Patents and Standards
Practice, Policy, and Enforcement

Editor-in-Chief
Michael L. Drapkin

American Intellectual Property Law Association
Foreword

"Industry standards have exploded over the past several decades, and today they play a vital role in many sectors of the economy.... Interest in the outcomes of [standards setting organizations (SSOs)] is no longer merely that of engineers; they are now the subject of intense focus in the board room." As demonstrated by Assistant Attorney General Makan Delrahim’s November 2017 statement, the importance of standards cannot be overstated. But what exactly are industry standards and why do they play such a critical role in today’s world? And, perhaps more importantly, what do inventors, practitioners, and business people need to know to hone their “intense focus” and best use standards to their advantage?

*Patents and Standards: Practice, Policy, and Enforcement* aims to advance the discussion surrounding these questions. This book, the latest in the expanding line of intellectual property treatises jointly published by the American Intellectual Property Law Association (AIPLA) and Bloomberg Law, starts with the basics, discussing standards on past, present, and future-oriented bases, assessing why standards are created in the first place, and what it takes for them to succeed. It provides an in-depth explanation of the various players responsible for creating standards and the rules that govern their processes. It overviews the various documents tied to standards, steps and strategies to obtaining patent protection and building standard-essential patent (SEP) portfolios, and considerations of importance to businesses that hold SEP portfolios and to the attorneys charged with building and managing those portfolios. Finally, this book discusses topics that have repeatedly made headlines as of late—E/RAND licensing commitments and the intersection of antitrust and intellectual property—and walks through various stages of SEP litigation. Its balance of important conceptual discussions and concrete, practical examples and analyses is sure to provide a valuable reference to practitioners dealing with SEPs in any capacity and arm them with the tools necessary to craft incisive, pointed strategies for the businesses, clients, and interests they represent.

The value provided by the breadth of SEP-related topics covered herein is bolstered by the diverse perspectives from which they are set forth. The authors and editors come from a variety of institutions and posts that have proven important to shaping the discussion around SEPs
or that have navigated the complexities inherent in the SEP system, including academia, government, law firms, consultants, and even an SEP-holding company. Their collective, intimate familiarity with the practices, rules, and systems discussed enriches the advice to be gleaned from their chapters.

Publication of *Patents and Standards: Practice, Policy, and Enforcement* comes about three years after a major standards-development organization’s controversial overhaul of its patent policy, about one year after an $854 million fine was ordered on a large SEP-holding company for reasons including its SEP licensing practices, and just months after Assistant Attorney General Delrahim urged that “[f]resh thinking about the implications of SSOs . . . is long overdue.” This book should help readers formulate their own thoughts on SEPs, SSOs, and the many issues they implicate, and usher in new insights that will propel the field forward.

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U.S. Patent and Trademark Office August 2009 to January 2013
Preface

This book is current through January 2018.

Looking out across the open conference center of the Clarion Congress Hotel in Prague during the RAN1 standards meeting, it was clear that something very special was happening. Engineers from all over the world were engaged in vigorous debates on the best technical solutions for 5G, the next generation wireless network. There was something so pure in the dialogue, as the discussions were focused entirely on the technical merits. It was transparent, open for all to see and participate in. A forum where the best ideas can, and do, win.

This book, *Patents and Standards: Practice, Policy, and Enforcement*, is dedicated, first and foremost, to the standards engineers who drive the standards creation process, a process which enables innovation and interoperability to work hand in hand. These engineers work tirelessly, and their ideas and advocacy are the invisible forces that make our world a connected one.

The book is largely written for practitioners: patent professionals and engineers who work in the standards area and want to gain a deeper understanding of the landscape and best patent practices related to the standards process. Patent prosecutors need to know which strategies to employ in patent preparation, prosecution, and portfolio development in the standards area. Patent litigators can use this book to understand the unique issues regarding enforcement of standard-essential patents (SEPs). In-house counsel who want to build more valuable SEP portfolios will use this book to develop portfolios, create effective licensing programs, and manage outside counsel. Standards engineers will gain insight into how the patent process works, giving them tools to better add value and insight in their companies.

The book is organized into three parts. Part I reviews the history, organizations, and policy considerations that together provide the background for our discussion on best practices. Next, Part II provides in depth analysis and practical guidance for patent prosecution and patent portfolio development of standards-related technology. Part III provides an overview of the licensing, antitrust, and litigation issues related to SEPs.

One important caveat: the book is generally written from the perspective of technology innovators who want to contribute to standards,
and license the technology and patents that form the basis of their contributions. We largely avoid the debate on the policy alternatives, and instead focus on practical advice for practitioners who represent these innovators. Patent professionals who represent upstream or downstream technology companies may have different perspectives on many issues, especially the contentious ones. But this book can help them gain insight into the thinking of innovators and their representatives, and we invite them to share their comments with us to be considered in future updates by emailing books@bloomberglaw.com (please put Patents and Standards in the subject line).

The idea for this book came to life in 2016. Although I was immersed in patents and standards, there were so many areas where I wanted to dig deeper. And there simply wasn’t a resource that brought this information together. Fortunately, AIPLA and Bloomberg BNA had entered a partnership to publish books on intellectual property law, and before I knew it we were off.

A book like this is a labor of love, and requires significant contributions from diverse sources throughout the process. AIPLA Board Member Monica Barone was involved from the start, providing encouragement and invaluable connections. Brian Batzli and Brad Forrest, the co-chairs of the AIPLA Publication Committee at the time, offered incredible insight and helped shape the content from day one.

We then put together an Editorial Board (which I chaired), and which included Richard Taffet, Kurt Kjelland, David Long, and Theresa Stadheim. This group proceeded to outline the subject matter of the book in great detail, providing a comprehensive outline that enabled us to avoid overlap and create the complementary chapters you see today.

The authors then went to work. They were encouraged, corralled, and cajoled by our Lead Editors (Phil Harris, Paul Schramm, and David Long), who put in endless hours to drive the vision for the book. In addition to the review by the Editorial Board and our Lead Editors, numerous volunteers from AIPLA provided valuable comments to the Publications Committee on each chapter.

Many thanks go to all of the excellent contributing authors and editors. And special thanks go to Elizabeth Turqman of Bloomberg Law, and to Jim Crowne, for their tireless support and wisdom in coordinating the preparation of this work.

On a personal note, I wanted thank Holland & Hart for eagerly supporting so many of our attorneys in this endeavor. And a very special thanks to my amazing wife, Diane, and our incredible kids Lindsay, Hayley, Jessica, and Fin, for listening and smiling as I enthusiastically explained the many intricacies of standards and patents, and why these issues are so important. Finally, I must thank my Mom, an incredible source of inspiration for all.

MICHAEL L. DRAPKIN
Boulder, CO
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VI. INDIA: PREPARATION AND PROSECUTION PROCESS AND CONSIDERATIONS BEFORE THE INDIAN PATENT OFFICE

Legislation governing patent law in India is the Patents Act, 1970, referred to herein as the Patents Act. We preface this section by clarifying that the Patents Act does not speak about standard-essential patents or standardization in general. When it comes to SEPs and FRAND licensing, it is also pertinent to note here that antitrust law in India, as governed by the Competition Act, 2002, clearly states that provisions thereunder are in addition to and not in derogation to the statutory IP enactments of India.63

A. State of Patent Law with Respect to Standards-Related Patents in India

1. SSOs in India

SSOs are still in the nascent stage in India. However, in 2008, the Ministry of Communication and Information Technology, the Department of Telecommunication, and the Government of India64 confirmed that network equipment having Global System for Global Communication (GSM) or Code Division Multiple Access (CDMA) technology should comply with standards set by International Telecommunication Union (ITU) and other international Standardization bodies. The National Telecom Policy-2012 proposed to create a national standard setting body for the telecom sector.65

On March 1, 2016, the Indian Government’s Department of Industrial Promotion and Policy issued a draft paper on “Standard Essential Patents” with the objective of inviting views and suggestions from the public at-large to develop a suitable policy framework to define the obligations of essential patent holders and their licensees.66

The Indian telecom sector has two major standard setting/developing organizations. The first, the Global ICT Standards Forum of India (GISFI),67 was approved by the Ministry of Communication and Information Technology, Department of Telecommunication, on July 9, 2010. GISFI collaborates with several SSOs, including European Standards

64For discussion of India’s history with respect to communication networks, see ITU, Best Practices for Implementing Next Generation Networks (NGN) in the Asia and Pacific Region: Case Study India, Philippines, and Sri Lanka, available at https://www.itu.int/ITU-D/tech/NGN/CaseStudies/NGN_CaseStudy_IND_PHIL_SLKA_V2.pdf.
Telecommunications Institute (ETSI). The second, the Telecommunication Standards Development Society of India (TSDSI), is concerned with developing and promoting India-specific requirements, standardizing solutions, contributing to global standardization in the field of telecommunications, safeguarding the related IPR, helping create manufacturing expertise in the country, and providing leadership to the developing countries in terms of their telecommunications-related standardization needs. A few other standard setting/developing bodies in India include the Development Organization of Standards for Telecommunication in India (DOSTI) and the Telecommunication Engineering Center (TEC). TSDSI, like many other SSOs, has its own Intellectual Property Rights (IPR) Policy. The TSDSI IPR Policy clearly lays down the process of declaration of IPR as well as the licensing process.

2. Judicial Developments

Apart from the developments described above, there has also been significant case law that revolved around SEPs. One of the first cases was initiated by Ericsson. Ericsson was negotiating with Indian handset manufacturers such as Micromax, Intex, Gionee, iBall, and Lava to license its SEP portfolio. However, due to a failure of negotiations, Ericsson filed suit for infringement of eight SEPs. In turn, the defendants filed complaints before the Competition Commission of India alleging abuse of dominant position by Ericsson. The defendants also filed revocation petitions seeking revocation of Ericsson's patents. While in the suit, Ericsson was able to procure interim injunctions including ex parte injunctions against the defendants. Later on, both parties agreed on an interim royalty based on the comparable licenses of similarly placed parties, to be paid directly to Ericsson during the pendency of suits. Additionally, although the competition authorities formed a prima facie opinion that Ericsson was abusing its dominant position obtained due to its large portfolio of SEPs, Ericsson managed to procure an interim stay on the final adjudication by the competition authorities.

Developments such as those in the Ericsson case have created a cogent environment not only for the enforcement of patents but also SEPs in India. The positive effects of the Ericsson litigation have been recently seen in another round of infringement suits filed by Dolby alleging infringement of its five SEPs, where the court granted ex parte injunctions on the very first day. In another suit related to SEPs, Vringo...
Inc. (a non-practicing entity) managed to get an ex parte injunction. Thus, judicial developments in India are in no manner lagging behind the global standards. Additionally, with the enactment of new legislation, infringement suits pertaining to patents have to be completed in a timely manner.

B. Patent Preparation

Based on various statutory provisions of the Patents Act and Patent Rules, 2003 (amended in 2016, hereinafter referred to as “the Rules”), a patent specification must include the sections described below. Though the sections are in pari materia with global standards, some unique requirements as per Indian practice are also covered herein.

I. Application Structure

a. Background Section

First, an Indian patent application must include a title that defines the theme or purpose of the invention. The title should include no more than fifteen words. In practice, the title should correspond with the preamble of the independent claims. An Indian patent application must also include a Field of Invention section. This section should indicate the general art and classify the technology to which the invention belongs. Practically, some Patent Examiners expect the Field of Invention to include, verbatim, the preamble of the independent claims.

Next, an Indian patent application must include a background and prior art section. This section should describe the technical problem existing in the art in a particular technology. This section can also mention that the problem was long-standing in the art and the effect to the industry/public at large. This section can indicate the status of the technology in the field of invention with reference to developments in the field highlighting relevant disclosures available to date. In short, a person reading this section can infer (1) either the said problems were never realized in the art or (2) even if the problems were realized, the solutions provided are still not satisfactory.

Indian patent applications must include an object of the invention. This section focuses on the purpose for which the invention was carried out and refers to various outcomes of the invention. In other words, the necessity of the invention shall be fortified in this section. Although the previous section brings out the disadvantages of the prior art, this section brings out the positive effects of the invention. The objects are generally listed in a format such as “The object of this invention is ....”

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b. **Summary Section**

Next, Indian patent applications shall include a summary section. This section provides the gist of the proposed invention by declaring different aspects of the invention. As a matter of practice, to ensure enablement of claims while covering all essential features covered therein, it is recommended to include the independent claims so as to capture the overall invention and essential features of the invention.

c. **Detailed Description and Drawings**

Indian patent applications shall include a brief description of drawings/figures that provides a classifying and indexing of drawings. Next, Indian patent applications shall include a detailed description of invention. Section 10(4) of the Patents Act mandates that every complete specification shall (1) fully and particularly describe the invention and its operation or use and the method by which it is to be performed; and (2) disclose the best method of performing the invention which is known to the applicant and for which he is entitled to claim protection. Furthermore, under Sections 25 and 64 of the Patents Act, (1) if the complete specification does not sufficiently and clearly describe the invention by which it is to be performed, or (2) if the description of the method or the instructions for the working of the invention are not sufficient to enable a person of average skill and average knowledge of the art to work the invention, or (3) if the complete specification does not disclose the best method of performing it which was known to the applicant, the above can be a ground for revocation/rejection of a patent/patent application.

Thus, the details of invention described should be sufficient for a person skilled in the art to perform the invention. Applicants are advised to include a description of experimental details, examples, tables, graphs, drawings, etc., clearly describing the nature and operation of the invention.

C. **Claiming Strategies in India**

As per Section 10(4)(c) of the Patents Act, every complete specification shall end with a claim or claims defining the scope of the invention for which protection is claimed. Furthermore, the claims should relate to a single invention or to group of inventions linked so as to form a single inventive concept. Claims define the extent of protection sought for an invention and form the heart of the specification. According to Section 64 of the Patents Act, if the scope of any claim is not sufficiently and clearly defined or if any claim is not fairly based on the matter disclosed in the specification, this can be a ground for revocation of a patent.

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patent. In practice, the Indian Patent Office requires literal support for claims in the specification.

1. **Claim Types**

Section 3 of the Patents Act provides an exclusive list of inventions that are not patentable in India. Some exclusions that pertain to the electrical arts include claims directed to mathematical methods, business methods, algorithms, computer programs per se, methods of performing mental acts, and topographies of integrated circuits. Currently, patent claims in the field of electronics and software that are generally permissible by the Indian Patent Office may be broadly classified into:

1. Method/process claims; and
2. Product claims—System/Apparatus/Device/Unit/Circuitry/Network.

On June 30, 2017, the Office of the Controller General of Patents, Designs and Trade Marks issued fresh Guidelines for Examination of Computer Related Inventions (CRI) (hereinafter referred to as "the CRI Guidelines").

The CRI Guidelines provide pointers to be followed by the Indian Patent Office while examining applications related to CRI. The Indian Patent Office should use these pointers to ascertain from the nature of the claimed CRI whether the claim is of a technical nature involving technical advancement. Patentability should be determined based on the substance of the invention and not merely the language of the claims. For example, the mere use of claim terms related to business or commercial activities should not be construed as a business method at the first instance. Additionally, inventions may not be excluded merely for using mathematical formulae if the inventions result in systems for encoding, reducing noise in communications or electrical/electronic systems, or encrypting/decrypting electronic communications.

Most importantly for CRI, novel hardware is no longer considered a hard-and-fast requirement for patentability. In other words, a novel functionality carried out by known hardware should not be found non-patentable. This is in contrast to earlier restrictions imposed by the Indian Patent Office.

Table 10.4 summarizes inventions that may, based upon prevalent Indian practice, fall under the ambit of Section 3(k) of the Patents Act (which lists inventions not patentable in categories generally found in electrical and computer arts).  

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99Id.
Table 10.4. Categories of Inventions That May or May Not Be Patentable Under §3(k)

<table>
<thead>
<tr>
<th>Section 3(k)</th>
<th>Not Permissible</th>
<th>May Be Permissible</th>
</tr>
</thead>
</table>
| Mathematical method | • Intellectual methods/acts of mental skill/abstract idea  
• Purely solving mathematical problem  
• No practical application  
• Method of calculating | • Claimed method is technical  
• Real world effect  
• Technical solution to technical problem  
• Calculator (e.g., having hardware components) |
| Computer program per se | • Set of instructions expressed in words/codes/schemes  
• Claims toward computer programs/set of instructions or any specific language | • Establishing real world effect (e.g., filtering noise from audio/video)  
• Combination of novel functionality and conventional hardware leading to a technical effect  
• Interconnections between various physical means |
| Method | • A priori knowledge or common general knowledge  
• Too abstract or non-technical  
• A priori knowledge  
• A priori knowledge  
• A priori knowledge  
• A priori knowledge | • Establishing real world effect (e.g., filtering noise from audio/video)  
• Combination of novel functionality and conventional hardware leading to a technical effect  
• Interconnections between various physical means |
Based on the above-cited CRI Guidelines, and according to prevalent practice, the following claim categories should be avoided or used with caution in India:

(1) **Beauregard Claims (Computer Readable Medium):** Note that media per se having constructional novelty are patentable, however, any novel instructions/data stored on a conventional medium is not patentable. An example claim format would be: “Computer Readable Medium storing instructions for performing…”

(2) **Means-Plus-Function Claims:** Means-plus-function claims for software-related inventions are interpreted quite broadly such that the scope of the claims can extend beyond the description. More specifically, the Indian Patent Office opines that term “means” are not restricted to the components mentioned in the specification, instead the means can be substituted by any component which can perform the claimed function. Also, the means are usually construed as “software means” in view of typical boiler plate paragraphs such as “… embodiments can be performed through hardware or software or combination of both.”

(3) **Functional Claims:** According to Indian patent practice, a product claim should define the structure along with the interconnections of the product per se. However, a product claim merely defining functionality of the product per se, without describing the constructional aspect is not patentable. For example, the construction “A processor configured/programmed to perform the steps of …,” or “An apparatus comprising a processor and a memory to perform the steps of …” would not be patentable.

**D. Patent Prosecution in India**

1. **Prosecution**

   a. **Claim Amendment Strategy**

      As per the Patents Act, claim amendments can be made at any time either during the prosecution of patent application or even after the grant of patent. There is no statutory limitation/time line prescribed in the Patents Act to make a request to amend the claims either before or after the grant of the patent.

      A request for claim amendment shall be filed before the Controller as prescribed by the Patents Act along with prescribed fee. Applicants should consider the following points before making such request:

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• Amendment of claims/specification/any document can be allowed only if it is by way of disclaimer, correction or explanation and if it is made for the purposes of incorporation of actual fact.\textsuperscript{84}

• Amendments will not be allowed if the specification as amended describes matter not disclosed in substance or shown in the specification before the amendment or the amended claims do not fall wholly within the scope of a claim of the specification before the amendment.\textsuperscript{85}

Applicants should note that claims can be amended to include the features of different embodiments. However, no new claims can be added after filing the application. Only the existing claims can be amended. Generally, the Patent Office will look for (and require) verbatim support of claims in the specification.

b. Other Considerations

The Indian Patent Office closely follows the prosecution history of corresponding U.S./EP/JP applications and any adverse findings in these jurisdictions can adversely affect the grant of an Indian Application. Counsel has noticed that, in some scenarios, the claims in U.S./EP applications are sometimes changed completely (although within the scope) to overcome issues of novelty/non-obviousness. However, the same amendments cannot be made in India as this would be tantamount to new subject matter, even though the Indian Examiners rely on the same citations.

The Patent Office may direct applicants to narrow claims in India based on the claim limitations of each of U.S., EP and JP applications individually, taking into account all of the citations raised in each of these jurisdictions. For example, if a U.S. claim has an “A” limitation and the corresponding EP claim has a “B” limitation, then the Indian Patent Office can direct applicants to amend claim to incorporate limitations A + B, based on citations of both EP and U.S.

Similarly to some other patent offices, the Indian Patent Office always looks for literal support for amended claims. Therefore, with respect to patent applications related to standards, if there is standards adoption during examination of a patent, applicants are advised that amending the claims to correspond to the adopted standard may be problematic unless there is literal support for such amendment.

There is a mandatory requirement to furnish details of working of patents under Section 146(2) of the Patents Act.\textsuperscript{86} This section requires patentees and licensees to submit a statement of commercial working of the invention (Form 27) to the Controller every year. Furthermore, a person shall be punishable with fine up to ten lakh rupees in case


\textsuperscript{85}Id.

such person refuses or fails to furnish to the controller any information or statement which he is required to furnish by or under section 146 of the Act. This requirement under Indian laws can be problematic in the case of SEPs. Keeping in mind the confidential nature of some licensing strategies, it can become difficult to comply with this mandate. Applicants are advised to name the licensee with the revenue generated out of licensing arrangements with such licensee without disclosing the licensing terms. This can be followed up a statement to the effect that the technologies are worked through licensees on FRAND terms, while also stating that any monetary figures given are a conservative estimate of revenues.

2. **Strategic Use of Divisional Applications**

India's Patents Act prescribes that a patent application shall be for a single invention only. To offer protection to distinct inventions disclosed in the application, Section 16 of the Patents Act lays out the grounds and conditions for filing of a divisional application in respect of those distinct inventions.\(^\text{67}\) However, the onus is on the applicant to prove that the subject of parent and divisional are non-overlapping and distinct. According to Section 16, a divisional application in respect of an invention can be filed at any time after the filing of patent application but before the grant of the patent on the desire of the applicant himself, or to remedy the objection raised by the Controller on the ground that the application relates to more than one invention.\(^\text{68}\)

3. **Special Initiatives Undertaken by Patent Office**

The Indian Patent Office has undertaken various initiatives to expedite the patenting process and to make the process more transparent. For example, the Indian Patent Office has grown from 130 Examiners to 588 Examiners over last two years, and 260 additional Examiners were hired on a contract basis in 2016. The Indian Patent Office has become operational as a receiving office and an International Searching Authority (ISA). A mobile app has been proposed for checking application status and notifications.

In addition, new Patents (Amendment) Rules came into effect on May 16, 2016, and all the filings at the Indian Patent Office became digitized.\(^\text{69}\) Some of the substantial developments according to the new rules include:

1. **Reduced Time:** Time for putting the application in order is reduced to six months from twelve months. Extension of a total of three months is permitted.

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\(^{68}\)Id.

(2) Expedited Examination (Form 18A) pre-requisites:
   - Provision from the Office (IPO) as the International Searching Authority (ISA) and/or International Preliminary Examining Authority (IPEA); or
   - Applicant is a “Start-up.”

(3) Upgrading to Expedited: A normal request for examination can be converted to an expedited request for examination.

(4) Off-site Hearings: Hearing can be held through video-conferencing or telephonically.

(5) Amendments in Claims—National Phase Applications:
   - Amendments include claim amendments made under Article 19 or Article 34 of the PCT.
   - Applicant may delete claim(s) (NOT amend) while filing a national phase application in India.

(6) Refund of Fees: 90 percent of official fees can be refunded if there is a request to withdraw an application.