



Minister of HRD, Shri Kapil Sibal and MoS for HRD, Smt D. Purandeswari launching Aakash in New Delhi

# 'Aakash' Tablet Computer for the Masses

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With its amazingly low cost 'Aakash' promises to bridge the digital divide in the country while at the same time giving a big push to education.

**W**ITH the low cost tablet computer unveiled recently, India has successfully taken a big stride in the direction of bridging the 'digital divide' – a newly emerged social threat taking shape in the wake of the rapidly growing IT industry.

On 5 October 2011, Shri Kapil Sibal, Minister for Human Resource Development, Government of India launched the much-awaited low cost tablet computer 'Aakash'. This tablet, primarily aimed at benefiting the under-graduate and graduate level students, will be manufactured in India.

Though by virtue of its low cost it may empower the whole lot of the economically weaker sections of the society, the priority objective of the government is to deliver education at the doorstep of the students coming from specially this section of the society. After giving a subsidy of 50% the price of 'Aakash' for eligible students may be around Rs 1400 in the beginning, finally coming down to the level of Rs 800 to Rs 1000 when the production goes beyond 10 lakh pieces. Libraries, Colleges and Universities will also be beneficiaries of the subsidised price.

Very soon a commercial variant of 'Aakash' named 'Ubislate' will be available in the market at a price of around Rs 3000. The cheapest tablet computer of the same size at present carries a price tag around Rs 10,000 in the market. The tablet has been specially loaded with software that enables students to pursue their course

material in a convenient environment. It has capabilities of browsing, Internet surfing, playing music, videos and games, connecting to an e-book, etc.

With a little value addition it can also function as a mobile phone or a camera. With a 7" touch screen, 4GB flash memory (2GB inbuilt+ 2GB micro SD), Wi-Fi facility and a preloaded operating system Android 2.2, it is of no lesser category than those prevailing in the market.

## Story of Development

'Aakash' is the realization of a dream visualised by the HRD Ministry more than five years back. It went through various stages of development under the command of the National Mission on Education through Information and Communication Technology (NME-ICT). The first success in the process of development became visible in 2009, when its original prototype named Sakshat (Sanskrit word meaning 'Embodiment') was unveiled.

Originally it was conceived as a laptop to be delivered at a price of Rs 500. Then in 2010 a new prototype in the form of a 7" tablet computer was presented. Later some more features were added and the cost was updated.

After the desired design and specifications for the tablet were finalized, NME-ICT entrusted the task of procuring and testing the device to IIT-Jodhpur. Initially, HCL Infosystems were chosen for the job. But, because of some procedural technicalities the company had to be

dropped from the contract. Once again the tenders were floated. This time the winners were DataWind (based in UK & Canada). While DataWind, Canada and DataWind, India contributed towards its development, DataWind, UK started its manufacture at their Indian unit in Hyderabad.

The most encouraging part of the story is that it all started with an idea from a B.Tech. graduate of IIT (Rajasthan). Later he helped in the development process also. This is an encouraging instance for the budding entrepreneurs and innovators in the country.

According to Shri N.K. Sinha, Additional Secretary, Ministry of HRD, it was an ambitious project taken up with an objective of enhancing the enrolment of students at a rapid pace. "People laughed at us in the beginning. It all started in 2007, we took the help of a B.Tech student and what came out was a motherboard that completely demystifies a laptop," Sinha said.

Dr Prem Kalra, Director, IIT (Rajasthan) admitted during a conversation with Tehelka.com that there were some glitches in the tablet, but since it was a trial launch, feedback from various states of India would be taken into account to further harmonise and to upgrade its hardware and applications. Even at its prototype launch in 2010, people took it as a populist exercise.

The importance of 'Aakash' does not lie only in the fact that it is the only amazingly low cost tablet computer of the world. It in fact lies in the very high



## SPECIFICATIONS OF AAKASH TABLET

### HARDWARE:

- Processor: 366 Mhz. Conexant with Graphics accelerator and HD Video processor
- Memory (RAM): 256MB
- Storage (Internal): 2GB Flash
- Storage (External): 2GB to 32GB Supported
- Peripherals (USB2.0 ports): 2 Standard USB ports
- Audio out: 3.5mm jack / Audio in: 3.5mm jack
- Display and Resolution: 73" display with 800x480 pixel resolution
- Input Devices: Resistive touch screen
- Connectivity and Networking: GPRS and Wi-Fi IEEE 802.11 a/b/g
- Power and Battery: Up to 180 minutes on battery (2100mAh). AC adapter: 200-240 volts

### SOFTWARE AND FORMATS:

- OS: Android 2.2
- Supported Document formats: doc, docx, ppt, pptx, xls, xlsx, odt, odp
- PDF viewer, Text editor
- Image viewer supported formats: png, jpg, bmp and gif
- Supported audio formats: mp3, aac, ac3, wav, wma
- Supported video formats: mpeg2, mpeg4, avi, flv
- Educational software developed at Indian Institute of Technology
- Video conferencing software
- Many other applications can be taken from Sakshat website.

### COMMUNICATION AND INTERNET:

- Web browser – Standards Compliance: XHTML 1.1 compliant, JavaScript 1.8 compliant/ DataWind Accelerated Browser
- Separate application for online YouTube video/ Nimbuzz software
- Safety and other standards compliance - CE certification/RoHS certification

### DESIGN

Dimensions: 190.5 mm (7.50 in) (h), 118.5 mm (4.67 in) (w), 15.7 mm (0.62 in) (d)  
Weight: 350 g (12 oz)

objectives drawn by NME-ICT. It aims to link 25,000 colleges and 400 universities in an e-learning programme. Possessing 'Aakash', a student will be empowered to access 70,000 e-books and 2100 e-journals across the chain of colleges and universities in the country.

Almost 30% colleges and universities have already been connected by Wi-Fi network. Aakash tablet has been designed to provide students access to online streaming course material and can be conveniently used to conduct web-based research. The Secretary, School Education, Government of India has informed that e-content is being created for 'Aakash' and the IITs have already created course material in almost all engineering disciplines. Online material for 90 subjects at the undergraduate level is already available.

### Where does it Stand?

Most of the tablets available in the market at present have a 7" screen, except the I-PAD, which has a 10" screen. In terms of cost, even the commercial version of 'Aakash' is priced at one-tenth that of I-PAD.

Of course, 'Aakash's processor is a bit slower – only 366 MHz while for others the speed ranges from 600 MHz to one GHz. But when tested for videos, 'Aakash' worked well. This is because it has two more components to support it – (i) HD video co-processor and (ii) graphics accelerator.

RAM and flash memory are almost at par with others. The subsidized version may not have an in-built camera, but can be added externally through any of its normal size USB ports. Its touch screen needs to be pressed a bit harder, since it is resistive type. But Sibal says, when it goes into large-scale production it may have a capacitive type touch screen which is more sensitive.

Suneet Singh Tuli, CEO, DataWind says, GPRS (General Packet Radio System) and SIM-card slots will be provided in the next shipment of tablets, for no extra cost. The company has tied up with the telecom service provider Aircel, which will provide the SIM. So, it would also enable mobile telephony and Internet access through 3G network.

But would the low cost of the product keep it sustainable? Juli attributed it to their own strategy of procuring and manufacturing the components; and also looking at the value-added services for

garnering the profits, rather than depending only on hardware components for the margins. To have the right size of quality and cost effectiveness he says, currently the procurement of components have been 35% from South Korea, 25% from China, 16% from US, 16% from India and the rest from around the world.

With the tablet going in for mass production in India, Indian manufacturers would be encouraged to supply the components more economically. The HRD Ministry is contemplating bringing down the price further for deserving students to around Rs 500/- as stipulated earlier.

Based on the feedback of the pilot run, the Ministry hopes to better the device. Users can give their feedback at [www.sakshat.ac.in](http://www.sakshat.ac.in).

Its commercial version 'Ubislate7' may soon hit the market at a price of Rs 3000. The company is also making available a set of accessory options: (i) car charger; (ii) external antenna and (iii) external keyboard case to enable faster typing.

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