

# Searching for the Aakash

By Jairaj Bhattacharya, Chiteisri Devi, Kenneth R. Foster Posted 1 Feb 2012 | 21:17 GMT

## Yet another ultra-inexpensive computer project falls short of the mark



Photo: Daryl Visscher/Redux

**TABLET RASA:** Suneet Singh Tuli is the founder and CEO of DataWind, which manufactures the \$50 Aakash.

*This article was modified on 27 March 2012.*

Early in January 2012, Suneet Singh Tuli, CEO of [DataWind](#), a small computer company based in Montreal, told The Economic Times of India that advance orders for its 2500 rupee (about US \$50) tablet computer had reached [1.4 million units in just two weeks](#)—besting the record of Apple and its iPad. The tablet, dubbed the Aakash (Hindi for “sky”), had been promoted by the Indian government through a contract to DataWind as an ultralow-cost computer for the country’s 1.2 billion citizens. We contacted *IEEE Spectrum*. Would it be interested in a review? Of course it would.

The tablet was released this past October. Also that month, Kapil Sibal, minister of human resources development in New Delhi, had announced in a press conference that around 10 000 samples were being given to students in various engineering institutes to test the functionality of the tablet.

The three of us set out to find a unit. After a fruitless week of calling around Delhi, we learned that the [Indian Institute of Technology Rajasthan](#), in Jodhpur, had samples available.

So after an 11-hour train ride to Jodhpur, we were hospitably entertained by Prem Kalra, the director of IIT Rajasthan, and his colleagues. Kalra and his group had first conceived of the Aakash tablet, and they told us its history.

Inspired by the [One Laptop Per Child](#) project, in 2006 the Indian government opened bids for ultracheap computers to the premier technical institutes across India. Kalra, then teaching at IIT Kanpur, won the competition.

Kalra moved the project to Jodhpur in 2009 when he assumed the post of director of the new IIT there, and he continued to lead a small team to develop the tablet. Based on Kalra's plans, in early 2011 the Indian government contracted with DataWind to manufacture the tablet.

We were not allowed to take the tablet from the IIT campus, but we could use it there and meet the development team. So there we sat, with pens and paper, a camera, and scores of questions that two of the team's research engineers patiently answered.

Aakash-1 is a basic 7-inch tablet running Android 2.2 on a 366-megahertz Conexant processor with a microSD slot, two standard USB ports, an audio port and input jack, and a mere 256 megabytes of memory. It has Wi-Fi connectivity but no Bluetooth or cellular service.

The key word is basic—and painfully slow. Slower even than cheap mobile phones in India, which typically come with 699-MHz processors. Its limited battery life—a maximum of 2.5 hours, which falls to 1 hour and 20 minutes with video or other applications running—is disappointing for a device that's supposed to be used in villages where access to electricity is sporadic at best.

And it's poorly built. The touch-screen cover was attached badly, making simple clicking difficult, to say nothing of push-and-drag sequences. The tablet heats up excessively after 45 minutes of use, and applications often hang. According to the engineers, the touch-screen cover frequently comes off while the tablet is being charged, because of the heat. Also, the tablet has no access to Android Market, which sells apps and media, so it will be difficult to upgrade software and service the product.



Photos: Jairaj Bhattacharya

DataWind's Aakash is a ultralow-cost tablet being sold in India. *Click on the image to enlarge.*

Such problems might be expected in a prototype. Unfortunately, DataWind raised higher expectations for the Aakash, in us, and evidently in the government as well.

A couple of days later, Kalra met again with one of us. Although constrained by confidentiality—he manages the contract with DataWind and is in charge of contracts for the next model—he clearly viewed the Aakash-1 as the first iteration of an eventually successful tablet. In fact, in his laboratory we saw prototypes of improved versions that will be the basis of the next round of contracts.

The obviously premature release of Aakash-1 and the attendant hyperbole has mired Kalra, the government, and DataWind in controversy. According to newspaper [reports](#), it is unlikely that any more Aakash-1s will be produced, and the government is reportedly considering [putting on hold a tablet-](#)

[related letter of credit to DataWind](#).

Meanwhile, a tender has been prepared for a contract for an improved tablet, for which other vendors would compete along with DataWind, Kalra indicated. The company, for its part, is protesting what it feels are the tender's [onerous performance standards](#). As this is being written, meetings are under way to resolve the issue.

Any major improvements in the tablet, let alone satisfying the reported water resistance and other requirements of the tender, will surely raise the selling price. Even assuming paper-thin profit margins, the price will go well above the target of \$50 and will approach that of competing devices, such as the just-released \$100 One Laptop Per Child XO-3 tablet, which has garnered [favorable reviews](#).

Whatever the outcome of this dispute, Kalra remains passionate about using tablets to bridge the digital divide, so that “every last person, usually a woman,” can communicate, download educational material, send photos of themselves to physicians, file their taxes—all on this one device.

That would require a more competent tablet than the Aakash-1, not to mention electricity, Internet access, and service and repair capabilities. Ways must also be found for the impoverished and poorly educated people in the target audience to use the tablet to improve their lives.

The Aakash won't be in your local store anytime soon, and when it is it will probably cost a lot more than \$50. Meanwhile, DataWind has announced a [similarly configured](#) commercial version called the Ubislate (\$60), which will also include a cellphone. The company is accepting advance orders now.

—Jairaj Bhattacharya, Chiteisri Devi & Kenneth R. Foster

*A version of this article ran online in January. [Edited 02/02/12 to correct a misidentification of Suneet Singh Tuli in the photograph on page 2.]*

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