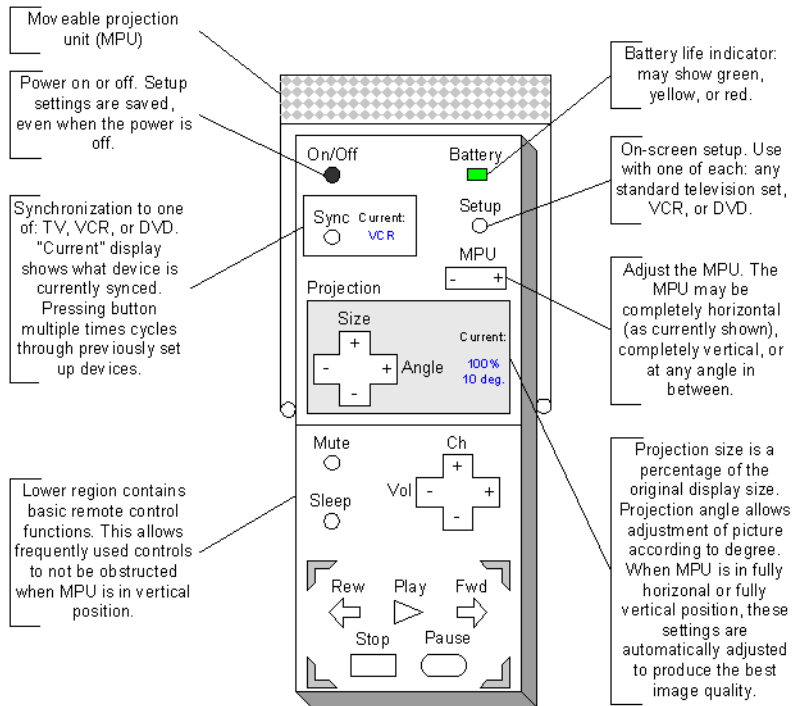


Description of the ImageCast 100

Have you ever been watching a rented movie or a favorite television show in your living room, but discover that you need to do something in the kitchen? If you are watching a rented movie you might pause it, but the pause feature on some VCRs (and even on some DVDs) may automatically shut your movie off if paused for “too long,” causing you some grief when you want to restart it. If you are watching a television program, you might wait for a commercial, but then you have to worry about getting back in time for when the show begins again. Wouldn’t it be wonderful if you could take that movie or television show with you while you moved from room to room? Well, now you can, with the amazing ImageCast 100™!

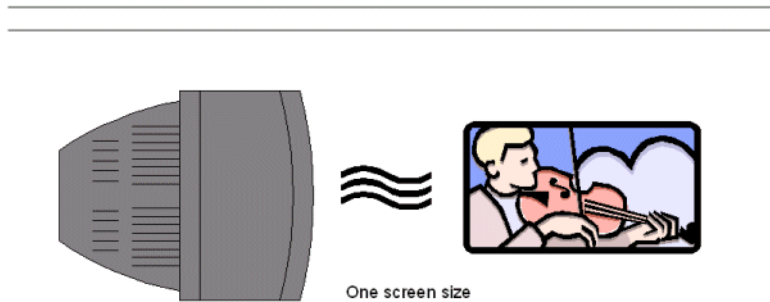
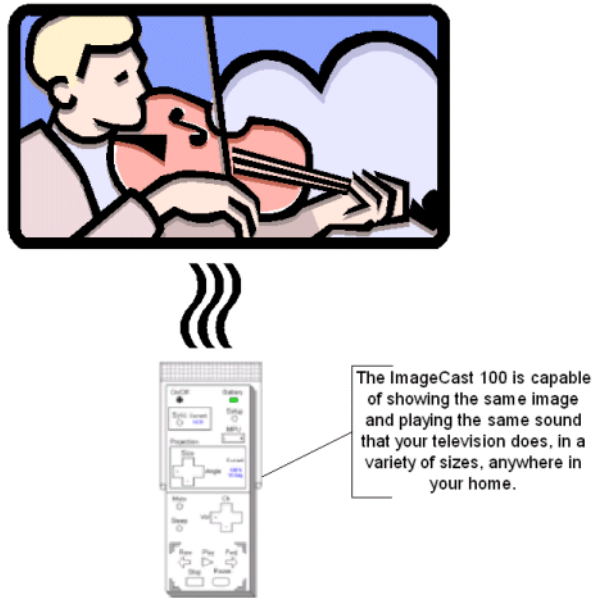
The ImageCast 100 is a wireless, portable device the size of a remote control (see Figure 1) that makes movies and television shows mobile. The ImageCast 100’s built-in, moveable projection unit (MPU) eliminates the need for you to purchase additional televisions or other electronic devices for each room in your home.

Figure 1 Preliminary Sketch of ImageCast 100 with Annotations



Watching an interesting TV show but need to start dinner? No problem. Just point ImageCast 100 at your television, synchronize the program, walk to your kitchen and point the ImageCast 100 at any flat surface, adjust a few settings, and viola! You won't miss but a minute. You can set the ImageCast 100 to make your shows and movies take up an entire wall, or make them fit on a kitchen cabinet (see Figure 2).

Figure 2 The ImageCast 100 Has Multiple Projection Settings



The ImageCast 100 contains a microchip that allows you to use it with any standard television set (including those with cable boxes), VCR, or DVD player. Plus, the ImageCast 100's mini speaker system produces high-quality sound, and can be used with or without earphones (not shown).

What's more, the moveable projection unit (MPU) even allows you to use ImageCast 100 while in bed! Just press a button to move the MPU to the vertical position, and you'll be watching movies displayed on your ceiling in no time! (Don't forget to set the sleep timer though, or you may wear down the ImageCast 100's AAA batteries.)

3-D Paper Prototype

A 3-D representation of the ImageCast 100 is submitted with this document.

Experiential Testing

Experiential testing of the ImageCast 100 will include one typical use case and one use case with a potentially problematic situation. Both use cases assume that the user has previously set up the ImageCast 100 to work with their television, VCR, or DVD player.

Typical Use Case

Jack is watching the 11 o'clock news on TV and starts to get sleepy. And the sofa his mom gave him? Man, it may be free, but it's uncomfortable! No chance of lying down there. Jack gets out of his lazy-boy recliner and finds the ImageCast 100. He turns it on, presses the "Sync" button until the display reads "TV," then walks into the bedroom. Jack crawls into bed, places the ImageCast 100 on the pillow next to him, adjusts the MPU with the size/angle controls, sets the sleep timer, and he's got it! The news is projected onto the ceiling, allowing Jack to watch as he drifts off to sleep.

Problematic Use Case

Loretta is watching an NHL hockey game. But this is not your everyday hockey game—it's the Colorado Avalanche versus the New Jersey Devils in Game 7 of the Stanley cup finals! Loretta is extremely excited and in a state of both panic and suspense. Suddenly, Loretta gets hungry. She wants to go into the kitchen and make some of that buttery, stove top popcorn. Therefore, Loretta picks up the ImageCast 100, turns it on, points it at the television, presses the Sync button until the display reads "TV," then runs into the kitchen. She then places the ImageCast 100 on the stove (away from the burners of course), points it toward the refrigerator (which is next to the stove), adjusts the MPU with the size/angle controls, and she's got it! Game 7 is projected onto the side of Loretta's refrigerator, and she only missed a minute.

Loretta is obviously very excited to be able to take Game 7 with her *and* still make her popcorn. She puts the popcorn on the stove, and thinks she's shaking it back and forth according to the instructions (heck, she's made popcorn like this many times before). But Loretta can't seem to take her eyes off the puck. And now a big fight has broken out! It's incredible! Loretta's in a trance over this game, but her trance will soon end when she notices that the popcorn has burst into flames. As Loretta is putting the fire out, she will miss the final goal of the game, *and* have to make her popcorn all over again (if the fire hasn't temporarily scared her from trying again).

Observations

Just writing the scenes for the experiential tests pointed out several problems with the ImageCast 100. If Jack takes the ImageCast 100 to bed and it relies on the image displayed on his television in the living room, how does the television get turned off? What if Jack had a wife who was watching a different program? Would she need to be using a separate TV, VCR, or DVD? What if Jack rolls over on the ImageCast 100 after the sleep timer has shut it off? Similarly, what if the ImageCast 100 got warm from Loretta placing it on the stove? (Gas stoves are often warm even when the burners are not on.) The ImageCast 100 would have to be able to withstand the environmental hazards that come with being a mobile device.

Another issue is the number of steps Jack and Loretta have to go through to use the ImageCast 100. If the point of the ImageCast 100 is not to miss much of the show or movie, perhaps some of the steps should be automatically completed by the ImageCast 100 itself, instead of requiring the user to make the adjustments.

After carrying ImageCast 100 around, it also became clear that the MPU portion of the ImageCast 100 would need to be particularly durable. Moving parts always have a high chance of being easily broken, then lost. Perhaps the MPU is permanently placed in the middle of the ImageCast 100 (encased in a housing of some sort), and just moves within that casing instead of being an external, movable component.

It has also become apparent that users will have *yet another* remote control-type device to keep track of. Having the ImageCast 100 would make 5 for me. Since (like many other remote controls) the bottom portion of the ImageCast 100 contains the same controls for basic operations, perhaps the ImageCast 100 could be built to simply “plug in” to an existing remote control, rather than be manufactured as a separate device.

There are countless other issues that arise when considering the ImageCast 100 as a consumer product. For example, if I take the ImageCast 100 out on my patio where the sun may be bright, how will the image projected by ImageCast 100 be affected? Should it be for indoor use only? These are all questions that need to be answered within the context of the product's use.

Perhaps more importantly, it would be interesting to see how a representative sample of potential users reacted to a device like ImageCast 100. Perhaps there is nothing so important on people's televisions that they can't wait for a commercial, and perhaps the pause features on existing devices are enough. The market demand for ImageCast 100 might be too low to offset technology and manufacturing costs, much less result in profit for its creators.