PPAC Patent End-to-End Update

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Chief Information Officer

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Develop and Deploy 21st Century Information Technology System

• We’re building a new patent system from end-to-end emphasizing the following principles:

• **Stop, Look and Listen**: Stop investing in endless modifications to our outdated systems; look at what other agencies and industry are doing; and listen to our employees and stakeholders to determine their wants and needs.

• **Build Smart, Build Fast but Own the Design**: We will embrace an agile and iterative development methodology to incrementally build and improve core functionality, and then scale to meet the broad needs of our user community.

• **Stakeholder Needs Lead**: For these changes to make an impact on timeliness and quality, our new system must fully meet the needs and desires of our employees, and be flexible enough to absorb continuous change going forward.
Vision for 21st Century End-to-End Patent IT System

- Open Standards
- Maintainability, Scalability
- Optimization of cost and time
- Visibility of information
- Usability (of data, interfaces)
- State of the art search and comparison tools
- Collaboration support
Creating Claim Tree

Original Claims

Claim Dependencies
lead may be connected directly to the exposed area of the top electrode 113. In another alternative embodiment, the matching layer may be made of a conductive material, e.g., silver epoxy, with the lead connected to the matching layer.

[0031] Although the exemplary embodiments in the Figures show the conductive post 135 having two exposed surfaces, the post 135 may only have an exposed bottom surface. For example, the post may be located within the backing layer with no exposed side surface. Alternatively, the post may only have an exposed side surface and not extend all the way down to the bottom of the backing layer.

[0032] A batch process for fabricating transducers according to an exemplary embodiment will now be given with reference to Figures 5(a)-5(b). The batch process is compatible with MEMS microfabrication techniques. In this example, the post is made of deposited metal, although other conductive materials, e.g., heavily doped silicon, may also be used.

[0033] Figure 5(a) shows an active element layer 210, e.g., a piezoelectric element, with electrode layers 213, 217, e.g., gold or chrome electrodes. The active element layer 210 rests on a carrier 260, e.g., silicon wafer, for supporting the transducer layer during fabrication. A layer of light-sensitive photoresist 265, e.g., SU-8 or KMPR, is applied on top of the active element 210 using spin coating. The photoresist layer 265 can be either positive or negative based on its response to light. Positive photoresist becomes weaker and more soluble when exposed to light while negative photoresist becomes stronger and less soluble when exposed to light. Photoresists are commonly used in IC and MEMS fabrication with consistent repeatable results.

[0034] In Figure 5(b), a mask 270, e.g., chrome on glass, is used in conjunction with light exposure equipment to form a pattern in the photoresist 265. In this example, the photoresist 265 is positive and the mask 270 is transparent in areas where the photoresist 265 is to be removed to form the posts. UV light 275 is filtered through the mask 270 and reaches the underlying photoresist 265. The areas of the photoresist 265 corresponding to the transparent areas 280 of the mask 270 are exposed to the UV light 275. For the example of negative photoresist, the mask would be opaque in areas where the photoresist is to be removed.
Matching Claims to Spec

What is claimed is:

1. An ultrasound transducer comprising:
   - an active acoustic element; and
   - a passive layer attached to the active acoustic element, the passive layer comprising:
     - a layer of material; and
     - a conductive post embedded in the layer of material and electrically connected to the active acoustic element.

2. The transducer of claim 1, wherein the active acoustic element comprises a piezoelectric element.

3. The transducer of claim 1, wherein the material comprises a polymer.

4. The transducer of claim 1, wherein the passive layer forms a backing layer that attenuates ultrasound energy propagation below the active acoustic element.

5. The transducer of claim 1, wherein the conductive post comprises a metal post.

6. The transducer of claim 1, wherein the conductive post has a side surface that is exposed.

7. The transducer of claim 6, wherein the exposed side surface of the conductive post is substantially flat.

8. The transducer of claim 6, further comprising a lead connected to the exposed side surface of the conductive post.

9. The transducer of claim 6, further comprising an integrated circuit (IC) chip connected to the exposed side surface of the conductive post.

10. The transducer of claim 1, wherein the conductive post has a bottom surface that is exposed on a bottom surface of the passive layer.
Combining into an Office Action

Office Action

Office Action Summary

Application No. | Examiner
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null | null

Art Unit | 3790
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The Mailing Date of this communication is followed by the examination with the corresponding address.

Period for Reply

A shortened statutory period for reply is set to expire 3 months or thirty (30) days, whichever is longer, from the mailing date of this communication.

1. Extension of time to reply is available under the provisions of 37 CFR 1.136(b).
2. A reply is required, even if nothing is mailed or filed.
3. A reply is required, even if nothing is mailed or filed.

Status

1. Responsive to communication filed on
2. Notice FINAL
3. Response filed
4. This action is final.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is stopped in light of the rejection under 37 CFR 1.133.

Disposition of Claims

4. Claim(s) 1-29 are pending in the application.
5. Of the above claim(s), 1-29 are withdrawn from consideration.
6. Claim(s) 1-29 are allowed.
7. Claim(s) 1-29 are rejected.
8. Claim(s) 1-29 are objected to.
9. Claim(s) 1-29 are subject to restriction and/or election requirement.

Application Papers

9. The specification is objected to by the Examiner.
10. The drawing(s) filed on 17 February 2005 and 17 August 2005 is: (a) accepted or (b) objected to by the Examiner.

Applicant may request that any objection to the drawings be held in abeyance. See 37 CFR 1.154(b).

Replacement drawing sheets including the objection is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11. The oath or declaration is objected to by the Examiner. Note the attached Office Action or Form PTO-152.

Priority under 35 U.S.C. § 119

12. Acknowledgment of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) is:

a) All
b) Some

Hereof:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. ________
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PTO Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1. Notice of Reference (PTO-500)
2. Notice of Objection to the Publication of the Application (PTO-506)
3. Information Disclosure Statement (PTO-1449)
4. Notice of Pre-Arrangement (PTO-415)
5. Notice of Invention Application (PTO-182)
6. Other ________
Automated Process Compared to Standard Examination Process

**Existing Company Products**

- Process Takes Substantial Amount of Time
  - Standard Examination Processes
  - Maximize Automated Processes Before Examiner Receives Application

**Standard Office Action Creation Time**

- Completed Office Action

* Error reduction equals better quality *
# Proposed IT Development Plan (Agile Methodology)

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v1.0  v1.1  v1.2  v1.3  v1.4  v1.5  v1.6

* Dates Tentative
Ongoing OCIO Initiatives

- PALM New Count System
  - 11/21/09: Release of RCEs on Examiner’s “Special New” Docket
  - 12/27/09: Beta Deployment of PALM New Count System
    - Provides Examiners with more time to work on a case
    - Encourages compact prosecution and reduction of pendency
  - 02/14/10: Production Deployment of PALM New Count System
  - 04/06/10: Award Calculator Deployment
  - Summer 2010 (Planned):
    - Web Services for SPE Management Database
    - Management Reports migration to Patent’s Datamart
    - Trouble Shooting Services
Ongoing OCIO Initiatives

• Patent Term Adjustment (PTA)
  • 02/09/10: PALM ExPo Deployment of calculation file (one # grant) for published applications
  • 02/14/10: PAIR (Public/Private) Deployments of calculation reporting and display of total PTA time for each grant patent
  • 02/27/10: PALM ExPo / PRS Deployments of calculation reporting and display of total PTA time for each grant patent
  • 04/16/10: Deployed automated functionality to address petitions.
    • Included automated printing/mailing of PTA Petition Decisions
    • Mailed out 18,000 backlogged petitions
  • July 2010 (Planned): PALM ExPo / PRS / PAIR (Public/Private) deployments for complete display and logic of the calculation, as well as calculation problems dating back to 2001
Ongoing OCIO Initiatives

- EFS Web Backup
- MPEP
- Google, Petitions, and No-cost Dissemination Contract
- Single Laptop Program
- PTONet Upgrade