I. Action Plan Introduction and Authorizations

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<th>NDSU ORGANIZATION OR UNIT</th>
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<td>NDSU Department of Visual Arts</td>
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<tr>
<th>TITLE OF PROJECT</th>
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<td>Renaissance Hall “Thinking Space”</td>
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<tr>
<th>Project Duration (3 years maximum)</th>
<th>From: 3/2012</th>
<th>To: 9/2012</th>
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<th>Type of Project (Check one)</th>
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<tr>
<th>Total Technology Fee Request</th>
<th>$7,397.00</th>
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<th>Project Directors (Must be NDSU faculty or staff)</th>
<th>Campus Address:</th>
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<tr>
<td>Daniel Siverson</td>
<td>Renaissance Hall 14A</td>
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<tr>
<td>Jenny Grasto</td>
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<tr>
<td>Michael Strand</td>
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<th>Phone: 701-231-8849</th>
<th>Fax: 701-231-5773</th>
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<tr>
<th>E-mail: <a href="mailto:Daniel.Siverson@ndsu.edu">Daniel.Siverson@ndsu.edu</a></th>
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<td>Project Directors</td>
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<tr>
<th>Unit Head</th>
<th>Michael Strand</th>
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<td>3/9/12</td>
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<th>IT Division Consultant</th>
<th>Melissa Stotz</th>
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<td>3/9/12</td>
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Executive Summary (maximum of 175 words)

This project seeks to provide the opportunity for engagement of students and faculty in interactive and collaborative learning and teaching in the design disciplines. The primary component of this proposal, the interactive whiteboard, will provide the technology for such activity. The expected outcome is that students and faculty will have experienced learning and teaching art and design in an innovative way.
NDSU Technology Action Plan Request

II. Project Overview

1. How does this project meet student needs?

Students in the design disciplines will have an environment dedicated to interactive and collaborative learning with other students as well as faculty.

2. What audience does this project directly serve? What audience is indirectly served? How many students are affected?

This project will primarily serve the students and faculty in the Department of Visual Arts, and will also be available to students and faculty in the Department of Architecture and Landscape Architecture. Others may be able to schedule use of the room upon request. There are over 600 students and faculty in Visual Arts, Architecture, and Landscape Architecture.

3. For projects that target a subset of NDSU’s students, please describe the possibility for broader application in the future.

The equipment included in this plan may also serve to provide a means for NDSU and general audiences to interact with digital art and design created by NDSU students.

4. Describe both the immediate and long term impact of this project.

The immediate impact is that students and faculty will be introduced to an alternative, interactive way of learning and collaborating on design projects. The potential long term impact of the project may be that it will continue to engage artists and designers in creating and viewing digital/interactive art.

5. Who will pay for ongoing expenses following the technology fee funded portion of this project (e.g., who will replace hardware or software after it has reached its end of life)?

The Department of Visual Arts will pay for ongoing expenses associated with this project.

6. Describe how this project will follow NDSU’s best practices in information technology. (Please make sure the NDSU IT Division staff you consulted signs in Part I of this form.)

The innovative technology included in this project will give students and faculty the opportunity to explore interactive learning and collaboration.

7. What service on campus is most similar to the one proposed here? How does this project differ?

We are not aware of any interactive whiteboards available on campus.
The Department of Visual Arts is seeking funding to provide the opportunity for engagement of students and faculty in interactive and collaborative learning and teaching in the design disciplines.

The Renaissance Hall “Thinking Space” will house the small departmental library collection, display student artwork, seating, table surfaces, a computer, scanner, and an interactive whiteboard.

The primary component of this proposal, the interactive whiteboard, will fulfill multiple needs of the students and faculty. It will serve as a general whiteboard for sketching and writing out ideas; a means of producing digital art interactively with design software on a connected computer; a way

The expected outcome is that students and faculty will have experienced learning and teaching art and design in an innovative way.

Over 600 students and faculty in the Departments of Visual Arts, Architecture and Landscape Architecture will benefit from this project.
IV. Milestones

List the date for each project milestone. These milestones should represent the significant accomplishments that will be associated with the action plan. For each milestone, please indicate its expected outcome and the means for assessing that outcome. (The table may be extended as needed.)

<table>
<thead>
<tr>
<th>Date</th>
<th>Milestone</th>
<th>Expected Outcomes</th>
<th>Means of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. April 20, 2012</td>
<td>Draft of re-design of room Ren 124</td>
<td>A draft of what the layout of the space might look like</td>
<td>Review with faculty and Facilities Management</td>
</tr>
<tr>
<td>2. June 29, 2012</td>
<td>Complete re-design of room Ren 124</td>
<td>Readiness of space to contain equipment and materials</td>
<td>Evaluation by project director(s)</td>
</tr>
<tr>
<td>3. July 20, 2012</td>
<td>Order and set-up equipment</td>
<td>Receipt and proper set-up of equipment</td>
<td>Equipment working properly</td>
</tr>
<tr>
<td>4. August 20, 2012</td>
<td>Demonstrate use of interactive whiteboard to faculty</td>
<td>Faculty know how to use the interactive whiteboard</td>
<td>Direct feedback from faculty</td>
</tr>
</tbody>
</table>
NDSU Technology Action Plan Request

V. Supporting Documentation

Printouts of product specifications for each item are attached, except for the proxy card reader and installation.

Brian Miller, NDSU Telecommunications, gave a rough estimate of $3000-$4000 for making the room card access only. A more accurate estimate of the cost of proxy card access will be sought by the Department of Visual Arts.
### NDSU Technology Fee Action Plan Request
#### VI. Budget

1. **NDSU ORGANIZATION OR UNIT**
   - NDSU Department of Visual Arts

2. **PROJECT DIRECTOR(S)**
   - (Must be NDSU faculty or staff)
   - Michael Strand, Daniel Silverson, Jenny Grasto

<table>
<thead>
<tr>
<th>3. <strong>SALARIES AND WAGES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel description</td>
</tr>
<tr>
<td>A. Staff</td>
</tr>
<tr>
<td>B. Graduate students</td>
</tr>
<tr>
<td>C. Undergraduate students</td>
</tr>
</tbody>
</table>

4. **TOTAL SALARIES AND WAGES**  
   
   - $0.00

5. **FRINGE BENEFITS**
   
6. **TOTAL SALARY, WAGES AND BENEFITS**
   
   - $0.00

<table>
<thead>
<tr>
<th>7. <strong>EQUIPMENT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. HID Proxy card reader (1)</td>
</tr>
<tr>
<td>B. Dell Optiplex 790 desktop computer (1)</td>
</tr>
<tr>
<td>C. Epson GT-20000 Flatbed Scanner (1)</td>
</tr>
<tr>
<td>D. 42&quot; SMART Board Interactive Whiteboard, Model 640 (1)</td>
</tr>
<tr>
<td>E. Projection Audio System, Model SBA-L (1)</td>
</tr>
<tr>
<td>F.</td>
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<td>G.</td>
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8. **TOTAL EQUIPMENT**

   - $7,397.00

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<thead>
<tr>
<th>9. <strong>MATERIALS AND SUPPLIES</strong></th>
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10. **TOTAL MATERIALS AND SUPPLIES**
    
    - $0.00

11. **TOTAL TECHNOLOGY FEE REQUEST**
    
    - $7,397.00

12. **MATCH (Describe in Match Section)**

13. **TOTAL PROJECT EXPENDITURE**
    
    - $7,397.00
The Dell Optiplex 790 desktop computer is the basic computer recommended by ITS, which is the model used in campus computer clusters. The newest model for 2012 has not yet been released.

The 42" SMART Board Interactive Whiteboard, Model 640, was selected to fit the size of the room as well as meet the interactive technology needs of the project.

The Projection Audio System, Model SBA-L, is the recommended audio system for the whiteboard.

The Epson GT-20000 11x17 Flatbed Scanner is the recommended model that is used in Klai and Renaissance Halls.

An HID Proxy card reader suitable for interior use will be selected to help secure the contents of room, while still allowing those with authorization to utilize the space.
NDSU Technology Action Plan Request

VIII. Budget Match

There is no budget match.
Dell™ OptiPlex™ 790 desktop

The OptiPlex 790 flexible desktop solution is designed for advanced performance and efficient collaboration. It enables business-class control that helps ensure IT saves time and money and the remote management technology also helps simplify systems management and protect your data. Dell OptiPlex 790 is available in four different chassis sizes that blend seamlessly into office environments and respect our planet.

Flexible and environmentally conscious design

The completely redesigned form factors are amongst the smallest within their categories. The mini-tower, desktop and small form factor chassis have been optimized to help maximize desk space and ensure the systems integrate seamlessly in virtually any office environment. The Dell OptiPlex 790 also shares the same visual identity as OptiPlex 990 and 390 to offer a more consistent look across the OptiPlex portfolio and two All-in-One stands enable deployment as a single device with up to 24" displays. Accessibility and serviceability are easy thanks to the convenient side-latch mechanism which makes access to key system components for upgrades and services fast and easy. The form-factor flexibility has also been designed with our planet in mind. The systems all have a minimum of 10% post-consumed recycled plastic enclosure and offer 90% efficient power supplies option. Starting with OptiPlex small form factor Dell also provides recyclable packaging. By using post-consumed recycled plastic content in the chassis of more models, the new generation of OptiPlex is Dell's most environmentally responsible commercial desktop offering.

Advanced performance and productivity

The OptiPlex 790 delivers great performance and features nearly the same performance as OptiPlex 990 which is the most powerful OptiPlex ever. Enable your workforce with cutting-edge productivity tools such as the advanced 2nd generation Intel® Core™ i7 processor featuring generous high-speed memory options and support for up to four simultaneous video displays across small-form factor, desktop and minitower chassis with dual PCI-express slots. The OptiPlex 790 also supports flexible desktop virtualization deployment models to help users get up and running fast and have their data centrally stored to avoid downtime. OptiPlex 790 supported virtualization solutions range from virtual remote desktop control to on-demand desktop streaming or client hosted virtualization.

Business-class control

The OptiPlex 790 is equipped with Intel Standard Management technology enabling efficient remote system management that helps managing many systems simultaneously; along with the Dell Data Protection security capabilities such as one-touch preset compliance policy templates, flexible encryption and single solution for system disk as well as removable medias that work in your unique environment. A business-class range of security and management options which allows security and remote control configurations to meet large organizations unique needs and challenges. Dell KACE system management appliances are fully-compatible with the OptiPlex 790 desktops enabling easy deployment of remote manageability and maintenance simplification. The OptiPlex technological assets are backed with proven professional IT services and support worldwide, ranging from deployment to maintenance or web solutions to help IT to simplify their daily tasks. The OptiPlex platform commitment to stability, long-lifecycle and managed transitions also help ensure IT to save time and money.
Your business-class desktops at dell.com/optiplex

*Important Information: Remote Diagnosis is determined by controlled phone handshaking of some or all of the client’s hardware components and is available at no charge for the first year. DELL ACCEPTS NO RESPONSIBILITY FOR ACCURACY OR COMPLETENESS OF INFORMATION. SUBJECT TO CHANGE WITHOUT NOTICE.

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Specifications

SMART Board™ interactive whiteboard

Model 640

Physical specifications

Size
42" W × 32" H × 5 1/8" D
(106.7 cm × 81.3 cm × 13 cm)

Active screen area
38 3/8" W × 28 3/4" H (97.5 cm × 73 cm)
48" (121.9 cm) diagonal

FS640 floor stand
42" W × 52 3/4" to 66 3/4" H × 40 3/8" D
(106.7 cm × 134 cm to 169.6 cm × 102.5 cm)

Weight

14 lb. 12 oz. (6.7 kg)

Shipping size

1 unit
46" W × 46 1/2" H × 5 1/2" D
(116.8 cm × 118.1 cm × 14 cm)
8 units on pallet
7" W × 51 1/2" H × 45" D
(119.4 cm × 130.8 cm × 114.3 cm)

Shipping weight

1 unit
25 lb. (11.4 kg)
8 units on pallet
216 lb. (98.2 kg)

All dimensions ± 1/8" (0.3 cm). All weights ± 2 lb. (0.9 kg)
Standard features

Software  SMART Notebook™ collaborative learning software included. See the SMART Notebook release notes for a complete list of system requirements. Software upgrades are available at smarttech.com/software.

Pen tray  Optical sensors in the pen tray detect when a pen or eraser is lifted from the tray. LEDs show the active tool.

Pens and eraser  Black, blue, red and green pen tray pens and a rectangular eraser

Resolution  Touch resolution is approximately 4000 × 4000.

Screen surface  The hard-coated polyester surface is tear proof, optimized for projection, compatible with dry-erase markers and is easily cleaned with whiteboard cleaner.

Digitizing technology  Resistive

Frame finish  Two-tone gray (approximates Pantone® Charcoal Gray 18-0601 TPX) and Ultrasonic Chrome (approximates metallic Pantone 877 C)

Wall-mount bracket  32" (81.3 cm) wide with five screws and five drywall anchors to support a wall-mounted interactive whiteboard

Computer connection  16’ (5 m) USB 2.0 cable

Power requirements  Power is obtained from the computer directly through the USB cable for Windows®, Mac and Linux® computers. Power consumption is less than 1.5 W (300mA at 5V).

Certifications and compliance

Warranty  Five-year limited equipment warranty upon registration. See warranty document for details.

NOTE
A digital projector isn’t included with this model of SMART Board™ interactive whiteboard. To take advantage of all interactive features, you must integrate a digital projector.

Storage and operating specifications.

Storage  -40°F to 120°F (-40°C to 50°C)

Operation  41°F to 95°F (5°C to 35°C) with up to 80% humidity, non-condensing

SMART order number

SB640  48” (121.9 cm) diagonal SMART Board interactive whiteboard
Optional accessories

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
<th>NA</th>
<th>UK</th>
<th>AU</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB6</td>
<td>Firm-sided carrying bag for the SMART Board 640 interactive whiteboard</td>
<td></td>
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<tr>
<td>CBJ-640</td>
<td>Padded carrying bag for the SMART Board 640 interactive whiteboard and the TS640 table stand</td>
<td></td>
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<tr>
<td>HSCJ-640</td>
<td>Hard shipping case for the SMART Board 640 interactive whiteboard and the TS640 table stand</td>
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<tr>
<td>FS640</td>
<td>Mobile floor stand with 4&quot; (10.2 cm) lockable casters and flip-up anti-tip feet</td>
<td></td>
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<tr>
<td>TS640</td>
<td>Table stand installs quickly to allow the SMART Board 640 interactive whiteboard to be used on a table</td>
<td></td>
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</tr>
<tr>
<td>RS232-XX</td>
<td>RS-232 to USB conversion module that allows a serial connection to the interactive whiteboard as an alternative to USB</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>WC6D-XX</td>
<td>Wireless Bluetooth® connection between the SMART Board interactive whiteboard and the computer</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>SBA-XX</td>
<td>USB audio system with two 15 W speakers that mount to the interactive whiteboard or wall</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>SYSON6-XX</td>
<td>SystemOn expansion module wakes up the computer and turns on the projector with one button press</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>USB-GW</td>
<td>GoWire™ SMART Notebook software auto-launch cable</td>
<td></td>
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<tr>
<td>USB-XT</td>
<td>16&quot; (5 m) USB active extension cable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAT5-XT</td>
<td>USB to Cat 5 cable extender set</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RPEN-ER</td>
<td>Replacement set of four pen tray pens (black, red, blue and green) and rectangular eraser</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RPEN</td>
<td>Replacement set of four pen tray pens (black, red, blue and green)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE**

Part numbers ending in XX include power supplies for the countries or regions, as indicated by ✓ in the columns to the right. When ordering, substitute XX in the part number with the appropriate country code as follows:

NA = U.S. and Canada
UK = United Kingdom
EU = European Union
AU = Australia
Physical dimensions

Leave at least 5/8" (1.6 cm) headroom to wall mount the SB640.

Distance from the bottom of the wall mount bracket to the top of an installed interactive whiteboard is 4 1/4" (10.8 cm).

Wall Mounted Cut Away View

Wall Mounted Side View

Wall Mounted Front View

Recommended wall-mounted installation height to top of SB640 for average sized adults is 73 3/4" (187.3 cm).

USB Connection Location

Minimum Height to top of SB640 60 7/8" (154.3 cm)

Maximum Height to top of SB640 68 1/2" (173.9 cm)

Floor Stand Mounted Side View (lowest position)

Floor Stand Mounted Back View (highest position)

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Specifications

Projection Audio System

Model SBA-L

Physical Specifications

Size
24" H × 5 1/8" W × 4" D
(61 cm × 13 cm × 10.2 cm)

Weight (Both Speakers)
14 lb. 8 oz. (6.6 kg)

Shipping Weight
21 lb. (9.5 kg)

Shipping Size
8" H × 12 3/4" W × 26 1/2" D
(20.3 cm × 32.4 cm × 67.3 cm)

Standard Features

Mounting Brackets
Mount the speakers directly to your SMART Board™ 685ix interactive whiteboard system.

Color
Dark gray (approximates Pantone® Charcoal Gray 18-0601 TPX) and silver

Connectivity
Dual RCA receptacles on the bottom of the right (active) speaker connect to the UX60 projector.

Frequency Range
50 Hz to 20 kHz ± 6 dB

Output
14 W RMS both channels driven simultaneously. The audio system provides a comfortable listening volume in rooms up to 1,000 ft² (90 m²) in size, with a 30-person capacity (subject to room acoustics).

Connection Panel (Right Speaker)
Polarized Molex® connector and 16 AWG wire with sufficient slack to discreetly route wire behind your interactive whiteboard or along the floor

Dual RCA Jacks
Connects to the UX60 projector

Power Connector
Powered barrel connector (15V DC, 4A), positive center

Power Requirements
Includes a switching power supply (100V–240V AC, 50/60 Hz, 1.5A) and a 14’ 9 1/8” (4.5 m) country-specific power cord (15 V DC, 4000 mA, 60 VA, positive tip)

Extraordinary made simple™ | SMART™
Environmental Compliance

China EIP, EU RoHS, EU WEEE, Packaging and US CPSIA

Regulatory Certifications

CE and CSA/UL

Warranty

One-year limited equipment warranty

Operating Specifications

41°F to 95°F (5°C to 35°C) with up to 80% humidity, non-condensing

⚠️ CAUTION

If the speakers are very cold, allow them to warm to room temperature before operation.

SMART Order Numbers

SBA-L Projection Audio System for the SMART Board 685ix interactive whiteboard system

Physical Dimensions

![Front View](image1)

![Right Side View](image2)

![Bottom View](image3)

Dual RCA Jacks (to External Audio)
Molex Connector (to Left Speaker)
Power Connector
Epson GT-20000 Flatbed Scanner
11.7 x 17" Scanning Area • 600 x 1200 dpi Resolution
• Dedicated Monochrome Channel • Automatic Document Size Detection • Automated Image Restoration • OCR Software Included • USB 2.0 & SCSI-2 Connectivity • Optional ADF & Network Card
B&H# EPGT20000 • Mfr# B11B195011

Price: $999.00
Availability: In Stock

This Item Includes
• Power Cable
• USB Cable
• Software CD-ROM (Epson Scan, ScanSoft PaperPort, ABBYY FineReader Sprint OCR)
• Electronic User’s Guide
• Start Here Poster
• 1-Year Manufacturers Limited Warranty (U.S. and Canada)

Required/Recommended Accessories
The item(s) listed below are recommended to enhance the use of the selected item above.

Care & Cleaning
Kinetronics Digital Scanner Glass Cleaning Kit
B&H# KIDSGCK
Mfr# KSDDK
Price: 9.95

Storage Pages
Print File 35mm Archival Storage Pages for Negatives, (25 Pack)
B&H# PR357525
Mfr# O10-0100
Price: 5.99

Scanner Accessories
Epson Automatic Document Feeder
B&H# EPADF1640XL
Mfr# B813212
Price: 1,029.00

Books & Tutorials
Wiley Publications Book/CD: Scanners For Dummies, 2nd Edition
B&H# WISD
Mfr# 9780764567902
Price: 24.95

Product Information
The **Epson GT-20000 Flatbed Scanner** provides the productivity benefits of advanced scanning technology in an affordable, large-format scanner. The GT-20000 can quickly accommodate virtually any scanning project - it easily handles virtually anything from small receipts to large financial reports, and the 600 x 1200dpi resolution along with 48-bit color capability provides the ability to capture incredible detail on scans up to 11.7 x 17" in size. It even offers automatic paper size detection so there's no need for complicated settings or selections. And, it blazes through each scanning task at remarkable speeds.

The scanner's software provides a number of scan automation features that help to streamline your workflow. The Color Restoration feature automatically restores true-to-life color to old, faded, or badly exposed photos, and the Backlight Correction feature removes shadows from photos that have too much background light. Also, the Dust Removal feature cleans the dust marks from your originals as you scan them. The scanner also includes easy-to-use document management software including ABBYY FineReader.
Sprint Plus OCR and ScanSoft PaperPort so users can quickly and efficiently digitize and manage important business documents.

The Epson GT-20000 includes fast USB 2.0 and SCSI-2 connectivity. This, coupled with its high-speed operation and incredible versatility give users the power they need, and the productivity they've only imagined, for critical daily requirements. Plus there is an optional network card available, enabling busy workgroups to share a single scanner.

Features

- **11.7 x 17” Scanning Area**
  The Large Scan bed allows you to capture a two-page book, magazine, or catalog spread in a single scan, and is ideal for scanning artworks and large photos.

- **600 x 1200dpi Resolution**
  With a resolution of 600 x 1200dpi and 48-Bit Color depth, the Epson GT-20000 captures incredible detail, and provides rich, vivid color and sharp, clean text.

- **Dedicated Monochrome Channel**
  The GT-20000 has a 4-line, color CCD with four rows of CCD linear sensors. In addition to the typical 3-lines of color receptors (Red, Green & Blue), the scanner includes an additional black CCD line for fast monochrome scanning with optimum quality and detail.

- **High-speed Scanning**
  The Epson GT-20000 delivers 8.5 x 11” color scans at 300dpi in 10.2 seconds for greater productivity.

- **Automatic Document Size Detection**
  Place a document on the scan bed and begin to scan - there is no need to carefully define the desired scan area since the scanner automatically detects the size of the document and sets the scan area appropriately.

- **Automated Image Restoration**
  The GT-20000 Scanner makes restoring images simple - the Color Restoration feature included in the Epson Scan software transforms an old, faded, or badly exposed photo into one with true-to-life color and sharpness; the Dust Removal feature virtually cleans the dust marks from your originals as you scan them; and the Backlight Correction feature removes shadows from photos that have too much background light.

- **Instant Startup**
  The Scanner uses a Bright Xenon lamp that does not require any warm-up time, so you can start scanning right away and avoid delays for time critical scanning projects.

- **Optional Automatic Document Feeder**
  Quickly scan stacks of documents with the optional 100-page Automatic Document Feeder. Its durable, high-quality design allows users to scan multi-page documents as fast as 23ppm.

- **Complete Software Solution**
  The scanner comes with easy-to-use document management software including ABBYY FineReader Sprint Plus OCR and ScanSoft PaperPort so users can quickly and efficiently digitize and manage important business documents.

- **Fast Computer Interface**
  The scanner has SCSI-2 and USB 2.0 connectivity built-in for a fast computer interface and versatile connectivity options. There is also an optional Network Card available which supports 10Base-T and 100Base-TX connections to enable busy workgroups to share a single scanner.

Specifications

<table>
<thead>
<tr>
<th>Go To</th>
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</thead>
<tbody>
<tr>
<td>Scan Quality</td>
</tr>
<tr>
<td>Scan Area</td>
</tr>
<tr>
<td>Performance</td>
</tr>
<tr>
<td>Connectivity</td>
</tr>
<tr>
<td>Physical</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Scan Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scan Sensor</td>
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<tr>
<td>Optical Resolution</td>
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<tr>
<td>Specification</td>
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<tr>
<td>---------------</td>
</tr>
<tr>
<td>Hardware Resolution</td>
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<tr>
<td>Interpolated Resolution</td>
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<tr>
<td>Color Depth</td>
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<tr>
<td>Dynamic Range</td>
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</table>

**Scan Area**

<table>
<thead>
<tr>
<th>Type</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>Reflective Scan Area</td>
<td>11.7 x 17&quot;</td>
</tr>
<tr>
<td>Transparency Scan Area</td>
<td>No</td>
</tr>
<tr>
<td>Film Formats</td>
<td>Not Applicable</td>
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</tbody>
</table>

**Performance**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preview Speed</td>
<td>Not Specified by Manufacturer</td>
</tr>
<tr>
<td>Scan Speed</td>
<td>Color: 3.8 msec/line</td>
</tr>
<tr>
<td></td>
<td>Grayscale: 1.3 msec/line</td>
</tr>
<tr>
<td></td>
<td>Line art: 1.3 msec/line</td>
</tr>
<tr>
<td>Batch Scanning</td>
<td>No (possible with optional ADF)</td>
</tr>
<tr>
<td>Automation</td>
<td>OCR, Color Restoration, Dust Removal, Backlight Correction</td>
</tr>
</tbody>
</table>

**Connectivity**

<table>
<thead>
<tr>
<th>Interface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB 2.0 (Hi-Speed)</td>
<td></td>
</tr>
<tr>
<td>SCSI (50-pin)</td>
<td></td>
</tr>
<tr>
<td>Optional Network Card (RJ-45, 10Base-T/100Base-TX)</td>
<td></td>
</tr>
</tbody>
</table>

**System & Software Requirements**

**Windows System**

- Pentium II 450MHz or higher processor (1GHz or higher for for x64 & Vista)
- Microsoft Windows 2000, XP, XP Professional x64, Vista
- 128MB RAM or higher (512MB or higher for x64 & Vista)
- 85MB of free hard disk space
- USB 2.0/1.1 or SCSI interface
- CD-ROM Drive (for software installation)

**Macintosh System**

- PowerPC G3 with 400MHz or Intel-based Macintosh
- Mac OS X (10.2.8 or later)
- 182MB RAM or higher
- 90MB of free hard drive space
- USB 2.0/1.1 or SCSI interface
- CD-ROM Drive (for software installation)

**Physical**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Source</td>
<td>Xenon Gas Cold Cathode Fluorescent Lamp</td>
</tr>
<tr>
<td>Front Panel Controls</td>
<td>Power, Start</td>
</tr>
<tr>
<td>Power Requirements</td>
<td>100-120 VAC; 50-60Hz</td>
</tr>
<tr>
<td>Dimensions (WxOxH)</td>
<td>25.8 x 18.0 x 6.2&quot; (655.3 x 457.2 x 157.5mm)</td>
</tr>
<tr>
<td>Weight</td>
<td>29.8 lbs (13.5kg)</td>
</tr>
</tbody>
</table>