

**UNITED STATES OF AMERICA
ANNUAL TECHNICAL REPORT ON PATENT INFORMATION
ACTIVITIES IN 1998**

I. Evolution of patent activities:

Changes experienced in terms of application filings and grants with respect to the previous year

In calendar year 1998, the USPTO granted 147,520 utility patents, an increase of 32 percent over the number of grants for 1997. The share of grants having foreign origin, as determined by the residence of the first-named inventor, was 45.6 percent for 1998, up from 44.9 percent for 1997. International Business Machines Corporation continued to be the top patenting organization, receiving 2,657 utility patents for the year. Canon Kabushiki Kaisha was second, receiving 1,928 utility patents and NEC Corporation was third, with 1,627 utility patents.

There were an estimated 243,062 utility patent applications filed at the USPTO in 1998, a thirteen percent increase as compared to 1997. The share of applications having foreign origin, as determined by the residence of the first-named inventor, was 44 percent, unchanged from 1997. Final application counts are not yet available for 1998.

Trends or areas experiencing rapid changes with respect to the previous year

In 1998, the number of utility patent grants relating to the Internet increased by 238 percent, the number of grants in U. S. Patent Class 'Data Processing: Database and File Management, Data Structures, or Document Processing' increased by 107 percent, and the number of grants in 'Data Processing: Financial, Business Practice, Management, or Cost/Price Determination' increased by 101 percent over the number of grants for 1997. These computer-related areas have shown rapid growth over the last year.

II. Matters concerning the generation, reproduction, distribution and use of primary and secondary sources of patent information:

Publishing, printing, copying (main types of publications of the office in the field of patent information, etc.)

There are no new developments to report for calendar year 1998.

Main types of announcements of the Office in the field of patent information

A wide variety of announcements and notices are provided on a weekly basis in the Official Gazette of the USPTO. The first issue each year presents a consolidated listing of the more important notices and rule changes published in the Official Gazette since July 1, 1964. PCT information, notices of maintenance fees payable and notices of expiration of patents due to failure to pay maintenance fees are among the notices provided on a weekly basis.

Mass storage media used (paper, microforms, optical storage, etc.)

Storage Devices

Since 1996, the USPTO has incorporated magnetic rewritable storage devices into its standard operations. The magnetic devices hold all patent data, and are used as a pre-load area for volume reproduction of patent data via high speed printers. The use of the faster responding devices has improved system performance and availability. USPTO acquired the necessary amounts of storage to process terabytes of patent, trademark, and other business data electronically. Most recently, in April 1999, USPTO established an Internet site with access to text and images of patents dating back to 1976. Over 2 terabytes of data stored on these devices is accessible from the Internet.

Patent Image Capture System (PICS)

In FY1997 the USPTO deployed into production the Patent Image Capture System (PICS). PICS replaces the current system of microfilming incoming paper applications with electronic scanning capability. Using PICS, the USPTO is converting paper applications to digital images and delivering those images to selected customers, including Certification and Licensing and Review. Before the system went into production, the USPTO planned for PICS to convert 5,000 applications per week at approximately 39 pages per application, with a maximum application size of 2,000 pages. Currently, the production system is processing 8,000 applications per week, with some sizes up to 3,000 pages. In July 1999, the USPTO plans to expand the functionality of PICS to support expanded reexamination and public access to reexamination cases.

Word processing and office automation

POWER

Efforts have been underway for over a year now to develop an automated system for the formalities processing of PCT applications. The PCT Operations Workflow and Electronic Review (POWER) system is being developed with a phased deployment strategy. The first release of POWER is scheduled for September 1999 and will allow for the electronic review of PCT Chapter I applications. In this phase all incoming Chapter I applications will be

scanned into POWER and then follow through the review process electronically. The POWER system will also handle the downloading of data received on the PCT EASY diskettes. The Phase II release of POWER, which is due out in the summer of 2000 will handle the formalities processing of Chapter II applications and deal with the electronic filing of the complete PCT application.

TEAM

In the area of electronic examination the Office has been working on the Tools for Electronic Application Management (TEAM) system which is a continuation of the prototype originally done under the PREP project. TEAM XP is a prototype version of TEAM, which is expected to be in operation by the end of September 1999. This system will present to a group of about 40 examiners a complete electronic file wrapper formed of a combination of text and image files. From this system the examiners will be able to review an application and gain access to the search systems and the office action generating system. The current plan is to schedule an enhancement release of TEAM in 2000 and to move TEAM to a single entire Technology Center by the end of 2002. Current plans show TEAM being fully deployed throughout the Office by the end of 2003.

All USPTO patent examiners now have full patent image and text search capabilities and the ability to integrate the results of those searches with their office actions.

(New) techniques used for the generation of patent information (printing, recording, microfilming, photocomposing, etc.).

There are no new developments to report for calendar year 1998.

III. Matters concerning abstracting, classifying, reclassifying and indexing of technical information contained in patent documents:

Abstracting, reviewing, translating

Abstracting

The Scientific and Technical Information Center (STIC) does not abstract technical information from patent documents.

Reviewing, Translating

STIC's translators and translation contractors provide full or partial English-language versions of patent documents. These translations are provided only upon request by USPTO staff. The annual workload is approximately twenty million words, the majority of which are Japanese, German, and French. In addition, the translation staff often reviews with requesters the general contents of patent documents and provides partial oral translations prior to or in place of written translations.

Classification and reclassification activities; Classification system used, e.g., International Patent Classification (IPC), other classification (please indicate whether or not patent documents are classified by your Office and, if so, which classification is used)

In 1998, approximately 301,325 patent documents were reclassified and 3,582 new subclasses were created under the US Patent Classification (USPC) system. Of the 302,018 patents that were reclassified, 32,460 were non-United States patents and approximately 269,558 were United States patents (originals and cross references). The USPTO plans to resume applying USPC codes to foreign patents beginning in June 2000. The planned process will employ automated techniques, i.e., concordances and linguistic tools, as well as intellectual refinement by examiners and classifiers. Examiners will be able to search foreign patent documents by USPC via the electronic search systems "EAST" and "WEST". No additional copies will be added to the paper files.. The USPTO continues its development of tools to automate its Classification Operations. Initial deployment of a desktop electronic reclassification system to classifiers and some examiners is planned for late 1999. Subsequent enhancements planned for deployment in 2000 will include incorporation of linguistic tools that can use the text of patent documents to assist with the classification of the documents.

Coordinate indexing (ICREPAT-types and/or domestic deep indexing systems, keyword indexing)

No new activities have been initiated under this topic.

Hybrid system indexing

No new activities have been initiated under this topic.

Bibliographic data and full-text processing for search purposes

Classification Data System, version 1.1

USPTO has provided the capability to perform professional reclassification related activities in an easy to operate desktop microcomputer environment using patent images and modern classification tools. On-line help, class/subclass definitions, and other indices assist classifiers in accomplishing their everyday job. Groups of tools to aid in the support of Classification Operations are under development and the first of those tools should be deployed in late calendar 1999. Included in those tools will be a classification authoring tool, a classification creation management tool, and a collection management tool. USPTO is also testing software that is part of Dataware's BRS/Search that does clustering and query by example, which may support document assignment of applications. There is also planned a tool that will support the application assignment dispute resolution process across industry sectors. This is called the Application Dispute Resolution system, and it is scheduled for deployment in the later part of calendar 1999.

IV. Search file establishment and upkeep:

File building and Updating

The Examiners' Search File is continually updated to ensure that the file is complete and current. The US patent documents granted each week are processed and added to the Search File. In 1998, an average of 3,156 US patent documents issued each week and an average of 12,272 original and cross reference documents were added to the Search File each week.

OCR File

The USPTO has used OCR software to convert images of approximately 166,000 US patents issued between 1970 and 1976 missing from the current text file. It is also converting the US Patent backfile from 1970 to 1790, which is approximately 3.9 million additional documents. The conversion is completed, and USPTO is working to load the text into its search engine, BRS/Search, for access. This is planned for November 1999.

NPL

The USPTO has provided electronic access to over 232 technical journals to all examiners, through the Elsevier database. In addition, Examiners have access to *UMI ProQuest Direct* via the Internet. Finally, Examiners will be given access to IBM's Technical Disclosure Bulletins in July 1999.

Non-US Patents

All JPO patent full images through 1996, which are associated with the first page database have been loaded to storage devices and are available to examiners. Because of the change in format, the loading of documents after that date was delayed. Currently, we expect to have them completed in September 1999. All of the EPO patent full images associated with the first page database, both front file and backfile are loaded and available to examiners.

Storage, including mass storage media and microforms

Since 1996, the USPTO has incorporated magnetic rewritable storage devices into its standard operations. The magnetic devices hold all data and are used as a pre-load area for volume reproduction of patent data via high speed printers. The use of the faster responding devices has improved system performance and availability. USPTO acquired the necessary amounts of storage to process terabytes of patent, trademark, and other business data electronically. Most recently, in April 1999, USPTO established an Internet site with access to text and images of patents dating back to 1976. Over 2 terabytes of data stored on these devices is accessible from the Internet.

Documentation from other offices maintained and/or considered part of the available search file

The US Patent and Trademark Office receives, by means of exchange agreements, the patent documents of most countries of the World. Most of the patent documents received by the STIC are now in the form of CD-ROMs, which remain the primary exchange medium. However, the numerical USPTO collections contain extensive materials in paper, microfilm and microfiche. In order to recover space previously needed for paper, STIC has sorted through its entire paper collection and removed all patents now available in microform or electronically.

The USPTO is also making available document images and products of other intellectual property offices obtained from magnetic tape and CD-ROM products. Currently examiners have access to IPC classifications on line. PTO is currently evaluating DOC.db for use as a search utility for examiners. PTO plans to use this information to assist in applying US classifications to non-US patents.

V. Activities in the field of computerized and other mechanized search systems:

In-house systems (on-line/off-line)

The USPTO has continued the development and deployment of patent and trademark search systems as reported in previous years. USPTO's automation program is described in the Strategic Information Technology Plan, which is updated annually.

As described in previous reports, the on-line text search system is used by examiners, classifiers, and the public. Since the 1995 report, USPTO researched alternative systems and has prototyped several products -- Verity's TOPIC, Personal Library Software (PLS), Dataware's BRS Search and OpenText -- the USPTO expects improvements over the current system. BRS has been selected as the replacement system for the current CAS owned Messenger search system. It was installed, and examiners were given access to it starting in January as part of a Pilot. It is being deployed to all examiners in May, 1999.

Patent Image Retrieval System

Since the 1995 report, the USPTO deployed Windows NT desktop text and image workstations to all patent and trademark examiners. Examiners will have access to the text and images of US, JPO, and EPO patents through a browser based client called WEST and a coded client called EAST. WEST is designed for ease of use, and rapid deployment of new functionality. EAST is a more complex interface, designed for greater user customization, more rapid retrieval of images, and greater use of the keyboard. WEST will be deployed in May, and EAST will be deployed in June of 1999.

Biotechnology Sequence Search System

In 1990, the USPTO began requiring patent applicants who file applications that disclose protein and DNA sequence information to include a submission of the sequence information in computer readable format (CRF) (37 CFR §§ 1.821-1.825). The sequence submission requirement not only facilitates the examination of biotechnology-related patent applications, but also allows the USPTO to compile a database of sequence information contained in US patents. Under the rules, the patent applicant performs data entry of sequence information. The USPTO's Scientific and Technical Information Center (STIC) receives and evaluates each sequence submission to assess compliance with the technical requirements for format and validity, as well as compliance with the sequence submission rules. Once STIC verifies the submission, staff convert the data into a format compatible with the internal USPTO search system, and load the data into the pending sequence database. This sequence information, after processing, can then be used by examiners and STIC staff for searching and analysis. The USPTO also retains a copy of the original submission for inclusion in the permanent record of each patent application file, and for use in publication of the patent application upon grant.

The USPTO relies heavily on nucleic acid (e.g. DNA, RNA) and amino acid (e.g., protein) sequence information supplied in biotechnology patent applications to search nucleic and amino acid databases for relevant prior art and other information. This information is used to assess whether the claimed invention complies with the statutory requirements of utility, novelty, non-obviousness, and to provide an enabling disclosure of the technology behind the invention. USPTO's Scientific and Technical Information Center (STIC) keeps pace

with the rapid expansion in sequence information filings by continuing to enhance its Automated Biotechnology Sequence Search (ABSS) system for searching nucleic and amino acid sequences submitted as part of these applications. The ABSS system is based in-house on a network of Sun Microsystems hardware, SPARC Servers, and MasPar massively parallel computers running the MPSRCH sequence similarity searching software. The MPSRCH sequence search software, sold by Oxford Molecular Group, Inc., utilizes the same databases as used with the existing IG Suite search tool. These databases are: EMBL, Genbank, Genseq, Swiss-Prot, and PIR. OMG provides both monthly and quarterly updates on CD-ROM.

More than 20 users, including Technology Center 1600 biotechnology examiners and STIC searching staff, access this system 24 hours per day, seven days per week. During the first seven months of FY1999 (October 1998-April 1999), 26,337 sequences were searched, and over 5,000 sequence listings were received for processing. Also, Compugen was selected as an addition and eventually replacement of the MasPars. The MasPars will be phased out at the beginning of FY2000.

New software to process the computer readable forms was developed to accommodate the new sequence rules, which went into effect in July of 1998. The rules were revised to streamline the CRF and to provide a more language neutral format in agreement with the Trilateral Partners. The new software is now in production. Another version of the CRF software is being developed which will process CRF submissions in both old and new rule formats as well as provide a new version of the Checker program to be used by applicants as a tool to check their CRF prior to submission to the USPTO.

The patents backfile project, which electronically captured sequences for all pre-1990 patents issued with sequences, was completed and sent to the National Center for Biotechnology Information (NCBI), which is the curator for the Genbank database. A second backfile project to capture the sequence information from foreign patents with US priority is underway.

External databases

USPTO patent examiners and trademark attorneys use a number of external database search services including STN (Chemical Abstracts Services and two other STN International Offices), Questel/Orbit, DIALOG, Dr. Link, and LEXIS/NEXIS. The content of the Derwent WPI file has been brought inhouse and is available via a system called WEST (Web-based Examiner Search Tool). Patent examiners in the biotechnology field also have access to the commercial sequence databases (for protein and nucleic acid sequence) acquired from the Oxford Molecular Group.

Administrative management systems (e.g., register, legal status, statistics, administrative support, etc.)

PALM Migration: USPTO continued the segmented subsystem delivery with successful delivery of the first subsystem (Infrastructure) in October 1998. The second and third subsystems (File ordering system and Pre-examination system) are expected in the July - September 1999 time period. The project is expected to run through the July - September 2000 time period.

PALM on PTONET: All USPTO employees have been provided further access to the current Management Information System on their desktop PC via barcode readers. This system has been found to provide increased case tracking accuracy.

Equipment used (hardware, including the types of terminal and network used, and software), carriers used

PTOnet

As desktop applications require more network bandwidth (through the backbone server attachments) PTOnet will be upgraded to keep ahead of the requirements. In 1997, PTOnet users shared a 10 Mbps Ethernet segment, with an effective bandwidth of 3 to 4 Mbps. Currently, PTOnet users have dedicated 10 Mbps connections; in the future, bandwidth of 100 Mbps or more will be provided to the desktop.

Access to external databases

External databases are primarily accessed using software such as STN Express, DialogLink, or Imagination, loaded on PTOnet. Also, now that examiners have access to the Internet, they have started using the services on secure servers, such as Dialog, STN Easy, and Dr.Link.

Existing online thesauri; their structure, presentation and usefulness for computerized searches

The USPTO internal databases do not currently have any thesauri.

VI. Administration of the industrial property office library and services available to the public (relating to facilities, e.g., for lodging applications, for assisting clients on searching procedures, for obtaining official publications and registry extracts):

Planning, administration, automation, security, buildings

Planning and Administration

The Scientific and Technical Information Center (STIC) is a component of the USPTO's Search and Information Resources Administration. Although providing a number of services to the public, STIC's primary mission is to serve the examining and professional

staff of the USPTO. STIC is composed of three divisions -- Scientific Literature, Chemical/Biotechnology, and Foreign Documents.

The Scientific Literature Division is responsible for collecting, processing and maintaining non-patent literature, providing reference services, devoting special emphasis on literature and reference support for new and emerging technologies, searching a wide variety of on-line commercial databases for examiners, monitoring the examining corps use of on-line commercial databases, providing interlibrary loan services, and maintaining the automated library and CD-ROM systems. In addition, this Division manages a support contract for the USPTO, which covers library services, facilities management, and information management functions.

The Electronic Information Centers (EIC) are satellite information facilities supporting the examination needs of the six PTO Technology Centers. These facilities are staffed with government and contract staff consisting of librarians, technical information specialists, and library technicians. These staff members provide searching and information services needed by the Technology Centers. EICs are now operational in Technology Centers 2700, 2800, and 3600. Before the end of 1999, Technology Centers 1700 and 3700 will also have local information facilities. All STIC services are available to the Technology Centers through these EICs.

The Lutrelle F. Parker, Sr. Memorial Law Library was established to provide access to legal information for examiners and other USPTO staff. Staffed by a law librarian and a library technician, on-line searching of commercial databases and CD-ROM products on a LAN are some of the services available.

The Chemical/Biotechnology Division serves the rapidly growing information demands of the chemical and biotechnology patent examining groups. The Division provides biotechnology and chemical on-line search services only for the examiners and reference services for the examiners and the public. This division builds and enhances the biotechnology and chemical literature and reference collections and maintains the in-house ABSS system running on a Sun Microsystems network. The Division manages the receipt and processing of applicant submissions in response to rules pertaining to computer readable form requirements for patent applications containing nucleotide and amino acid gene sequences.

The Foreign Documents Division is responsible for processing, recording, and distributing all incoming foreign patent documents and for maintaining the USPTO's numerically arranged collection of foreign patent documents. The staff also perform searches of foreign patent documents on commercial databases as well as in-house systems to assist examiners in obtaining foreign patent prior art. The translation staff furnish examiners with both oral and written English-language translations of foreign patent documents and technical articles. The staff also provide reference services to examiners and maintain self-

service facilities for the public, patent examiners, and other USPTO professional staff. This Division also provides copies of foreign patent documents to the public for a fee. Access to foreign patent documents is now furnished through the Foreign Patent Access Systems (FPAS I and II) and, for examiners, through the WEST system. The Translations Branch is in the final stage of the project to translate the index terms of the Japanese Patent Office's indexing system ("F-terms") into English.

Automation

STIC utilizes an automated library system allowing patrons access to the on-line catalog. This catalog includes the post-1977 non-patent literature collection and the most active portion of the pre-1977 collection. The Unix based system, Horizon, is accessible by examiners in the STIC and at their desktops.

The STIC has transferred the operation of the FPAS system to the OCIO and is in the process of transferring the operation and maintenance of the ABSS.

Security, Buildings

The main STIC collection is housed in commercially owned buildings along with other USPTO offices and remains locked during non-business hours. The property owners provide guards to control access to the buildings during non-business hours. Roving guards are provided during regular business hours. STIC takes various security measures to ensure the integrity of the STIC collection, including issuing USPTO security passes to all STIC employees and utilization of a book detection system.

Collecting, acquisitions, preparation

The Scientific Literature Division acquires, processes and houses or distributes non-patent literature for USPTO staff. This collection focuses on the applied science and technology fields with a special emphasis on creating special collections or systems for rapidly developing technologies, e.g. computer software and biotechnology. Backfiles of non-patent literature are procured in microfilm, CD-ROM, or other electronic formats to support examiners needs to locate prior art. Non-patent literature is classified according to the Library of Congress classification scheme.

The Foreign Documents Division processes and distributes all foreign patent documents and journals received at the USPTO. The majority of foreign documents are now received in CD-ROM format .

Collection management, preservation

The collections consist of over 150,000 monograph and serial titles, and approximately 344,274,000 foreign patent documents. Those portions of the collections maintained in STIC are open to the public. In accordance with the Patent Cooperation Treaty (PCT), STIC meets minimum documentation requirements for foreign patent documents and non-patent literature and makes these documents available to the public.

Interlibrary lending, resource sharing, networks of patent libraries in the country

Interlibrary Loans

STIC's Reference Fulfillment Branch was established to expeditiously provide the Examining Corps with non-patent literature references. After an examiner requests a non-patent literature reference, the Branch locates the reference and requests document delivery from a vendor/supplier. References from local libraries are retrieved by STIC's delivery service that involves an in-house staff. All other references are retrieved by mail, FAX, Internet, Ariel, CARL/Uncover, or other services outside the Metropolitan Washington area. The staff use OCLC (a national on-line shared cataloging and interlibrary loan system) and CUADRA Star as location tools and Dialog and STN for citation verification. The STIC participates in the National Commission on New Technological Uses of Copyrighted Works (CONTU). In observance of CONTU requirements, all requests are tracked for the number of occurrences from a journal on the Star system. If a minimum of five articles are requested from a journal not owned by STIC, either a subscription of the journal is purchased or copyright fees are paid to the Copyright Clearinghouse Center (CCC).

Reference and Copy Services

STIC provides reference assistance to examiners in the main facility, the Electronic Information Centers, the Chemical-Biotechnology Library, and the Parker Law Library during regular business hours. Reference service for examiners includes assistance with technical and reference materials, commercial on-line databases, and sequence searches on STIC's in-house automated biotechnology search system. With appropriate USPTO user passes, the public may gain access to the main facility and the Chemical-Biotechnology Library and use the collections (on-site), public copiers, and microfilm readers.

STIC's foreign patent staff provides assistance on the foreign patent collection to USPTO staff and to the public. Computer searches on commercially available databases such as Questel/Orbit and INPADOC are provided for USPTO staff only. As part of the normal public services available, the foreign patent staff will help the public locate foreign patent information by providing advice regarding searching, databases, and collections. Public users can make their own copies of foreign documents, or remotely, can request copies of foreign patents from the extensive STIC collections. The copy services are available both

directly from the USPTO and as a component of the special service mix at Patent Depository Regional Libraries.

Resource Sharing

STIC, a participant of the OCLC shared cataloging and interlibrary loan system, is a non-supplier for interlibrary loans. STIC is also participating with research networks via INTERNET to complement the existing shared cataloging and interlibrary loan system.

Network of Patent and Trademark Depository Libraries

The Hartford Public Library and the New Haven Free Public Library, both located in Connecticut were designated Patent and Trademark Depository Libraries (PTDL). The total number of PTDLs is 83 located in all 50 states, the District of Columbia and Puerto Rico.

The twenty-first annual PTDL Training Seminar was held from March 23-27, 1998 in Arlington, Virginia. Over 100 librarians from PTDLs, potential PTDLs, and other intellectual property offices attended the seminar which celebrated the 10th anniversary of Cassis CD-ROM products. A delegate from WIPO participated throughout the week and appeared on the agenda.

The PTDL Program was involved in a number of outreach activities. It sponsored and staffed an exhibit booth at the Special Libraries Association Annual Conference held in Indianapolis, IN in June 1998, the American Library Association in Washington, DC in June 1998, the American Association of Law Libraries held in July 1998 in Anaheim, CA and participated in the Independent Inventors Conference held in October 1998 in San Francisco, CA, which was sponsored by the PTO with assistance from the California and Nevada PTDLs.

For a listing of PTDLs, please see USPTO's Internet Web site or refer to the entry that appears in each issue of the *Official Gazette*.

Information services available to the public (including computerized services and search files contained in libraries remote from your Office and patent information posted by your Office on the World Wide Web)

Accessible from the USPTO Web site is the Patent and Trademark Depository Library (PTDL) Program Home Page. The mission, history, background, and frequently asked questions are among the topics included. Various publications, materials, and services at PTDLs are described and a list of the libraries, with telephone numbers and Internet links is also included.

Automated Information in Patent and Trademark Depository Libraries

Patent full-text searching via the Automated Patent System (APS-Text) is available at all PTDLs that pay a subscription fee or establish a deposit account for the service. There are currently 30 PTDLs that have entered subscriptions to access APS-Text.

The USPTO continues to provide a number of CD-ROM products to the PTDLs for direct public use. This includes all of the Cassis CD-ROM series: Patents BIB, Patents CLASS, Patents ASSIST, Patents ASSIGN, Patents SNAP, Trademarks ASSIST, Trademarks ASSIGN, Trademarks PENDING, Trademarks REGISTERED, and weekly issues of USAPat. A new product, USAMark, including a full back file of all registered marks was also distributed to the PTDLs in 1998.

The Sunnyvale (California) Center for Innovation, Invention and Ideas and the Great Lakes Patent and Trademark Center of the Detroit (Michigan) Public Library are successfully functioning as Partnership PTDLs. The Fondren Library, The South Central Intellectual Property Partnership, at Rice University in Houston (Texas) held its grand opening as the third Partnership PTDL in 1998. At the Partnership PTDLs, enhanced intellectual property information services that are offered on a cost recovery basis include APS-Text and APS-Image access and workstations, trademark searching using the X-Search System, electronic ordering of US and foreign patent documents, on-site and videoconference practitioner and public seminars, local filing of Disclosure Documents, and secure videoconferencing capability between patent examiners and inventors and/or attorneys.

Automated Information in Patent Public Search Facilities

Public access to patent images through the Automated Patent System (APS-Image) continued growing through 1998 in the Patent Search and Image Retrieval Facility. The system contains patent images of all US patents, and permits word searching of the text contained in patents granted since 1971.

The Patent Search and Image Retrieval Facility consists of 23 workstations, which utilize a fee system based on hourly usage. Access over the last year has leveled off to average of 73 sessions per day and 23% usage rate. The 1997 increase in the number of machines has all but eliminated the problem of machine availability, and except for peak hours, no customers are being turned away.

The Automated Patent System for text searching (APS-Text) is also available in the Patent Search Room. Six terminals are available utilizing a fee system based on hourly usage. Use of the APS-Text System in 1998 averaged 74 sessions per day with a usage rate of 21 percent.

A four-hour training course on the image workstations is available to the public for a nominal fee. In 1998, 47 public users were trained, making the total number of customers trained on this system 1,072. A 12-hour APS-Text training course is recommended prior to the APS-Image course. In 1998, 104 public users were trained on APS-Text, making the total number of customers trained on this system 2,042.

The CD-ROM jukebox network in the Patent Search Room allows for access to all of the PTO's CD-ROM products. Access to the system is free of charge. A fee is charged for all printing from the system.

Automated Products Provided to the Public

The USPTO's Information Dissemination Organizations continues to provide patent information products and services to the public in a variety of formats. The *Products and Services Catalog*, produced annually, describes USPTO products and services, and contains details on how to obtain them.

The following CD-ROM products are available for purchase by the public:

Patents BIB: Selected Bibliographic Information from US Patents Issued 1969 to Present

This Cassis CD-ROM contains bibliographic information for utility patents issued from 1969 to the present, and for other types of patent documents issued from 1977 to the present. It includes date of issue, state/country of first listed inventor's residence, assignee at time of issue, status (i.e., withdrawn, corrected, expired for failure to pay maintenance fees, reexamined or term extended), current classifications, patent title, and patent abstracts (for the most recent 2½-year period, as disc space allows). Patents BIB also refers to patent image locations on USAPat, described below. This CD-ROM product is updated every two months.

Patents CLASS: Current Classifications of US Patents Issued 1790 to Present

This Cassis CD-ROM contains current classification information for all utility, design, plant, reissue and X-numbered patents, as well as defensive publications and statutory invention registrations issued from 1790 to the present (over 6 million documents). Indexing of classification information has been optimized for rapid retrieval. This CD-ROM product is updated every two months.

Patents ASSIGN: US Patents Assignments Recorded at the USPTO 1980 August to Present

This Cassis CD-ROM includes data derived from assignment deeds for issued patents, which were recorded at the Patent and Trademark Office after August 1980. The disc

includes assignments recorded before and after the patent issued. This CD-ROM product is updated every three months.

Patents ASSIST: Full Text of Patent Search Tools

This Cassis CD-ROM is a compilation of many patent search tools including the following: Manual of Classification, Index to the US Patent Classification, Manual of Patent Examining Procedure, IPC - USPC Concordance, and Attorneys and Agents Registered to Practice Before the US Patent and Trademark Office. In addition, Classification Definitions, a Patentee-Assignee Index, and a Classification Orders Index are included. The Patentee-Assignee Index shows ownership at time of issue for utility patents 1969 to present; for other patent types 1977 to present; and inventor names 1975 to present. The Classification Orders Index is a list of classifications abolished and established since 1976 with corresponding Classification Order number and effective date. This CD-ROM product is updated every three months.

Patents SNAP: Concordance of US Patent Application Serial Numbers to US Patent Numbers

This Cassis CD-ROM provides a concordance between US patent numbers and application serial numbers. It includes data for patents with an application date from January 1, 1977 through the date specified on the disc. This CD-ROM product ceased publication with the 1998 issue.

Manual of Patent Examining Procedure (MPEP)

This Manual is published to provide US Patent and Trademark Office patent examiners, applicants, attorneys, agents, and representatives of applicants with a reference work on the practices and procedures relative to the prosecution of patent applications before the Patent and Trademark Office. The MPEP is available in electronic form as an ASCII text file downloadable (no charge) from the USPTO Web site on the Internet at <http://www.uspto.gov/>, and as a searchable text file on the Patents ASSIST CD-ROM product which includes many other useful files (CD Answer® software). Each revision is fully incorporated into the base edition and republished as a whole.

USAPat: Facsimile Images of United States Patents

This Cassis CD-ROM product contains facsimile images of US patents. An "image" is an actual page of the patent, including all drawings, and looks just like the original printed document. The purpose of USAPat is to serve as a document delivery system, not as a search system. Retrieval is by document number only from a cumulative index. Excellent printed copies of actual documents can be obtained directly from a laser printer. Over 150 discs are published each year (three to four discs per week). Delivery of weekly discs is usually within 15 days from issue date.

GLOBALPat: Text and Drawings from Patent First Pages

This Cassis CD-ROM includes text from the first page of a representative member of each patent family published by the United States, the European Patent Office, France, Germany, Great Britain, Switzerland, or the World Intellectual Property Organization. Records contain bibliographic and patent family information, an abstract, and a drawing (where available). This information was derived from the First Page Data Base (FPDB), an English-language collection representing nearly all of the world's patent literature published since 1971. The FPDB and GLOBALPat retrieval software, MIMOSA, were jointly financed by the Trilateral Offices—the United States Patent and Trademark Office, the European Patent Office, and the Japanese Patent Office. The GLOBALPat back file of 116 discs, covering 1971-1996, is organized into sixty-nine technology groups based on the International Patent Classification. The front file, 1997-1998, is arranged by issuing country and document number. An index disc covering all published issues is available. Publication will cease with the completion of 1998.

Trademarks REGISTERED: Bibliographic Information from Active, Registered US Trademarks

This Cassis CD-ROM contains the text of all active registered trademarks from 1884 to present with 30 searchable fields. This CD-ROM product is updated every two months.

Trademarks PENDING: Bibliographic Information from Pending US Trademarks

This Cassis CD-ROM contains the text of trademark applications, which have been filed but not yet approved for registration, with 25 searchable fields. This CD-ROM product is updated every two months.

Trademarks ASSIGN: US Trademarks Assignments Recorded at the USPTO 1955 to Present

This Cassis CD-ROM includes data derived from trademark assignment deeds recorded since 1955 with 10 searchable fields. This CD-ROM product is updated every two months.

Trademarks ASSIST: Full Text of Trademark Search Tools

This Cassis CD-ROM includes the searchable text of the Trademark Manual of Examining Procedure, the Goods and Services Manual, the Trademark Trial and Appeal Board Manual of Procedure, the Trademark Statute and Rules (Trademark Act of 1946 and the Rules of Practice), the Trademark Telephone Index, and the PTO Products and Services Catalog. It is updated on an irregular basis.

USAMark: Facsimile Images of United States Trademark Registrations

This Cassis CD-ROM contains facsimile images of U.S. registered trademarks from 1870 to the present. An "image" is an actual page of the trademark, including renewals and modifications, and looks just like the original printed document. *USAMark* is a document delivery system, not a search system. Retrieval is by document number only from a cumulative index that covers all issued discs. Excellent printed copies of actual documents

can be obtained directly from a laser printer. USAMark is published as a back file and a front file. The inaugural back file, with 118 discs, covers registrations through the end of 1998. Additional back-file and monthly discs will be created starting in 1999.

The USPTO maintains World Wide Web (WWW) and File Transfer Protocol (ftp) sites on the Internet, which permit the public free access to selected information related to patents and trademarks.

The USPTO Web site at <http://www.uspto.gov/> contains information about the office and information about patents and trademarks. It also provides access to searchable databases of patent and trademark information, and to tools that assist users in obtaining information.

In August 1998, the USPTO began providing free access to a searchable trademark database. It consists of bibliographic data and full-text of over one million registered trademarks and pending applications which date back to 1870. Currently, the text portion of the database is updated on a two-month cycle, and images are updated weekly.

In November 1995, the USPTO began providing access to patent bibliographic information and abstract text on its Web Site. The PatBib database contains the data back to January 1976, and is updated on a weekly basis, usually on issue day (each Tuesday). The raw data is available for FTP downloading on the same day. In November 1998, the USPTO began providing access to the searchable, full text of US patent from January 1976 to the present. The database is updated weekly, usually on issue day.

The AIDS Patent Database, accessible from the USPTO Web site, contains US patents related to research on Acquired Immune Deficiency Syndrome (AIDS), as well as patent documents from the Japanese Patent Office, the European Patent Office and other countries. Users can browse the database, or search using command-line fielded searching, phrase searching or date range searching.

(Note: The AIDS Patent Database was discontinued in March 1999 when the USPTO began offering images of all US patent documents from 1976 to the present.)

VII. Matters concerning mutual exchange of patent documentation and information:

International or regional cooperation in the exchange of machine-readable information, e.g., bibliographic data, abstract and/or full text information

Patent document exchanges are maintained with substantially all patent-issuing authorities. Copies of US patents are provided in paper form to 24 offices and as microfilm to 7 others. CD-ROM products containing patents images and information are provided to 108 intellectual property offices (see descriptions of the products above).

The USPTO has been involved in a variety of discussions concerning the exchange of patent documentation and information. Principally, these efforts have taken place in the context of the Trilateral Partnership consisting of the European Patent Office (EPO), the Japanese Patent Office (JPO) and the USPTO. The Trilateral Partners continue to work with WIPO on a number of patent-related matters, e.g., developing a standard concerning the making of patent documents available on mixed-mode CD-ROM.

Medium used for exchange of priority documents

No new activities in this area.

Medium allowed for filing applications

In the area of Electronic filing the Office is working on a series of projects under the heading of the Electronic Filing System (EFS). The first of these products was PrintEFS, which used the underlining concept of EFS to produce a paper printout and was released in April of 1999. The PrintEFS product is available on the PTO Web site and is downloadable to the individual users machine. PrintEFS presents a series of electronic forms, validation, and help to allow the user to input all of the needed bibliographic data. Once completed, the product prints out a Bibliographic data sheet in a format similar to the International Standard Application Format. Since PrintEFS maintains control over how the output is printed it is anticipated that this will improve the accuracy of the scanning, OCRing and data loading. The next portion to be released is EFS XP, which is scheduled for implementation in September 1999. EFS XP is a prototype system similar to the TEAM XP system. This product will be used in conjunction with TEAM XP and will allow a select group of applicants to refile currently pending applications electronically over the Internet for entry into TEAM. EFS XP will also allow the applicants to submit amendments and follow on papers electronically. Also due out September 1999 is the EFS for biological sequences. This will be a pilot system which will allow the biological sequences currently filed via disk to be filed electronically over the Internet. Applicants will be able to generate the sequence listing as they do today, attach the file to an electronic EFS form and then file over the Internet.

Since October 1990, the USPTO has made available to customers a software tool called PatentIn. This tool provides customers an efficient means to comply with USPTO rules requiring a Sequence Listing (in paper and electronic form) to accompany each biotechnology patent application that contains biological sequence information, and is used by over 70 percent of customers when they submit such applications. This tool was initially designed and developed by USPTO. Several modifications and improvements to make PatentIn compatible for international use have occurred since 1990. EPO has also participated in continuing development efforts.

During the early 1990's, USPTO and EPO customers suggested that, given the projection for increased rate of submissions, the software would be far more beneficial if it were Windows based. In 1996, USPTO and EPO began a cooperative effort to develop a Windows-based version of PatentIn and also to ensure accordance with WIPO Standard ST.25.

In addition, both EPO and JPO have requested the rapid development and implementation of the Windows PatentIn product as part of Trilateral Project 14.2. to ensure that their respective biotechnology patent examination efforts are equally as efficient. These Trilateral partners have joined with the USPTO to sponsor accelerated development of the Windows version of PatentIn for the benefit of patent customers worldwide. In 1997, the Windows-based version was nearly completed, with final version due in 1998. Due to problems encountered in making changes to the original version of PatentIn for Windows the final version, PatentIn 2.1, is now expected to be released by the end of 1999.

The USPTO has initiated a demonstration project to examine the potential for filing applications via the Internet. Applications would have appropriate security, including signature authority security.

Implementation of the Statement of Principles Concerning the Changeover to Electronic Data Carriers for the Exchange of Patent Documents (please make a status report on the extent to which your Office has changed over to electronic data carriers for the exchange of patent documents)

The USPTO began providing copies of its patent documents on the USAPat CD-ROM product (see description above) to all of its international exchange partners in 1994. In consideration of the ever increasing costs to store and maintain patent documents as paper search files and maintain their availability on microfilm media, the USPTO continues to study ways to provide exchange recipients with US patent specifications on CD-ROM or other electronic media in lieu of paper and microfilm.

VIII. Other relevant matters concerning education and training in, and promotion of, the use of patent information, including technical assistance to developing countries:

Training courses for national and foreign participants, use of audiovisual means

The USPTO provides technical training relevant to patent law and patent practice for all patent examiners. Additionally, a variety of technical classes are available dealing with search techniques on the Automated Patent System (APS) on and methods of using a variety of custom computer software to assist in the examination process.

The Academy participates in the two week Visiting Scholars Program. Here the PTO hosts patent professionals from offices world-wide and presents them with training on patents, trademarks, copyrights, and related procedural and operational issues.

The Academy also operates a televideo-conference facility. This has been used to broadcast live meetings and lectures with officials in foreign countries.

Assistance to developing countries (sending consultants and experts, receiving trainees from developing countries, etc.)

The Patent and Trademark Office offers various programs to provide technical assistance to developing countries and to countries moving to a market economy regarding the establishment of adequate systems in these countries for the protection of intellectual property rights and to provide intellectual protection enforcement training. The goal of the programs is to provide advice and expertise to these countries with the desired outcome being the reduction of losses resulting from piracy of U.S. intellectual property.

The FY 98 Visiting Scholars Program provided participants from Argentina, Bahamas, China, Egypt, Ghana, Jamaica, Laos, Lesotho, Moldova, Panama, Peru, Philippines, Romania, South Korea, United Arab Emirates and Venezuela with two weeks of classroom and hands-on study of various aspects of the administration of intellectual property law, patent and trademark examination and copyright protection, and an opportunity to gain an understanding of the important role of intellectual property protection as a tool for economic development.

Another highlight was the Intellectual Property Enforcement Training Programs conducted in South Africa, Latvia, Belize, China, and Hong Kong.

Promotional activities (seminars, exhibitions, visits, advertising, etc.)

The USPTO expanded the PTDL network to 85 libraries to provide patent and trademark information to the public throughout the United States and Puerto Rico.

The USPTO expanded its *1998 Catalog of Patent and Trademark Information Products and Services*. It is available on the USPTO's Web Site.

Studies to identify trends in new technology, e.g., by the use of patent statistics, preparation of monographs, etc.

The USPTO maintains the Technology Assessment and Forecast (TAF) database, which allows selected patent bibliographic information to be accessed, retrieved, and analyzed in a variety of ways. Time-series information by country, company, and technology may be obtained and used to identify trends. Specific information, such as patent titles and independent inventor names and addresses, is also available. A variety of prepared TAF statistical reports are available to the public.

Many statistical reports displaying overall trends by country, state, type of patentee (e.g., corporate, individual, or government), and patentee organization are available free of charge while other prepared reports are available for a nominal charge. Some reports profile patenting activity in new and active technologies, such as Genetic Engineering, the Internet, Semiconductors, and Telecommunications; other reports profile regional US patenting by state and locality; still other

reports display trends by specific patenting group (e.g., US universities, US women). Many profile reports are updated once or twice annually, and new reports are added as necessary. In addition, customized patent trend reports may be obtained for a fee, subject to available resources. Many of the TAF general statistical reports may be accessed at the USPTO's Internet Web site; some reports are available only at the Internet Web site.

Assistance furnished by offices to facilitate the changing over of receiving offices to electronic data carriers for the exchange of patent documents (see also item 4 of Chapter VI, above)

The USPTO closely cooperates with its exchange partners and provides detailed responses to requests for information regarding use of its USAPat CD-ROM product as a replacement for paper or microfilm patent documents. The USPTO has also offered to provide any exchange partner which decides to stop receiving a paper set of patent documents with two subscriptions to USAPat CD-ROM along with complete back files to 1994. For offices which decide to stop receiving US patents on microfilm, a single subscription to USAPat along with the backfile are offered.

IX. Other relevant matters

The USPTO continued its participation in the technical activities established under the various international agreements administered by WIPO.