imagine you have a DVD player, Satellite receiver, streaming video device (i.e. FireStick, Roku, AppleTV, etc.) and an audio player you all want to use on your television. But your television only has a couple ports on the back to plug stuff into. You would have to unplug the device you are not using to plug in the one you want in order to watch something – or plug a switch box into the television (the old A/B or 1/2/3/4 switches) and plug everything into the switch to feed the television. Then you just push a button to activate the signal from that device to the television and enjoy.

Now imagine you drive your living room down the road, at least some of the time, and your television is fixed into a cabinet – or on a televisor – so it won't fall over. Can't reach the plugs on the back to plug anything in, right?

The basic concept of the Matrix controller is to replace the mechanical selector box. It allows 4 devices (BluRay player, Satellite, XITE (dashboard) radio and an Auxiliary device (FireStick, AppleTV, Roku, etc.)) to be fed into one port on the back of the television (Entegra uses HDMI 1) so it has multiple different sources plugged in at the same time.

Unlike the mechanical switch boxes, however, the Matrix controller also has the benefit of sending that signal out to all of the televisions in the coach. Want to watch your DVD of "Cocktail" outside while enjoying a cocktail? Tell the Matrix to send the DVD signal to the outside television.

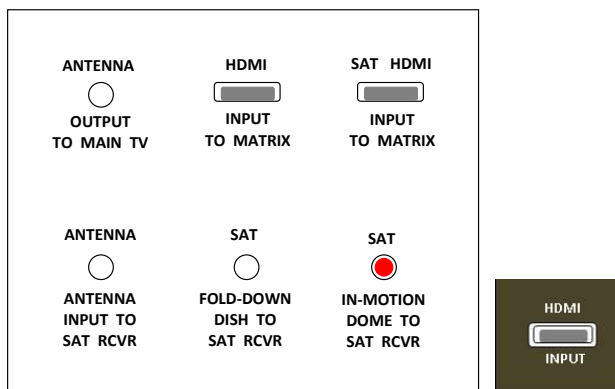


In theory, it's pretty slick. Unfortunately for a lot of us, it isn't intuitive.

We bought our coach (2018 Anthem 44A) from a private party so we didn't get much of a tour of how it all works. I have also read a lot of posts from people who purchased from dealers who also couldn't explain the Matrix to them. We went to the mother ship for our AIR and I took the opportunity to bother some smart people who had other things to do during their day. I'm a visual person, so I drew out all the components and PJ was very gracious taking time out of his day to help me connect the dots. I know the concept is the same for other coaches, and suspect the inputs are all similar although they are likely in different places or may change somewhat between model years (I don't think the company pays to have different plates cut and labeled for different coaches in the same model year).

Our components are all in a small cabinet to the upper right of our television. The BluRay player, Pepwave Surf Soho (wireless router), Winegard Satellite controller and a DirecTV receiver (if installed) are all crammed in this tiny cabinet. Seems like nothing else will fit.

However, BEHIND those components are two wall plates: a larger one (white plate, about 5" square) and a smaller one (black plate, about 1 ¼" square). The larger white one feeds the Matrix and living room television and the smaller black one feeds the living room television directly (HDMI 2) without going through the Matrix.



So how do you hook all the stuff up? Just **route the incoming call** (satellite, antenna, BluRay, etc.) **through the switchboard** (Matrix) **to the correct house** (television).



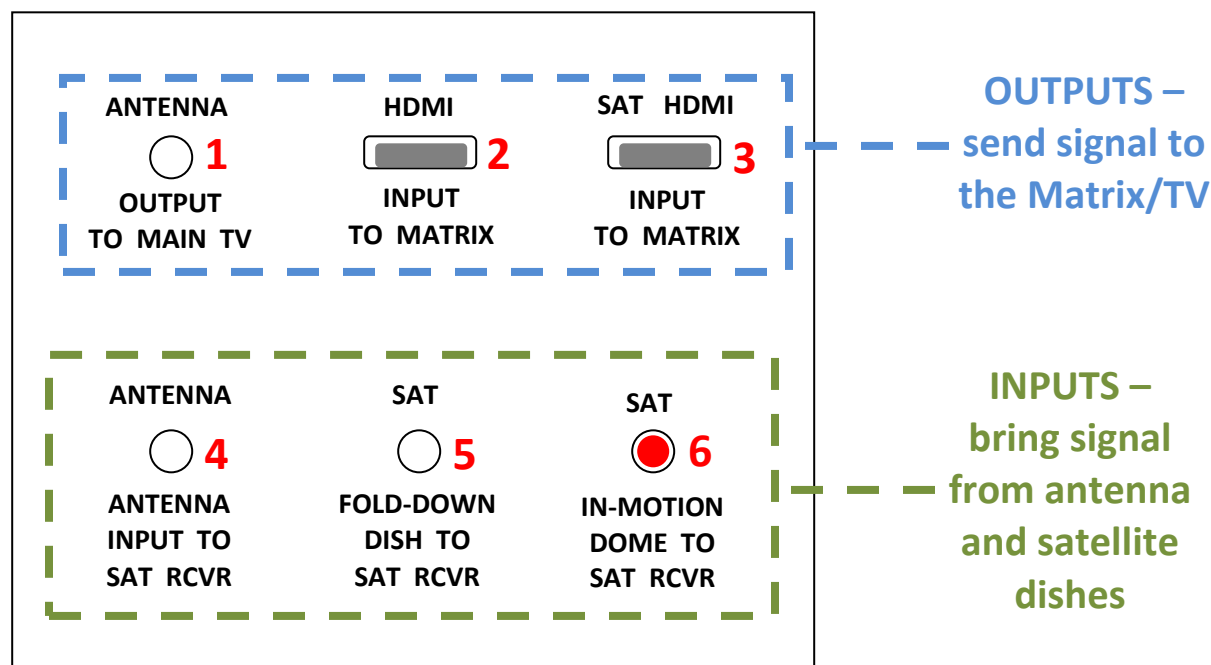
Easy! – uh, not really.

I am technologically self-sufficient – I can set up a computer, connect stuff in my entertainment center at home, set up a wireless router, etc. but the Matrix and coach wiring baffled me. I didn't know what was behind the panels, in the walls, where things went, etc. so I couldn't 'logic' my way through it without help.

I did find a lot of great help from everyone on IRV2, just not all in one place.

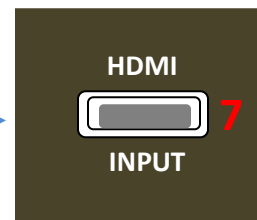
The Matrix – Inputs/Outputs (Feeding the Beast)

First, here's what the different ports on the two panels do:



****NOTE:** I call the top row **OUTPUTS** because they send signal **OUT** to the Matrix even though they are labeled differently on the panel.

OUTPUT –
sends signal directly – – – →
to television HDMI2
port (NOT the Matrix)



The large panel feeds the matrix, which then feeds the television(s). The small black panel bypasses the Matrix and only feeds the HDMI 2 port on the living room television.

On the white panel, the bottom row has the **INPUTS** coming from stuff mounted on the roof and the top row has all the **OUTPUTS** sending signal(s) to the Matrix (and eventually to the TVs). I'll address them a little backwards to follow the signal from its source to the television(s):

- 4** – The over-the-air antenna which picks up broadcast signals; AND EITHER
- 5** – The pop-up satellite dish; OR
- 6** – The in-motion satellite dish (whichever is installed).

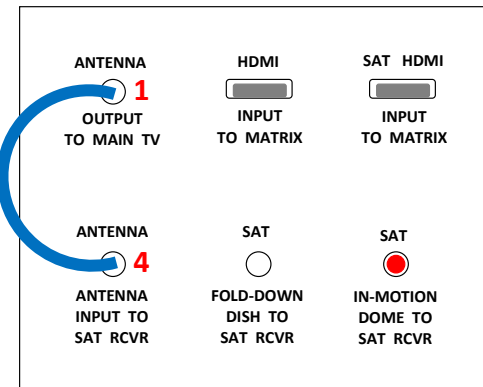
They are wired down to the back of this panel. You connect those “**INPUTS**” to the devices that “translate” the signal if necessary (like a satellite box), and send that translated signal to the “**OUTPUTS**” to get them to the television:

- 1** – The over-the-air antenna output to the television;
- 2** – The **AUXILIARY** output to the Matrix;
- 3** – The **SATELLITE** output to the Matrix.

The Matrix – Hookups

For over-the-air and cable television:

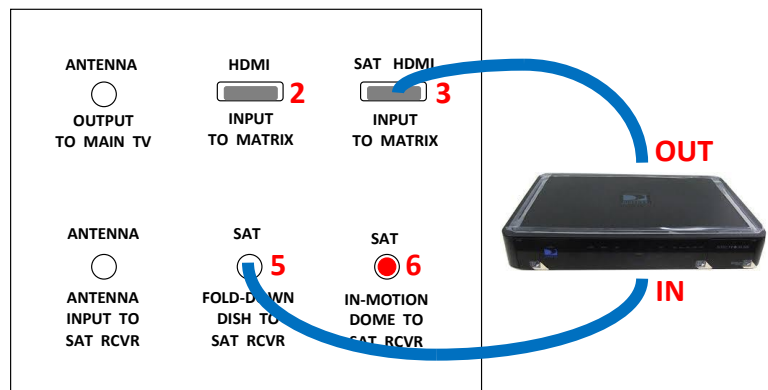
Connect the over-the-air antenna INPUT from the roof (**#4** – ANTENNA ANTENNA INPUT TO SAT RCVR) to the over-the-air antenna OUTPUT to the television (**#1** – ANTENNA OUTPUT TO MAIN TV). In our coach there is a small piece of coax cable attached to both points to make the connection. The television has a built-in tuner and you scan signals when you first arrive somewhere and the television stores the over the air and/or cable channels for as long as you're there. To watch over-the-air or cable television, use the TV Source button for the TV and select the Antenna/Cable input on the TV.



If you also have satellite, and want to see over-the air television without changing inputs on the television, you may have an option. If your DirecTV box has an over the air input on the back, you can plug the over-the-air antenna INPUT from the roof (**#4**) to the over the air input on the DirecTV box. Then your over the air signal can be found using the DirecTV.

For satellite television:

Connect the pop-up satellite dish INPUT from the roof (**#5** – SAT FOLD-DOWN DISH TO SAT RCVR) to the Satellite Receiver INPUT (i.e. DirecTV receiver in your component cabinet). THEN connect the Satellite Receiver OUTPUT (on the back of the DirecTV receiver) to the Satellite OUTPUT to the Matrix (**#3** – SAT HDMI INPUT TO MATRIX). This connects the dish on



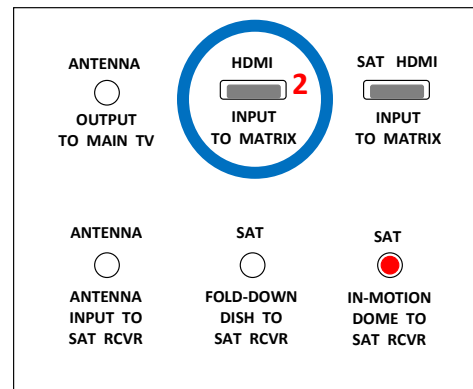
your roof, through the DirecTV box which decodes the signal, to the Matrix. The Matrix then sends that signal to the HDMI 1 port on the back of your televisions. To watch satellite (or BluRay DVD player or anything plugged in to the Auxiliary input - **#2** HDMI INPUT TO MATRIX), use the TV Source button for the TV and select the “HDMI 1” input on the television itself. Anything coming from the Matrix uses the “HDMI 1” input on the Television.

For In-Motion satellite television:

It's the same as the fold-down satellite, but it uses a different connection point to the dish on the roof. Connect the in-motion satellite dish INPUT from the roof (**#6** – SAT IN-MOTION DOME TO SAT RCVR) to the Satellite Receiver INPUT (i.e. DirecTV receiver in your component cabinet). THEN connect the Satellite Receiver OUTPUT (on the back of the DirecTV receiver) to the Satellite OUTPUT to the Matrix (**#3** – SAT HDMI INPUT TO MATRIX).

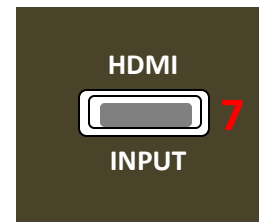
For Streaming devices (ROKU, AppleTV, FireStick, etc.) television:

Plug the device into the Auxiliary input (#2 – HDMI INPUT TO MATRIX). The Matrix sees this as the “Auxiliary” input and sends the signal to the HDMI 1 port on the back of your televisions. You’ll watch this using the “HDMI 1” input on the television itself. To watch the Auxiliary input (or BluRay DVD player or satellite), use the TV Source button for the TV and select the “HDMI 1” input on the television itself. Anything coming from the Matrix uses the “HDMI 1” input on the Television.



If you don’t want to watch this signal across all televisions (you don’t want the Matrix to send it to all the televisions), you can plug something directly into the television. “But the TV is mounted in the cabinet and I cannot access the HDMI ports, just like you pointed out at the start of this dissertation” you say?

Entegra already plugged an extra HDMI cable in to the television (HDMI 2) and ran it to the back of that small black panel next to the big white one. You can plug a streaming device, or something else, into the HDMI INPUT (#7). You’ll watch this using the “HDMI 2” input on the television itself. To watch the direct HDMI 2 input, use the TV Source button for the TV and select the “HDMI 2” input on the television itself. This does not feed the Matrix, so this will only be visible on the main television.



BluRay DVD Player/XITE (Dashboard) Radio:

You don’t need to do anything with the BluRay player or the XITE (dashboard) radio. They are hard-wired to the Matrix at the factory. You cannot disconnect them to plug in something else in their place (they use network cables with HDMI adaptors, so you’ll need more knowledge/ability than I have or am including here).

The Matrix – Routing (Sending the signal out)

So, now that everything is plugged in to the right places, how do we get the right signal to the right television? All you need to do is tell the Matrix which signal (DVD, Satellite, XITE or Auxiliary) to send to which television (1, 2, 3 or 4). To do that, we use the Matrix remote. Of course, ours is not labeled like either of these. Ours just has the power and 1, 2, 3, 4 numbers, but the one on the left is the closest match to our coach.



Editorial comment: there is no lack of frustration with the Matrix remote – myself included. I am simply listing out *how* it should work, not that it actually *does* work as designed. I have spent my share of time crawling into the cargo bay to see which selection the Matrix is set on in my coach, so I am certainly not a fan...

By default, the Matrix outputs the BluRay DVD player when it first turns on. After that, each press of the button for the TV you want to view on switches to Satellite, XITE radio, Aux Input, DVD player, repeat.

So, if you want to watch the satellite on the main television, turn everything on, and press the “1” button on the Matrix remote once to move from DVD to Satellite. If you want to watch the

DVD on the outside television, it should be set to DVD by default. However, if you want to watch the Satellite outside, press button “3” one time to toggle to the Satellite and enjoy.

From nearly everything I have read, the Matrix has a delay between pressing the button and the source input actually changing. In fact, the newer remotes even say it takes 8 seconds (see right image above). So be patient. I wait about 5-10 seconds after pressing the button before pressing it again. I also found my Matrix has one of the IR repeaters with it in the basement, so instead of pointing the remote down at the floor where I estimated the Matrix was under my feet, I actually need to point it at the IR remote “eye” to the left of my sound bar (the little blue light mounted in the cabinet face that flashes any time I turn the volume up or down).

In theory, the remote works. In practice, it doesn’t work often – at least for us. There is a way to avoid using the remote, but it only works for the main television and the front television (over the front seats). This will not work for the bedroom or outdoor television, so you’re stuck using the remote to have one of the front inputs display on those televisions. So what is this mystery anti-frustration device? The Vegatouch.

If you’re willing to get all the exercise standing up and taking 4 steps will get you, you can at least avoid crawling into the basement to see which input the Matrix is on when the remote doesn’t seem to be working. From the “living room” screen on your Vegatouch (the one with the little chair), you can control most of the functions of the Matrix.



To watch the Satellite on the main TV, select the “AV” on the left side of the screen and the “DIRECTV” icon in the bottom right. That tells the Matrix to OUTPUT the Satellite to the main

television. If you want to watch a DVD, select the BluRayDisc icon above it. That tells the Matrix to OUTPUT the BluRay Player to the main television. You can do the same for the front television from the FRONT TV button on the left side of the screen.

Unfortunately, you cannot select the Auxiliary input (FireStick, Roku, AppleTV, etc.) if you have it plugged into the auxiliary port as explained above. There is no selection for the Auxiliary input in the Vegatouch in the 2018 – or earlier, I assume – models. They did add it recently (possibly in 2019?), so that saves anyone with the money for a new coach from crawling down below – plus, they moved the Matrix upstairs avoiding the problem altogether. But, I digress...

In our coach, we do not use the Satellite after spending college tuition-level money on DirecTV at home over the years. So, we plugged our FireStick into the SAT INPUT TO MATRIX plug and watch our FireStick as if it was the Satellite feed. We can select it from the Vegatouch if the remote isn't cooperating, or if it is, route it from there to any television in the coach. This is a workaround for those of you who do not run a satellite.

That's it. I hope this gives some of you a more comprehensive understanding of how the entertainment system components are wired in the coaches and how the Matrix is designed to work. If you're not interested in all the theory, at least this gives you some idea of where to plug things in so you at least have the chance to watch what you want.

Good luck to you all, and thanks for all who weighed in over the past couple years to make this explanation possible.