

KEYBOARD STANDARD


Indian Language Keyboard is categorized into three parts namely, Inscript, Phonetic and Typewriter keyboards. The Indian language alphabet table is divided into Vowels (Swar) and Consonants (Vyanjan). The INSCRIPT (Indian Script) keyboard was standardized by Department of Information Technology (DIT) and was declared as National Standard by Bureau of Indian Standard (BIS). The BIS ISCII document (IS 13194:1991) also describes the keyboard layout for each script.

Need of Enhanced INSCRIPT keyboard layout

With the advent of Unicode new characters were added to each code-page; characters for which the BIS document had not made any provision. In addition Unicode introduced the concept of ZWJ and ZWNJ as well as that of normalization. These new features had marked repercussion on storage as well as inputting and an urgent need was felt for a revision whereby each and new character introduced in Unicode would be accommodated on the keyboard and a uniform manner of entering data as well as storing data would be devised.

With this urgent requirement, TDIL along with the involvement of all major players, a joint meeting was organized in 2008, to devise a common and uniform strategy for inputting and equally important for storage. This would enable the creation of one single keyboard and one single storage, essential for all high-end NLP.

Govt. of India has recently approved the New Rupee Symbol and there is now urgent need for its representation in the INSCRIPT Keyboard layout and the Qwerty Keyboard. A meeting involving all major stakeholders was held on Aug 13, 2010; at Dept of Information Technology, New Delhi to deliberate all the pending issues for finalization of the INSCRIPT and Qwerty Keyboard layout compatible with latest UNICODE version and inclusion of new Rupee Symbol, so that the matter can be taken up with BIS for declaration as National Standard.

Based on the feedbacks received from the major stake holders, the second meeting was held on Aug 31, 2010 at DIT to converge upon a single solution for incorporation of new Rupee Symbol  .

Following were deliberated:

I. QWERTY & INSCRIPT Keyboard layout:

Two options were short listed out of the possible options short-listed in the deliberation. The options deliberated in the meeting are: "AltGR + 4" , "AltGR + r " , "AltGR + \ " and AltGR + `]

(1) AltGR + 4

(2) AltGR + r

The Keyboard which do not have specific ALTGr key, then the combination ctrl + alt+ 4 should produce the same output as that of AltGr +4.

- **Merits of selecting AltGR + 4**

1. It is placed in the same row where all other International Currency Symbol were present
2. Good Mnemonic values with Dollar sign
3. On US International keyboard, Currently Generic Currency symbol is present which will be replaced by Rupee Symbol ₹, which is being used by other country specific Keyboards for their currency symbol implementation.
4. Enhance INSCRIPT Keyboards for Indian Languages required minimal change to accommodate new Rupee symbol at the above mentioned position.

- **Logic behind not accepting AltGR + r**

1. Coherence with respect to currency symbol on the Top Row of 'Normal Layout' could not be maintained.
2. Requires major changes with INSCRIPT keyboard Layout

All the stakeholders consisting of OS Developers, PC manufacturers, Keyboard Manufacturers, Printer and terminal manufactures agreed unanimously on the option 'AltGr +4' for implementation of New Rupee symbol for en-In Qwerty and INSCRIPT keyboard layout .

II. Rupee Symbol on ISCII code page :

It has been decided in the meeting that , the code point 'FC' may be allocated for the New Rupee Symbol in the ISCII & PC- ISCII code page and necessary modifications need to be carried out all other points.

III. Specific Action point for OS developers

The OS developers need to provide keyboard drivers / software patches for implementation of the New Rupee symbol within 3 months timeframe. Any other changes which may be required in case of any conflict with AltGR + 4 need also to be rectified by OS developers.

IV. Printing Solutions for Non-UNICODE and 8 bit printers

- TVSE and WeP Peripheral solutions need to explore ISCII code page for implementation of the 8 bit printing solutions for promoting a standard solution.
- Specific code page requirements for supporting Windows 1252 code page as required for the legacy application support may be communicated to Microsoft for necessary action at their end.
- Microsoft may be requested to add new code page PC-890 for supporting ASCII based printing.

V. Enabling ICT eco-system with new Rupee Symbol and the Status

| Sl No | Characteristics | Standards | Responsibility | Status |
|-------|-----------------------------|-----------------------------|--|---|
| 1. | Encoding | 1. UNICODE | TDIL-DIT | UNICODE consortium agreed U + 20B9 in the currency symbol page in UTC 124 meeting on Aug 11, 2010 |
| | | ISO 10646 | TDIL-DIT & BIS | Proposal being submitted by BIS for discussion in ISO Meeting Oct 2010 |
| | | ISCI :IS 13194 | BIS | Likely to be incorporated by Dec 31, 2010 |
| 2. | Keyboard Layout | IS 14442 | BIS | Likely to revised by Dec 31, 2010 |
| 3. | Currency Code | ISO 4217 | BIS | To be taken up |
| 4. | Font Interchange format | ISO/IEC 9541 | TDIL , C-DAC & BIS | To be taken up |
| 5. | Web Open font format (WOFF) | W3C | TDIL & W3C | To be taken up |
| 6. | Glyph Registration | ISO/IEC 10036 | TDIL , C-DAC & BIS | To be taken up |
| 7. | OCR | ISO-1073-2 | BIS | To be taken up |
| 8. | HTML | W3C HTML 4.0 & HTML 5.0 WGs | TDIL W3C | To be taken up |
| 9. | Mobile Keypad & Fonts | | TDIL-DIT & Major Mobile Manufacturers and OS | Also o be taken up in near future |

Major Decisions in the meeting:

1. All the stakeholders consisting of OS Developers, PC manufacturers, Keyboard manufacturers , Printer and terminal manufactures agreed unanimously on the option 'AltGr +4' for implementation of New Rupee symbol for en-In Qwerty and INSCRIPT keyboard layout .

2. The code point 'FC' may be allocated for the New Rupee Symbol ₹ in the ISCII & PC- ISCII code page and necessary modifications need to be carried out all other points. BIS in collaboration with TDIL-DIT would complete the activity by Dec 31, 2010
3. The process of declaring standard for modified en-IN Qwerty Keyboard Layout [IS :14442] with new Rupee Symbol , enhanced INSCRIPT Keyboard layouts for all Indian Languages with new Rupee Symbol and modification of ISCII code page would be completed by BIS by Dec 31, 2010.
4. The OS developers need to provide keyboard drivers / software patches for implementation of the New Rupee symbol within 3 months timeframe.
5. MAIT in consultations with all major stakeholders and its members would produce a best practices and guidelines for implementation of ₹ -ready solutions and its proliferation
6. The modifications/additions required for enabling ICT eco-system with new ₹ symbol would be taken-up by TDIL-DIT in collaboration with BIS and other stake-holders.

Please review above decisions and mail it to the following E-mail address schandra@mit.gov.in