

# PERSPECTIVE

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# WHO'S TALKING IN THIS ISSUE

**Claude Paré,** *Production Designer of SPIDER-MAN: FAR FROM HOME – page 85*

...for every location used, I visited an average of four more options. 141 sets later, I look back and realize how many discussions, false starts, hours designing and constructing sets, and travel were involved.



**Karen TenEyck,** *Graphic Designer for AD ASTRA, with Robert Yowell in the cockpit set of the Cepheus – page 56*

He looked at me somewhat suspiciously and politely, but... After hearing about Ad Astra's need for professional guidance, graphics-wise, he was eager to join the team.

**Beth Mickle,** *Production Designer of MOTHERLESS BROOKLYN, with one of the period billboards created for the film – page 77*

I submitted a budget understanding what most designers have learned from experience—we often send off these prospective art budgets for hopeful films that almost never come to fruition, but we keep our fingers crossed.



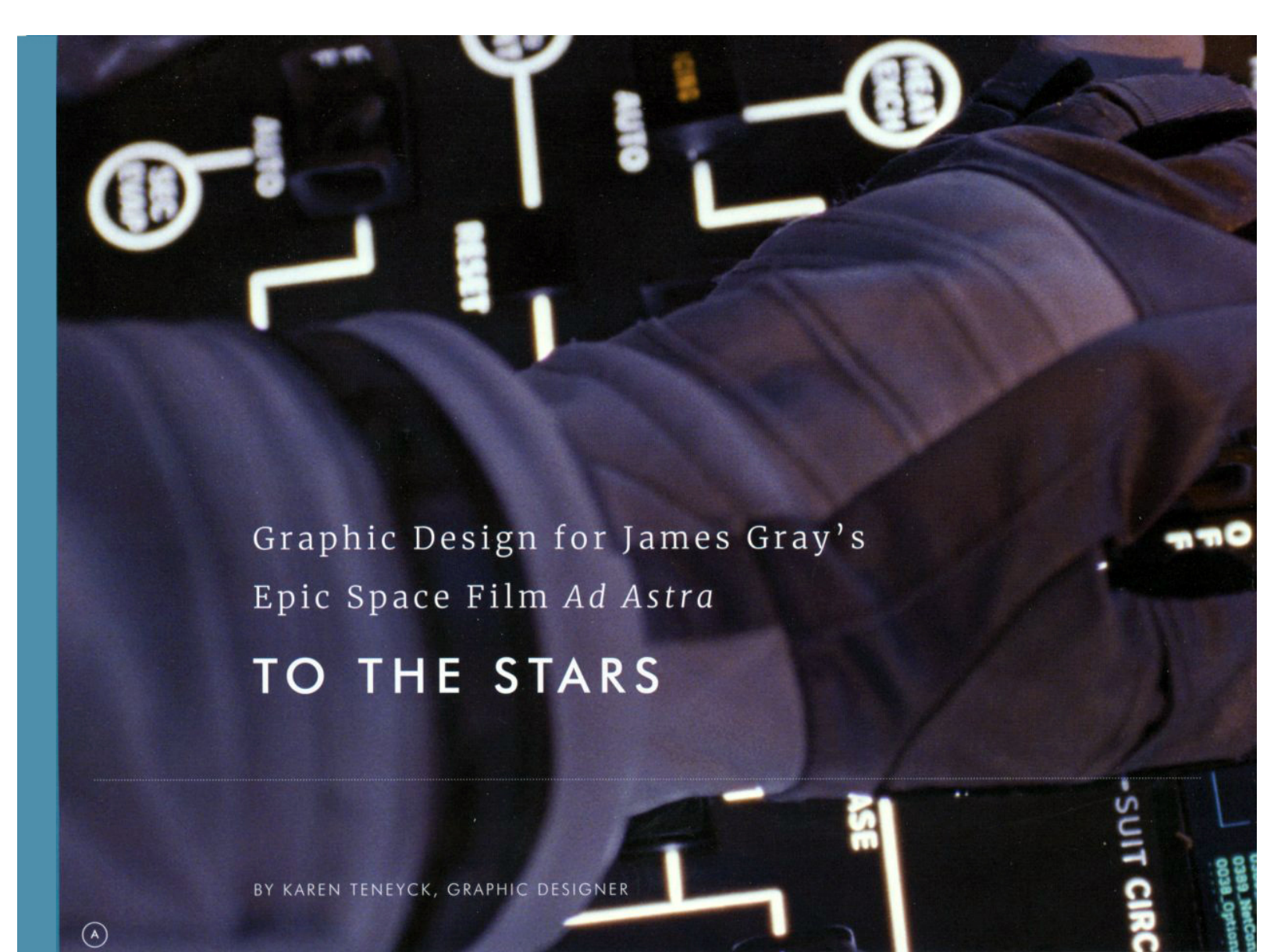
**Franco-Giacomo Carbone,** *Production Designer of RAMBO: LAST BLOOD – page 108*

The talent and commitment of all three cultures were never in question; it was all just a matter of style. In Spain, a two-hour lunch with perhaps a little vino is the norm. At first, it might have seemed that this would be at the cost of productivity. I discovered that the opposite was true.

**Marcus Rowland,** *Production Designer of ROCKETMAN – page 68*

In many ways, I find building sets easier, it massively increases your creative options and reduces the logistical problems associated with location shooting, give me a studio anytime.





Graphic Design for James Gray's  
Epic Space Film *Ad Astra*

## TO THE STARS

BY KAREN TENEYCK, GRAPHIC DESIGNER

A

*Ad Astra* tells the story of Roy McBride (Brad Pitt) who travels to the outer edges of the solar system to find his missing father (Tommy Lee Jones) and unravel a mystery that threatens the survival of our planet. Along the way, his journey will uncover secrets that challenge the nature of human existence and our place in the cosmos.







he wanted to depict a world where the inhabitants cannot rely on fancy computer splash screens. In space, when problems come up, an astronaut needs to be able to fix them by doing something mechanical—like changing a hose, replacing a broken part, flipping a switch—or else they could die in a matter of minutes. Gray wanted to highlight the real difficulties encountered living away from our beautiful planet. It was something of an uncommon approach because space movies usually follow two distinct paths. They are either historic recreations, or they are fantasy movies where the audience doesn't pay too much attention to the science that might have made the story's space travel possible. This film would be combining both those stylistic genres. I don't believe that Gray was saying that mankind shouldn't explore space, just that we should have no illusions of the hardships that await mankind if we think it will be easy to find another planet to inhabit if we destroy the one we were made for. As it has been put in recent years, "There is no Planet B."

#### Admitting I need help.

*Ad Astra* has three major spacecraft: The *Cepheus* (a U.S. Air Force spaceship that Roy uses to get to his father); The *Vesta* (a Norwegian ship) and The *Lima Project* (where Roy's father has been doing scientific experiments for thirty years in the farthest reaches of the solar system). Other space vehicles included the lunar shuttle, which transports scientists and tourists between the Earth and Earth's Moon on a regular basis, and lunar

and Mars rovers. There was also a pre-flight station for testing airflow in an astronaut's space suit.

I knew that the graphics on this film would be all about ensuring authenticity in the tiny details that add believability to the set—like navigation and life-support panels on spacecraft and rovers; and mall advertisements which showed the touristy side of space travel. In my work, I've always been a pretty independent person, but for *Ad Astra*, I knew I would need help. From a technical standpoint, I didn't know really anything about space. So, I set out on my own to find a consultant.

There is a great resource here in Los Angeles at the California Science Center, where the space shuttle *Endeavour* is on display. I knew that the cockpit of the shuttle was a major influence for Production Designer Kevin Thompson when he created the look of the *Cepheus*. I decided to make my way to the Center, where I spied an official-looking man who was conducting a private tour. I surreptitiously followed him around, like a CIA spy, to get a feel for who he was and whether he might make for a knowledgeable consultant for *Ad Astra*. After forty-five minutes, I was pretty sure I'd found the right person so I slipped him my business card. He looked at me somewhat suspiciously and politely but adamantly told me I could not join his tour. He did agree to speak with me later, which we did. After hearing about *Ad Astra*'s need for professional guidance, graphics-wise, he was eager to join the team. Thus began a great friendship, one that saved me on this project.

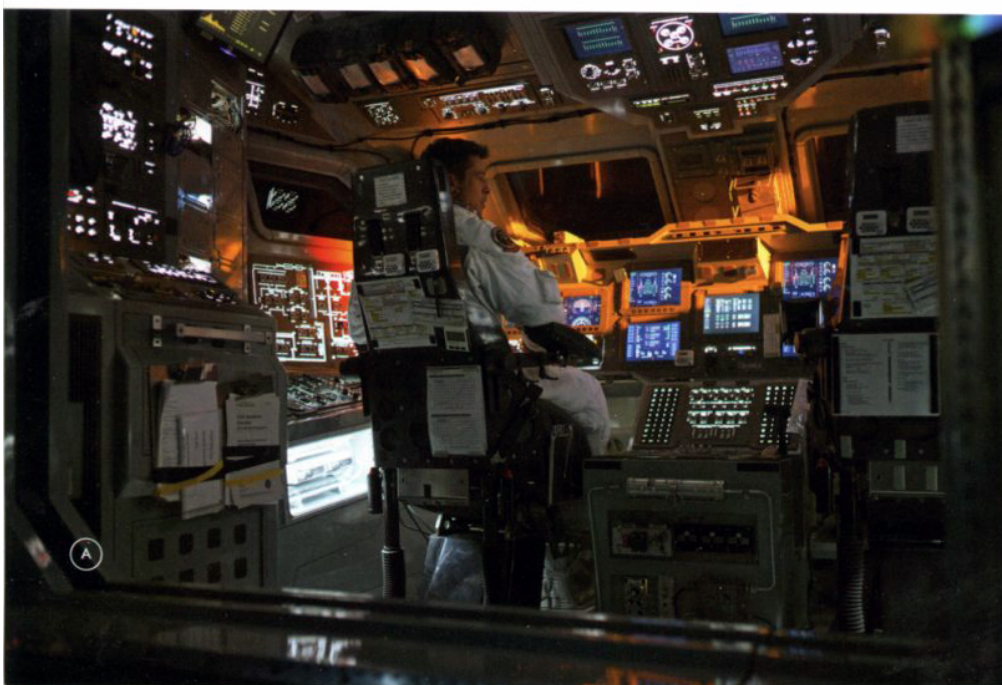
We joke about our initial interaction, as—thanks to *Ad Astra*—he has since become a consultant on a few other space films. His name is Robert Yowell and he has worked for NASA as a space shuttle flight controller in Mission Control, for Space X, and for the U.S. Air Force. He just loves space and had the perfect temperament to work on the film: extremely knowledgeable but understanding that we were making a movie and he would need to be flexible. I spoke with *Ad Astra*'s first assistant director, Doug Torres, about hiring Robert and he readily agreed he was needed. We knew that *Ad Astra* would be a complicated project.

**A.** BRAD PITT AS ROY SITS IN THE *CEPHEUS* COMMAND CENTER. PHOTO BY FRANÇOIS DUHAMEL.

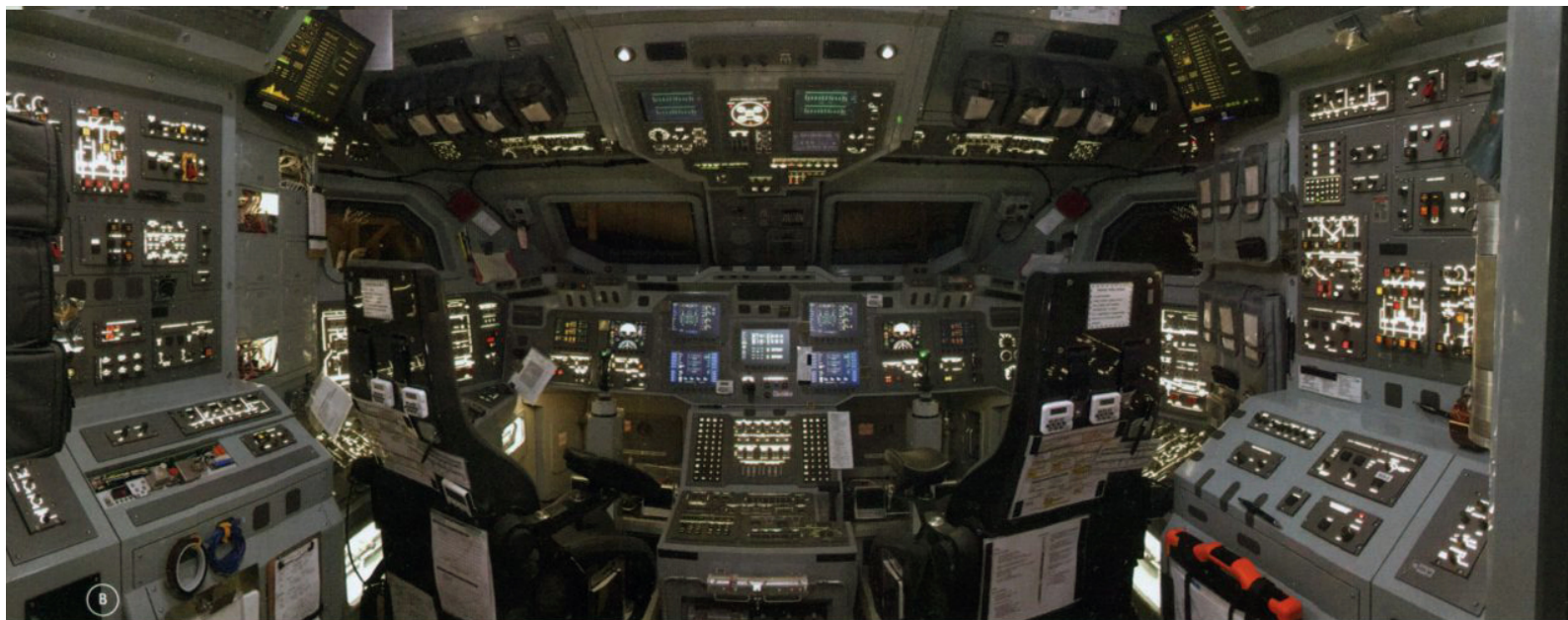
**B.** THE COCKPIT OF THE *CEPHEUS*. I CREATED 90% OF THE BACKLIT PANELS FROM RESEARCHING THE SPACE SHUTTLE *ENDEAVOUR* VIA A SPHERICAL PANORAMA THAT I FOUND ON THE LOS ANGELES TIMES WEBSITE. PHOTO BY KEVIN THOMPSON/CHRISTA MUNRO.

**C.** *CEPHEUS* COCKPIT FUEL SYSTEM PANEL. GRAPHIC LAYOUT.

**D.** *CEPHEUS* MISSION PATCHES. BASED ON AN ILLUSTRATION THAT CAME FROM AN OLD GREEK VASE GIVEN TO ME BY DIRECTOR JAMES GRAY. GRAPHIC LAYOUT.



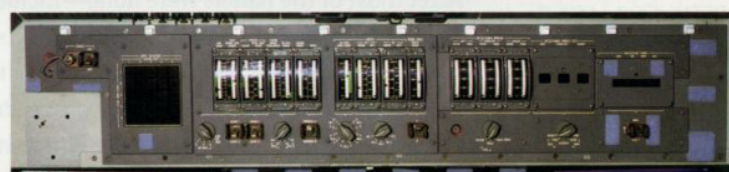




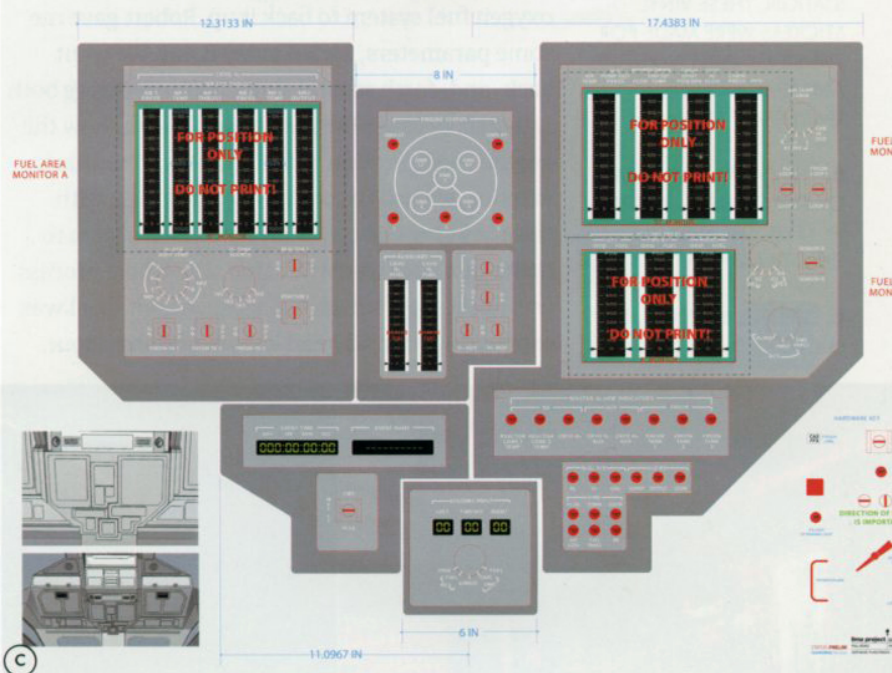
### The cockpit of the *Cepheus* spaceship.

I often get a quizzical look when I talk about my job as a Graphic Designer in film. But graphic needs in the real world also need to be done in a movie that is attempting to depict an imagined world. Sometimes that means creating an ad campaign for a fictitious business. Or a new language. Or a map that is followed throughout the story. Graphic Designers create specifics, scripted and otherwise. People will often be able to read what we put on the set, and so the words we type need to be accurate. When we do research, we need to be able to see what is written, not just the general shapes of things. If the words are too fuzzy, it doesn't help me that much.

Nowhere is this more important than in a technical movie. For *Ad Astra*, all the ships would have many instrument panels for which I'd need to create detailed labels and schematics, as well as portray a general understanding, for audience members, of how they worked together. I didn't want to use fake terms, jargon or clichéd language like "thruster," "accelerate" or "emergency." I had been tasked to create a graphic vernacular that would ring true. Although there are a lot of photos of the interior of the *Endeavour*—which the Set Designers used for inspiration—I could not find a photo anywhere that showed what all the panels actually said. For weeks, Robert and I looked everywhere. We couldn't come up with a good photo of the entire cockpit in which we could read all the words. The morning that I was supposed to start work on the *Cepheus* cockpit, I was in such



CEPHEUS: FLIGHT DECK - CEILING PANEL CENTER (P5 FUEL)  
FULL SCALE



C



D

MAKE 3 EACH ON WHITE VINYL AND CUT OUT PERIMETERS



a panic that my heart was racing. I did one more online search and by some miracle, I finally found it. I don't know what I did differently but suddenly a spherical panorama of the *Endeavour* control panels came up on the *Los Angeles Times* website (thank you, reporters), in which I could move the 'camera' around and read virtually every panel. I cannot tell you the relief I felt. Working with the Set Designers to move a few things around, I transferred the *Endeavour* information to the panels they had created. I'm sure the result is not "NASA perfect," but I'm confident that when the camera catches part of it in the tiny jewel box space, it will look legitimate.

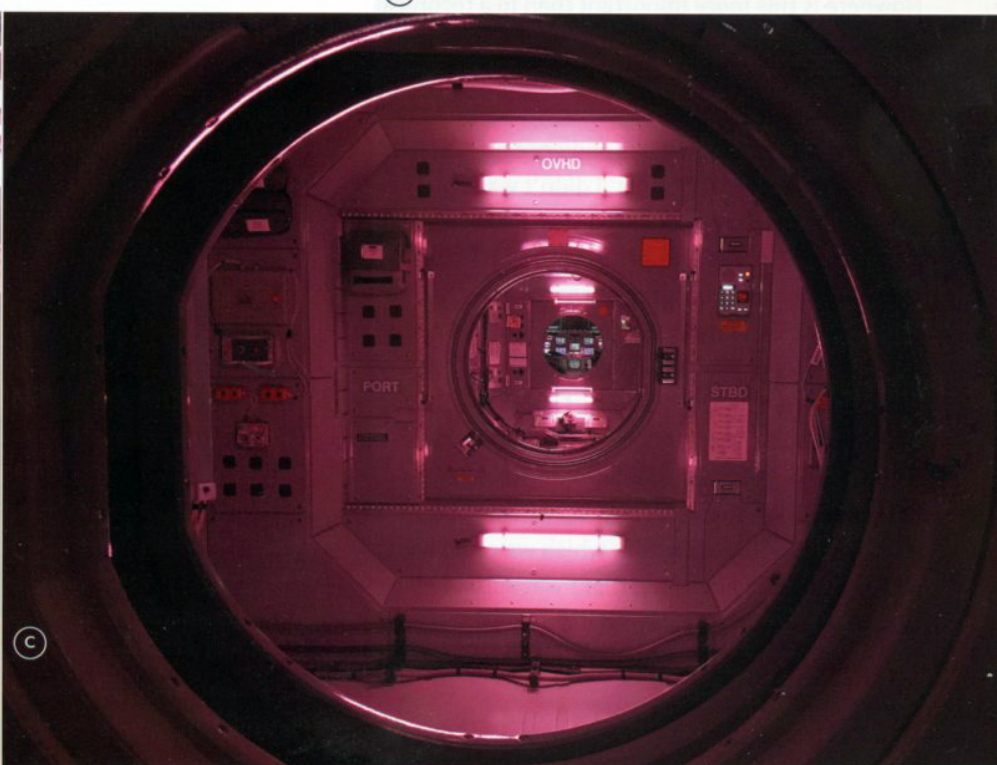
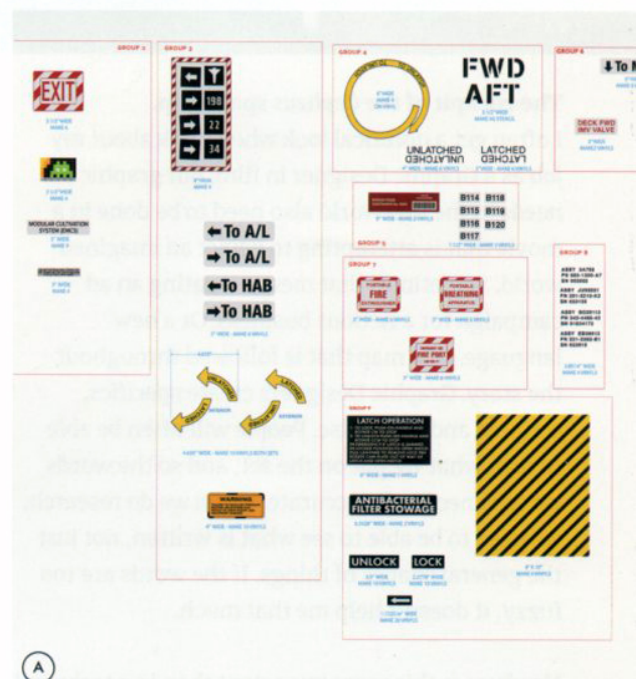
Robert not only helped the Art Department but the actors as well. As I was working on the cockpit, it became clear that if we had done all the panels correctly but protagonist Brad Pitt didn't know how to use them properly, all our work would have been for nothing. I decided to ask 1st AD Doug Torres about the possibility of Robert showing the astronauts of *Ad Astra* how to use the controls. This worked so well, it even got to the point where Brad was communicating with Robert frequently with questions like, "Do they chew gum in space?" And, yes it turns out they do.

**A.** DETAIL OF A LAYOUT SHEET SHOWING SOME OF THE MYRIAD LABELS TO BE USED IN THE SPACECRAFT FOR INSTRUMENTS AND WAYFINDING SIGNAGE. USING RESEARCH FROM THE INTERNATIONAL SPACE STATION, THESE VINYL STICKERS WERE MADE FOR THE STAGE-BUILT CEPHEUS AND LIMA PROJECT SPACECRAFT SETS.

**B.** THE EXPERIMENT AREA OF THE CEPHEUS. PHOTO BY KEVIN THOMPSON/CHRISTA MUNRO.

**C.** CEPHEUS INTERIOR. SET PHOTO.

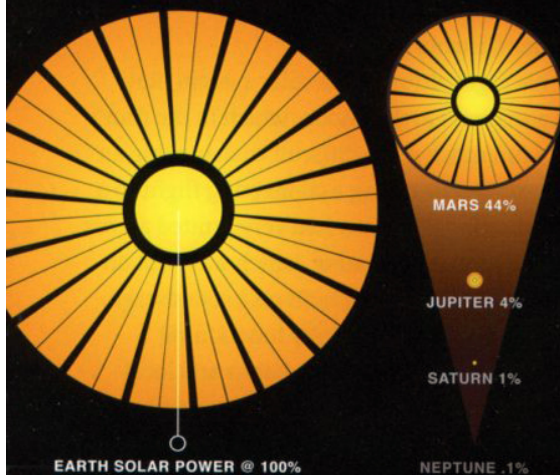
After most of the panels were done—including the electrical system, atmospheric controls and navigation—Robert and I set about trying to figure out how to depict the fuel system. Since the *Cepheus* was to be a spaceship traveling farther than any manned ship had ever gone, we settled on a nuclear system with a traditional hydrogen/oxygen fuel system to back it up. Robert gave me some parameters, I tried to lay it out. We went back-and-forth several times before we were both satisfied. Because the panels would also show the engine configuration at the bottom of the ship's exterior, we had to coordinate our design with the one being done by the visual effects team to make sure they were the same. The whole process was immensely satisfying because I felt like I was conquering a world I had known nothing about.





## MARS: SOLAR ENERGY

While solar energy is lower for Mars, the Sun is still used as a natural resource for power. Compared to Earth, the Sun's intensity on Mars is 44%. On Jupiter, it is only 4%. On Neptune, it is ~0.1%, since it is 4.3B kilometers from Earth. Therefore, the further out you travel, the less light, and therefore the less solar energy, you can harness.



(D)

## ATMOSPHERIC PRESSURE

The atmospheric pressure on Mars is far below (1/100th) the limit at which people can survive without pressure suits. Since terraforming cannot be expected as a near-term solution, habitable structures on Mars have been constructed with pressure vessels similar to spacecraft. Without a special pressure suit, our organs will push out against your skin. Don't try it!



(F)



(E)

## Mars Command Center & Museum

In addition to the California Science Center trip, I also took the annual tour of the Jet Propulsion Laboratory (JPL) in La Cañada, CA, which specializes in unmanned space missions. I learned some things there that came in handy while working on *Ad Astra*. For example, in the Mission Control Center for the Deep Space Network room, there's a display of the three bases on Earth where satellite arrays make it possible to communicate continually with JPL's various missions as the Earth and other planets change position in space. For *Astra*, I was tasked with doing a similar array for the film's fictitious Mars communication center. I recalled, from my tour, that the Earth bases are located in Australia, Spain and California so that one of them is always facing in the correct direction to send its signal to the receiver. I looked at a map of Mars and chose similarly distant locations on that planet, which had been colonized by the time the film takes place. For that same scene, I also needed to figure out how to display time across Earth, Mars and planets farther out in the solar system, which all have different day rotations and trips around the sun. I found out all space time is coordinated as Earth UTC (Coordinated Universal Time) so the command center shows this time accurately.

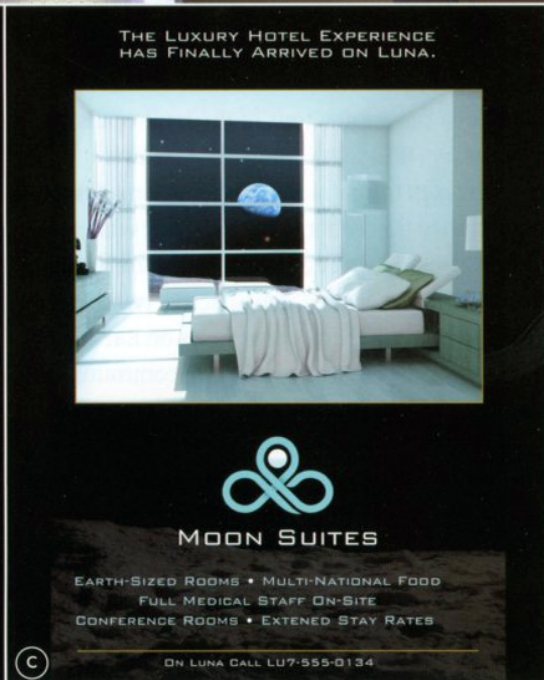
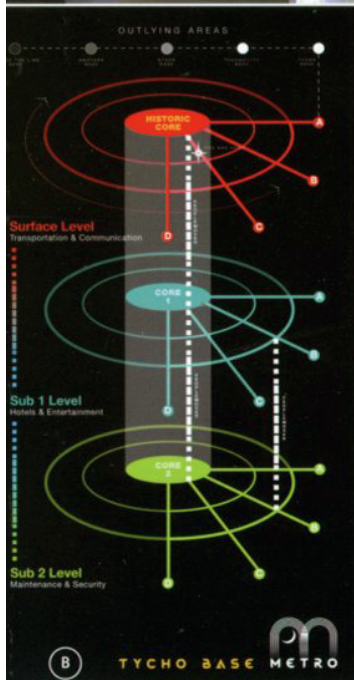
On the Mars of *Ad Astra*, there is a small museum that travelers can visit upon their arrival. For this scene, I needed to design eleven backlit panels

**D.** MARS MUSEUM INFORMATION PANEL. GRAPHIC LAYOUT. ONE OF NINE INFORMATION BOARDS FOR THE MARS MUSEUM. THIS ONE EXPLAINS THE AMOUNT OF SUNLIGHT THAT REACHES OTHER PLANETS IN THE SOLAR SYSTEM.

**E.** MARS MUSEUM INFORMATION PANELS DESCRIBING THE STORY OF THE COLONIZATION OF THE PLANET AND VARIOUS OTHER SCIENTIFIC FACTS FOR VISITORS. SET PHOTO.

**F.** MARS MUSEUM INFORMATION PANEL. GRAPHIC LAYOUT.





**A.** LUNAR SHUTTLE INTERIOR. PHOTO BY KEVIN THOMPSON/CHRISTA MUNRO.

**B.** KIOSK MAP FOR THE LUNAR LANDING CONCOURSE. BASED ON AN EXTERIOR CONCEPT ILLUSTRATION. GRAPHIC LAYOUT.

**C.** MOON SUITES AD. GRAPHIC LAYOUT.

for set decorator Karen O'Hara that showed the history of Mars' colonization. That history was not in the script so I had to imagine it on my own. What made this fun was that it presented an opportunity to provide some interesting space facts for the actors and crew while we were shooting. Using artwork from Thinkstock and graphics that I put together from research, I was able to show that while Mars receives about 44% of the Sun's light when compared to Earth, Neptune only receives .1%—so it wouldn't be possible to use solar energy effectively far out in the solar system. I was also able to show

Earth's place in the galaxy and the differences in atmospheric pressure between Mars and Earth and how that would affect any humans who lived there. Another panel featured how to grow food on Mars using hydroponics with a water pipeline from the Martian northern polar ice cap, similar to an oil pipeline on Earth. The panels were also reformatted into brochure info cards for "travelers" to take with them.

### The Lunar Concourse

Before his flight through the solar system, Roy makes a stop on Earth's Moon, which in the film's future is not much more difficult than making an airport stop before taking a connecting flight to a final destination. The crew had very limited access to *Ad Astra's* lunar concourse, which was shot on location rather than being built on a soundstage, yet it needed to look like a fully functioning transport center—with stores, banks and local transportation. There were quite a few existing signs that had to be covered up at the location, and additional signage was needed to fill out the space. So, I came up with a practical solution, using augmented reality, that would also work well for the story. Augmented reality is where things are seen as a digital overlay, like a hologram, but not there in reality. Currently, special glasses are needed to view augmented images, but in the future they might not be. Since transporting and building physical advertising on the Moon would be expensive, I felt that augmented reality might actually be the way it would be done. I had seen a YouTube video that showed an over-the-top version and cautiously pitched it to Kevin Thompson. The idea was accepted and we then made deals with several actual companies to give the scene a sense of authenticity. Visual effects would fill in the gaps where necessary due to location constraints.

Another project for the lunar concourse involved a bin that held special glasses that would be used to protect the characters' eyes. I thought about how humans are living longer these days and, presumably, would live even longer in the future. I then came up with an ad campaign—"Longer lives need healthy eyes"—and created the logo for a company I called "Macula Optics," which





supplied the glasses. There were also graphics for other “tourist” activities, like the simulation ride Journey to Saturn, a plywood cutout astronaut used at a photo-op kiosk and information about the Luna Museum. (On a side note: while researching the project, I discovered that the Earth’s Moon does not have any other official name other than “Moon.” This seemed a bit disrespectful to me, since all the other planet’s moons do have official names, for example, Jupiter’s moon, Europa.)

One interesting aspect of designing graphics for films is the opportunity to flesh out a world that the audience only sees a small part of. One way to do this is with maps. For the Moon, I made a diagram of the entire transportation system similar to a subway map on Earth which showed the audience how much had been colonized. Looking at a map of the Moon in conjunction with the script, I selected transit-stop locations along the route. The map was then put into monitors on kiosks at the location by 24 Frame Video consultant Monte Swann and his team.

### A plethora of patches.

No space movie exists without a few mission patches. For *Ad Astra*, these needed to be created for both the spaceships and the space stations. Again, thinking about space in the future, I created artwork that showed all the past missions that each vehicle had been on, asking myself what possible phases of exploration and scientific



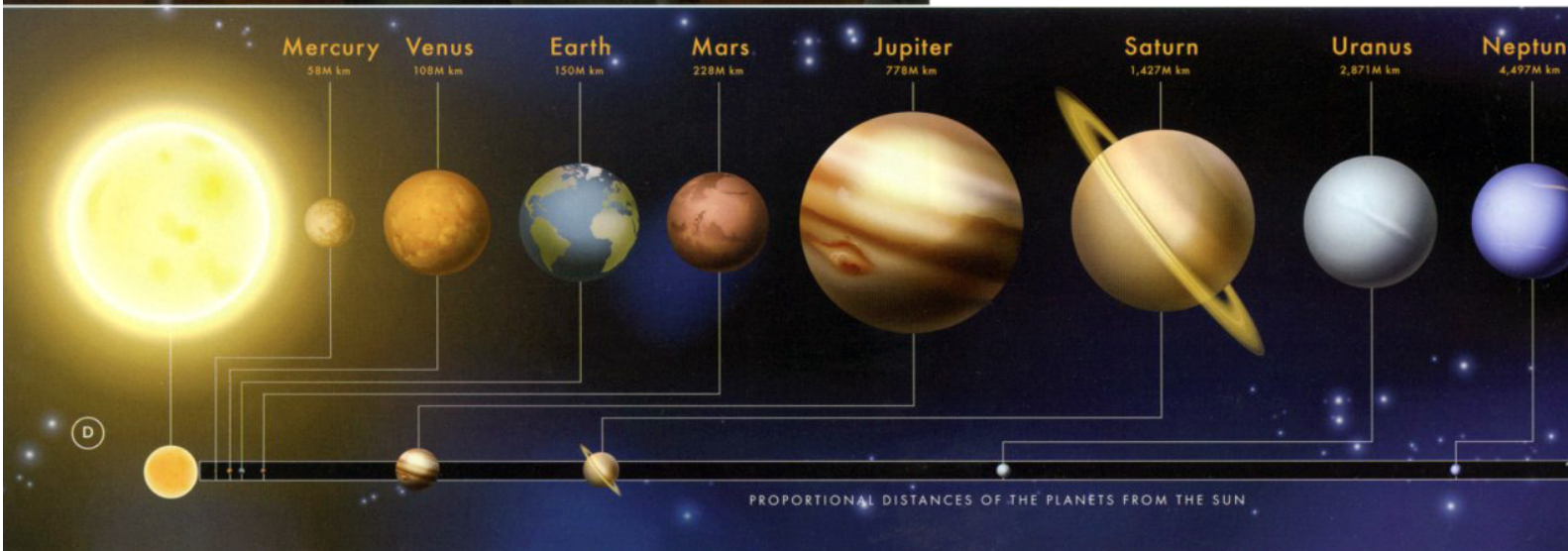
**D. CEPHEUS MISSION**  
PATCHES SHOWING THE  
HISTORY OR EXPEDITIONS  
IT HAS TAKEN. GRAPHIC  
LAYOUT.

**E. NASA PROTOTYPE AND  
SPACECOM PATCHES FOR  
COSTUMES. GRAPHIC  
LAYOUT.**

**F. VESTA DOOR DETAIL. SET  
PHOTO.**

**G. WHAT’S RIGHT-SIDE UP  
CAN BE UPSIDE DOWN  
IN SPACE AS SHOWN IN  
THESE CONTROL PANELS  
AND MONITORS IN THE  
NORWEGIAN SPACESHIP  
VESTA. SET PHOTO.**



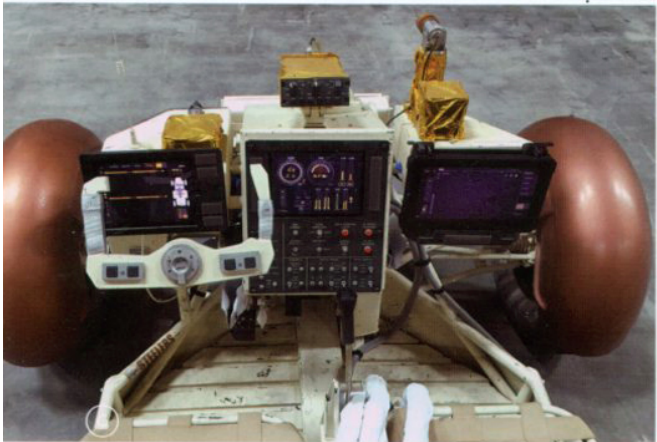
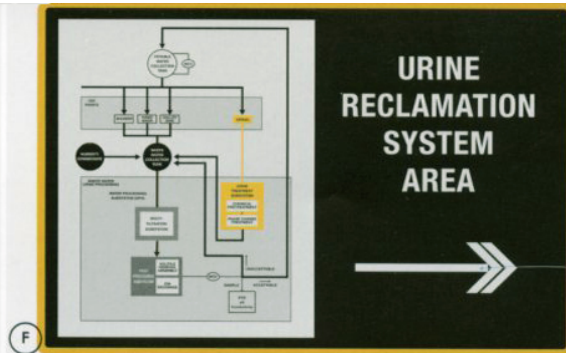
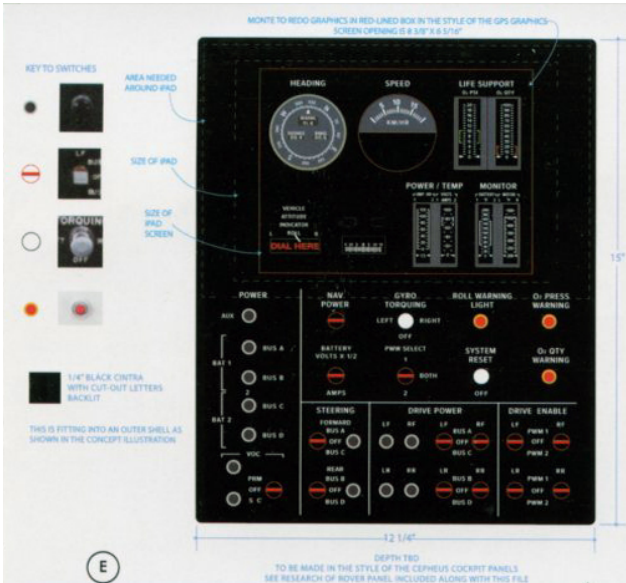


development had taken place to get them to their current point. The mission patches were on costumes, on display at offices on Earth and placed in the various ships. The production tried for a long time to get NASA's consent to even mention the agency's name in the movie. I even designed what I thought was a pretty good alternate for their iconic logo, but in the end, we had to go with the defunct Spacecom (US Space Command), which was a part of the U.S. government that we could use without restriction. Ironically, on August 29 of this year, Spacecom was reactivated for the first time in seventeen years. It was disappointing that NASA did not want to have their identity used in the film, but I get it. They are real scientists, not filmmakers, and were concerned about their identity being used in any potentially violent scenes.

### Other Projects

There were so many other projects on this that I can't go into detail here. These included vehicles, smaller spacecraft, conference rooms, government offices, a terraforming lab and the AREC station which was tethered to the Earth using super strong nano-structured building materials and sent solar energy back to Earth. But, hopefully, I've provided a small window into the world of *Ad Astra* from the Graphic Designer's perspective. It was a wild, sometimes scary ride, but it left me thirsty to do another science movie. Maybe some of my father's DNA was passed down to me after all. **ADG**





**A.** MARS COMMAND CENTER COMMUNICATIONS BOARD DISPLAYING SATELLITE AND TIME INFORMATION GRAPHIC LAYOUT.

**B.** MARS COMMAND CENTER. SET PHOTO.

**C.** STROUD (JOHN FINN) STANDS IN FRONT OF THE FORT CARSON CONFERENCE ROOM INFO BOARD. PHOTO BY FRANÇOIS DUHAMEL.

**D.** FORT CARSON CONFERENCE ROOM SOLAR SYSTEM DIAGRAM. GRAPHIC LAYOUT.

**E.** LUNAR ROVER NAVIGATION PANEL. GRAPHIC LAYOUT.

**F.** URINE RECLAMATION CYCLE SHOWN IN A CHART FOR THE MARS LOUNGE. GRAPHIC LAYOUT.

**G.** THE DASHBOARD OF THE LUNAR ROVER. PHOTO BY MONTE SWANN.

**H.** LIMA PROJECT HYDROPONIC FOOD LABELS. SET PHOTO.

**I.** LIMA PROJECT SEED BANK. SET PHOTO.

**J.** LIMA PROJECT SHIP LIVING QUARTERS. PHOTO BY KEVIN THOMPSON/CHRISTA MUNRO.

Kevin Thompson, Production Designer  
Christa Munro, Supervising Art Director  
Kevin Constant, Dave Scott, Gary Warshaw,  
Art Directors  
Sandra Carmola, Alison Sadler,  
Assistant Art Directors  
Sarah Contant, Tim Croshaw, Scott Herbertson,  
Noelle King, Lauren Polizzi, Anne Porter,  
Easton Smith, Trinh Vu,  
Set Designers  
Karen TenEyck, Graphic Designer  
Karen O'Hara, Set Decorator