

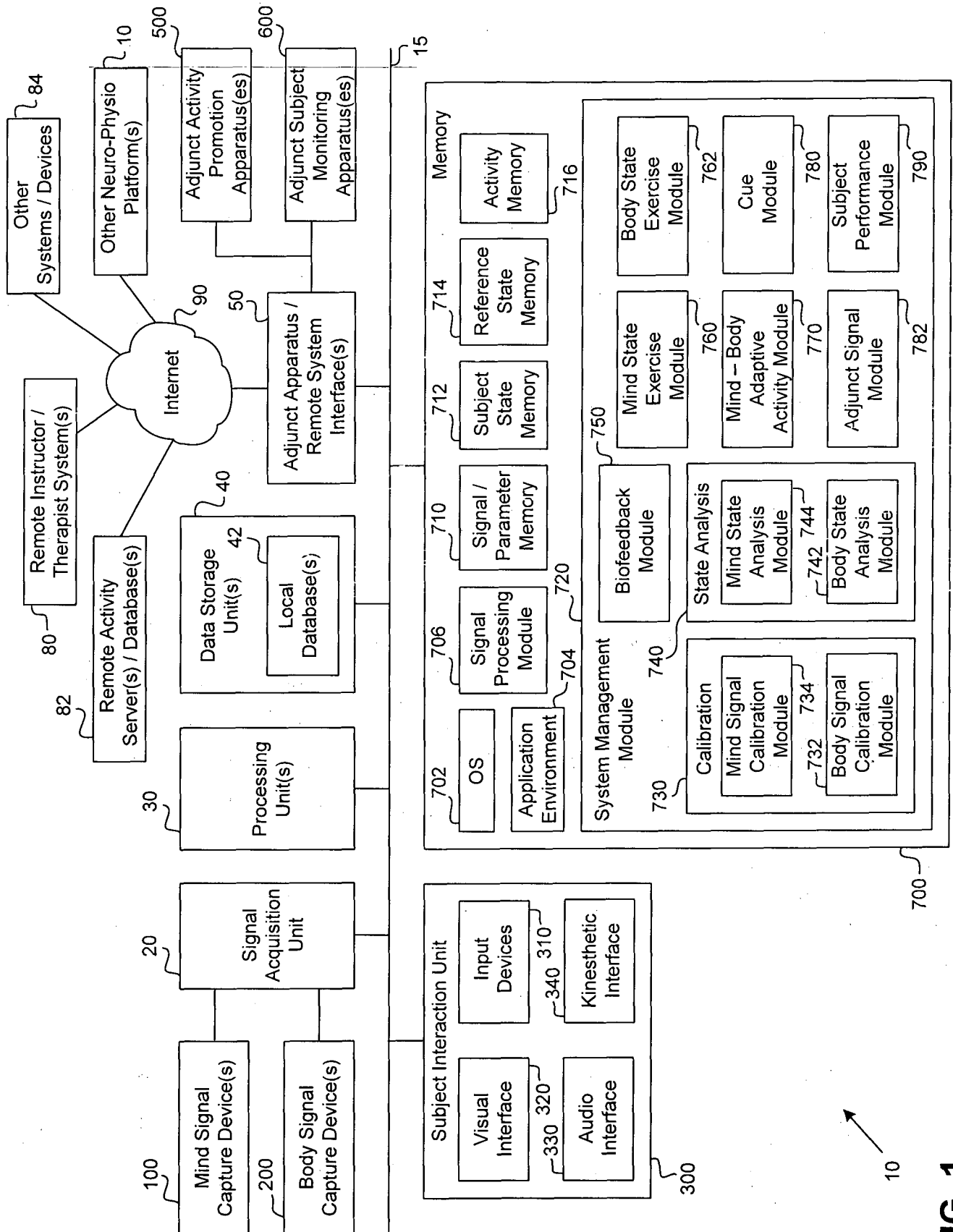


FIG. 1

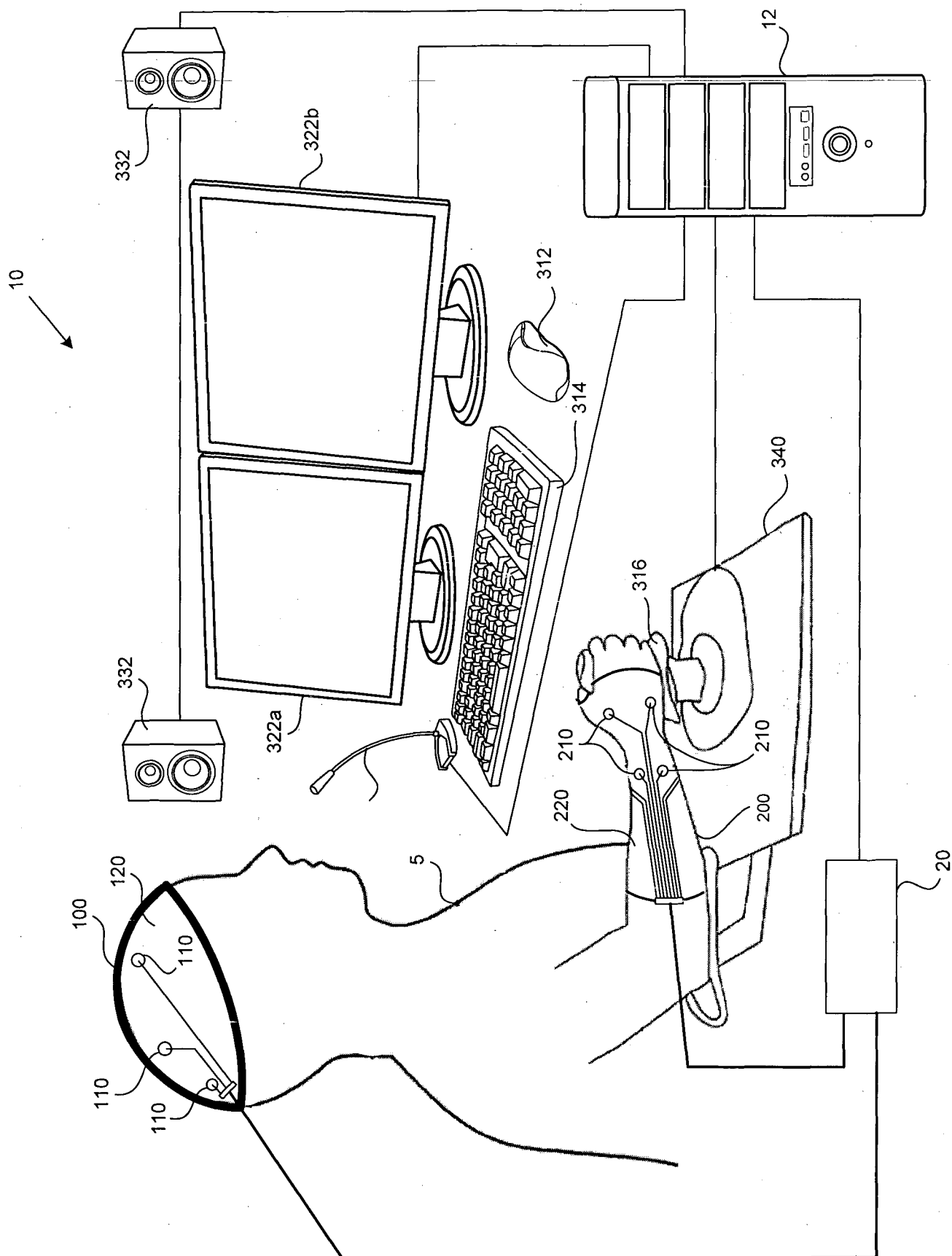


FIG. 2A

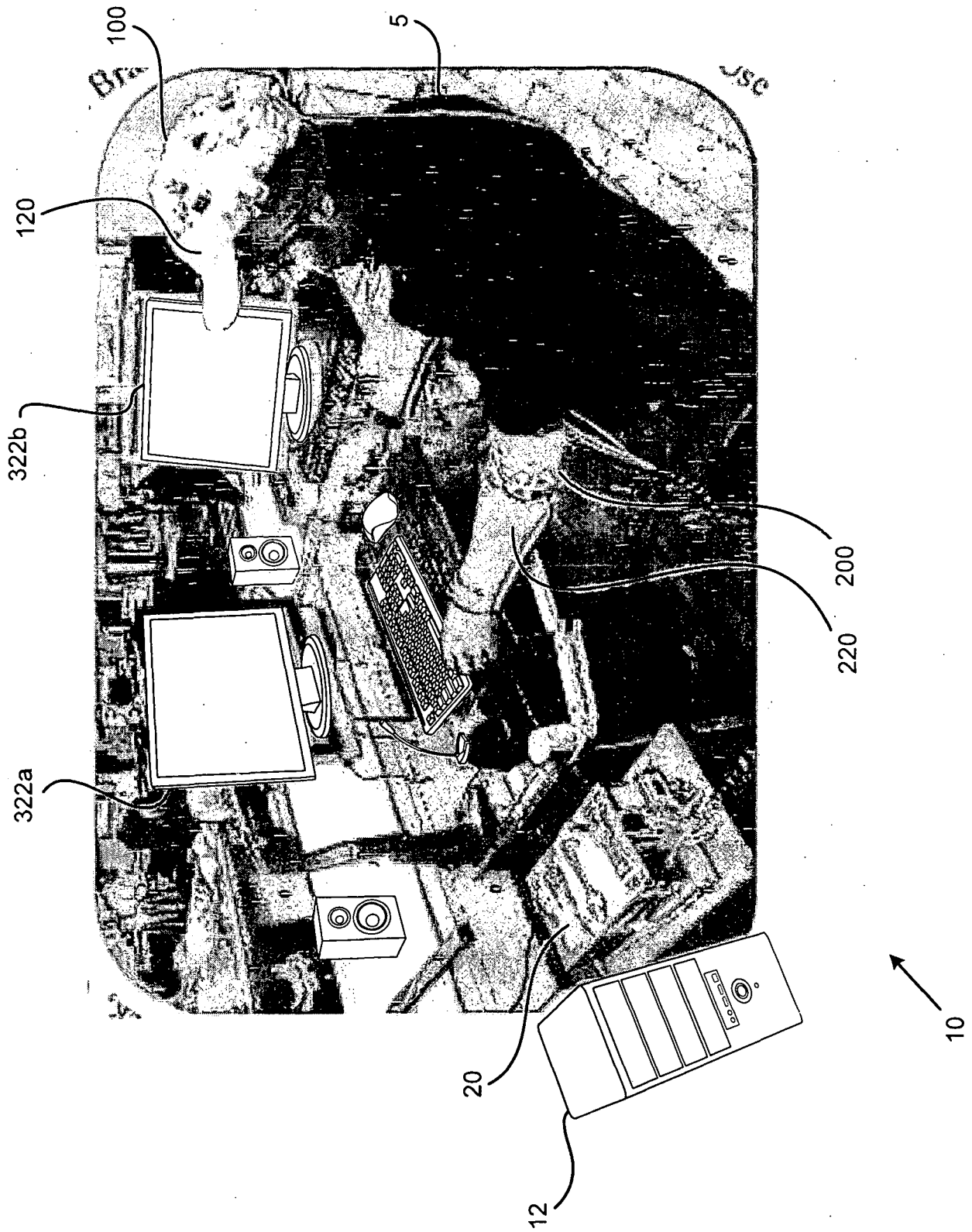
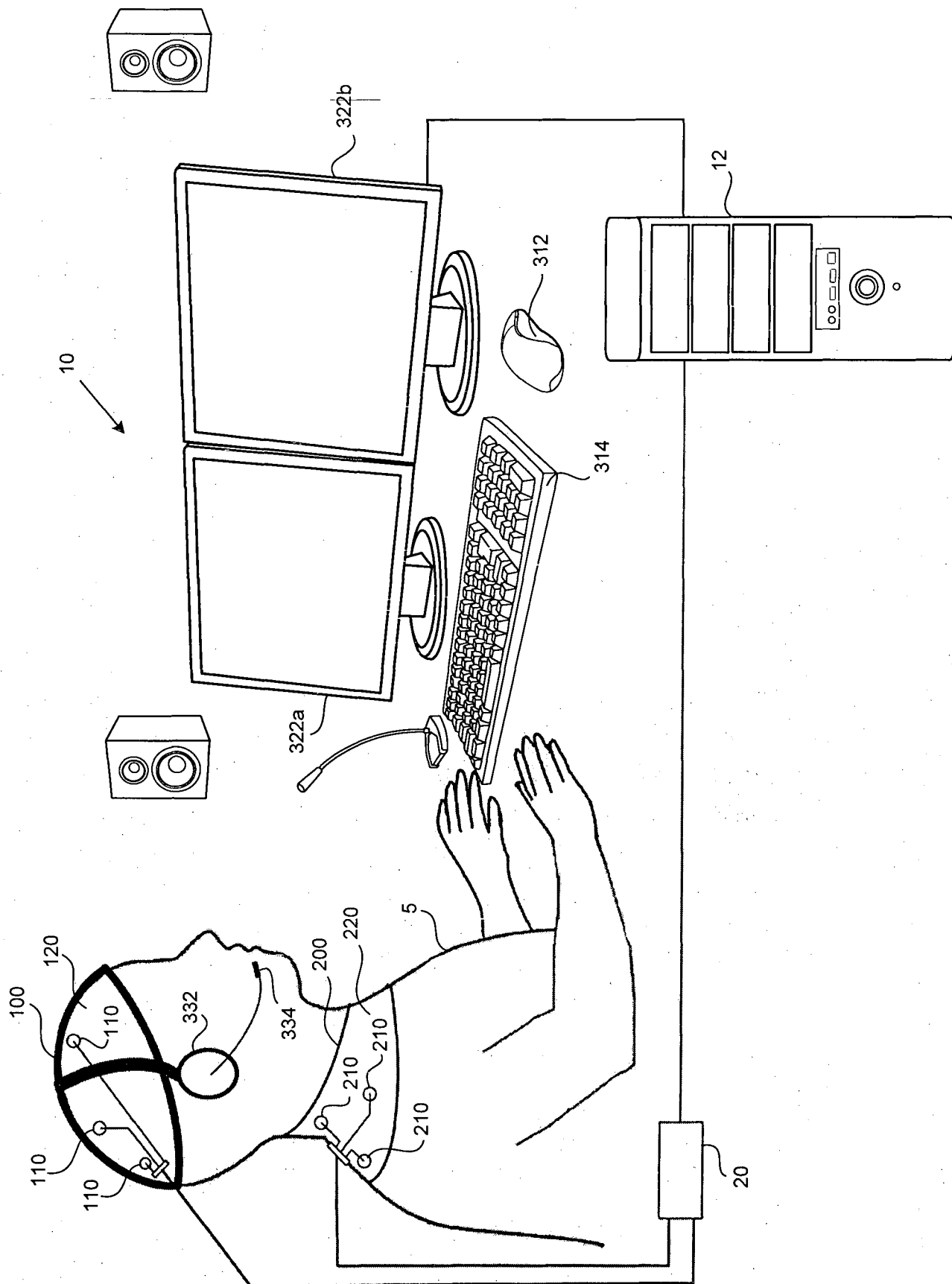


FIG. 2B

FIG. 2C



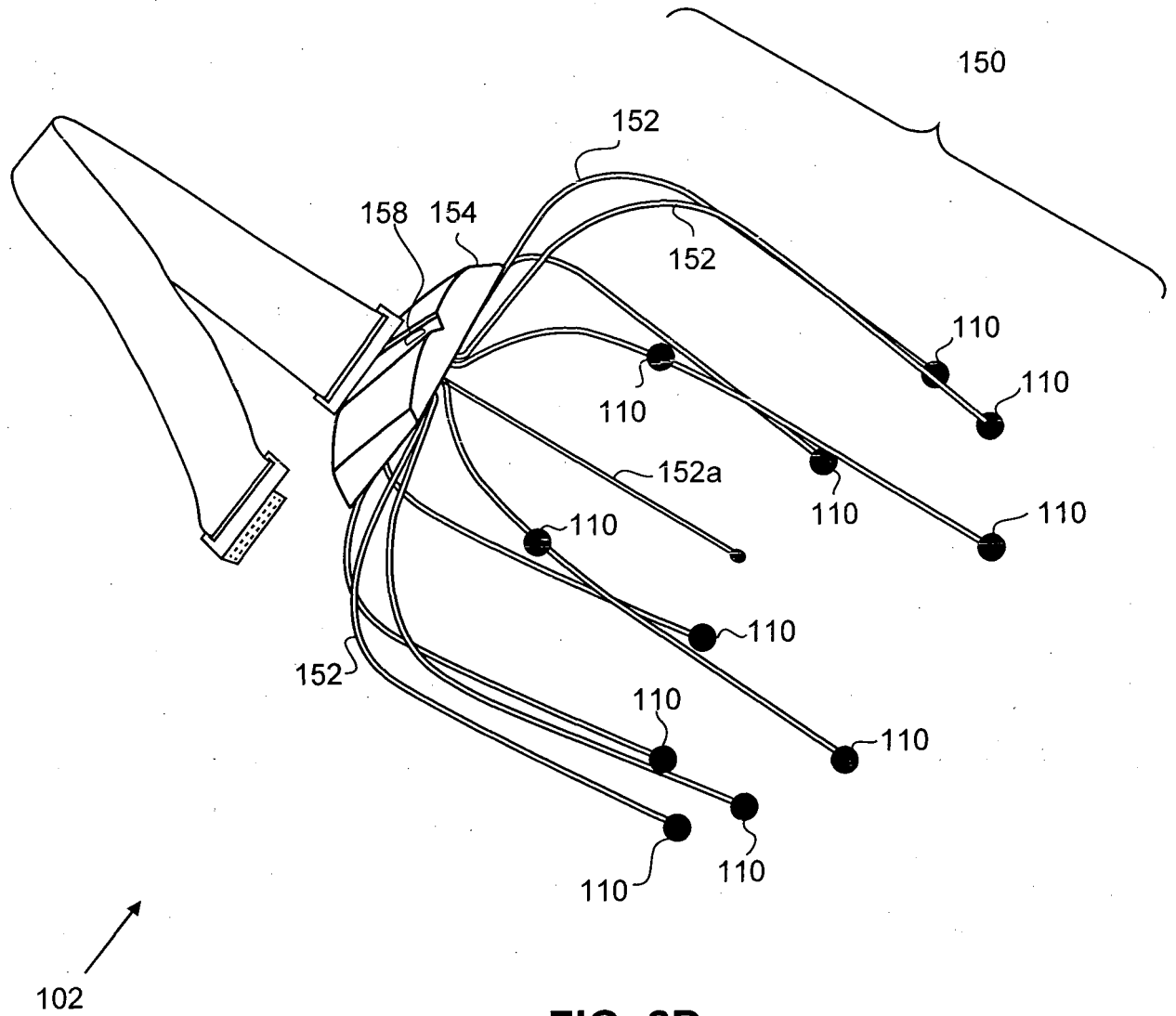


FIG. 2D

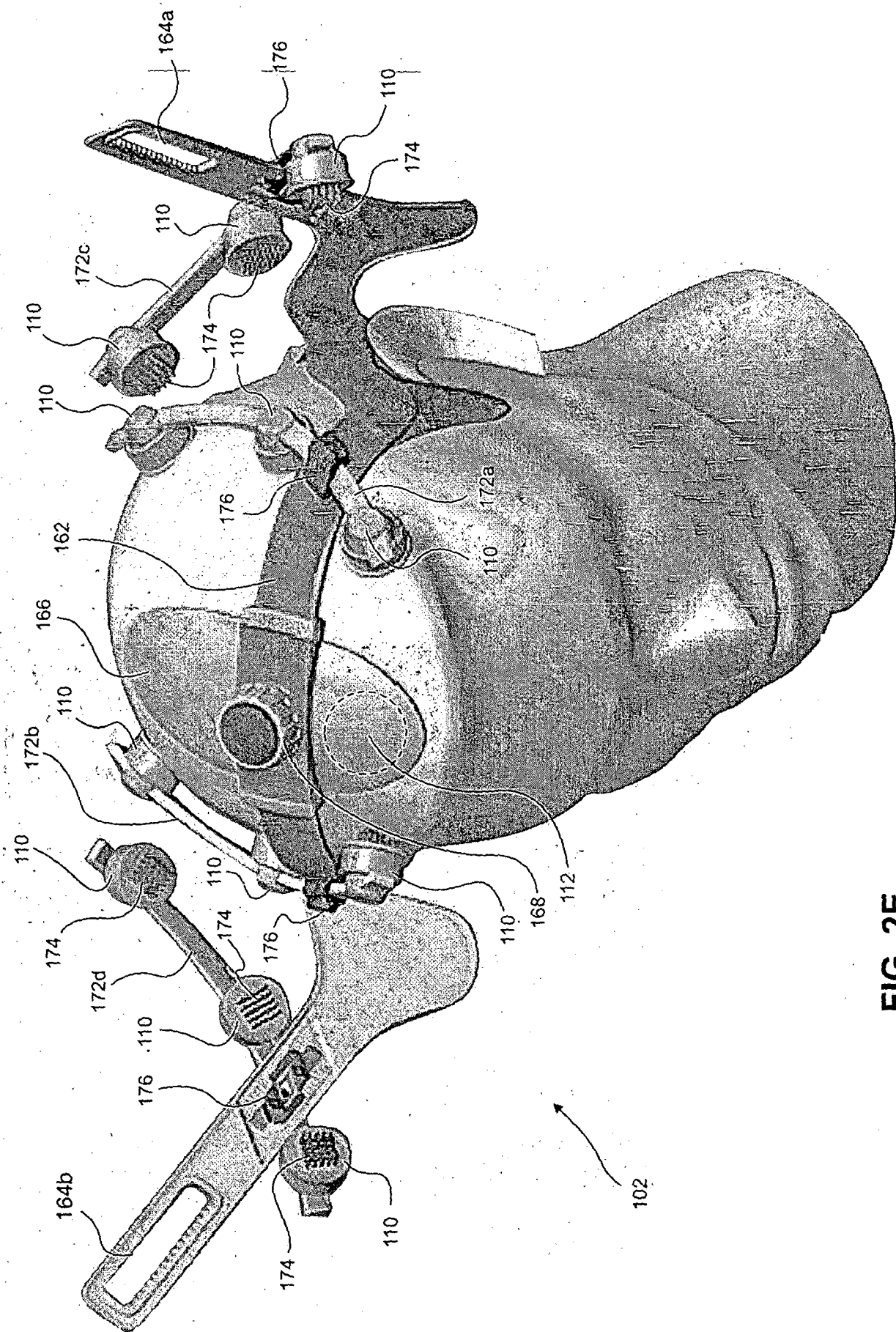


FIG. 2E

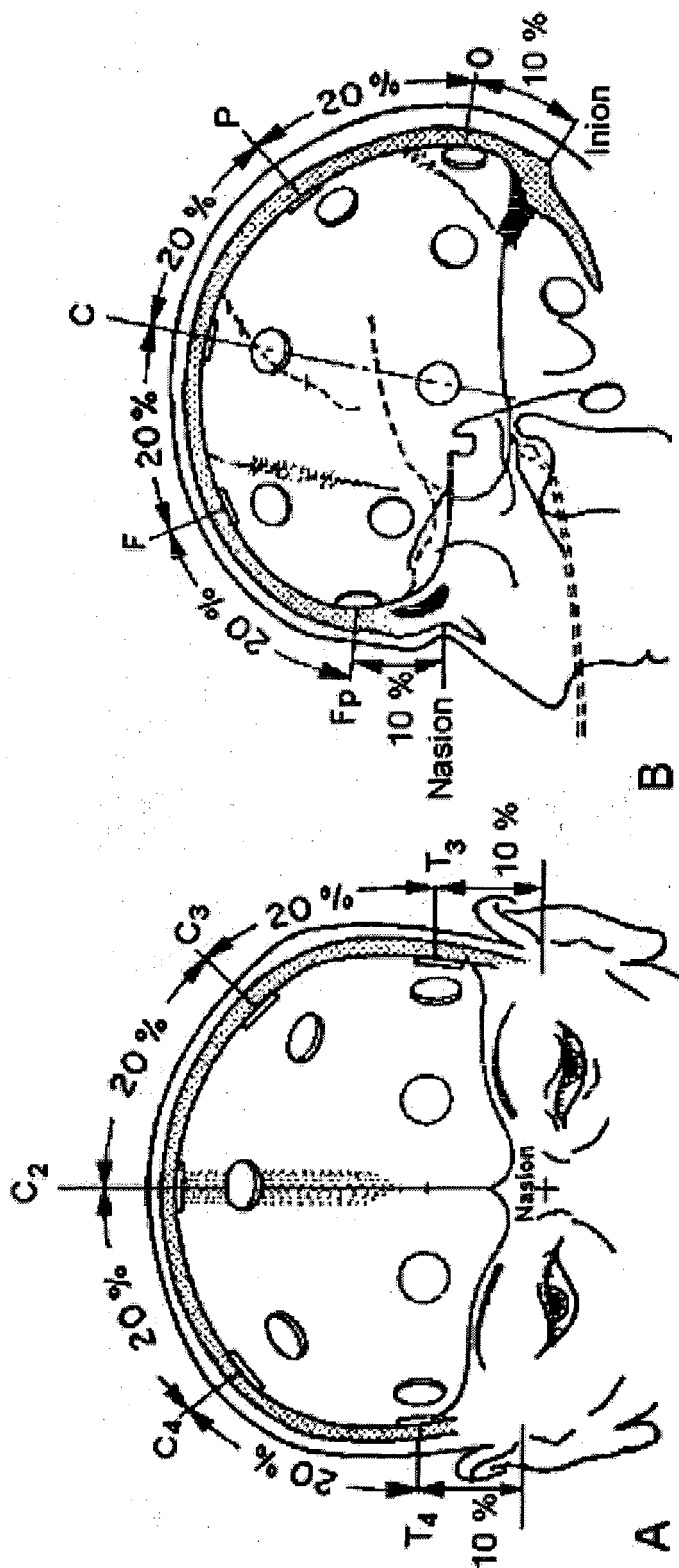


FIG. 2F

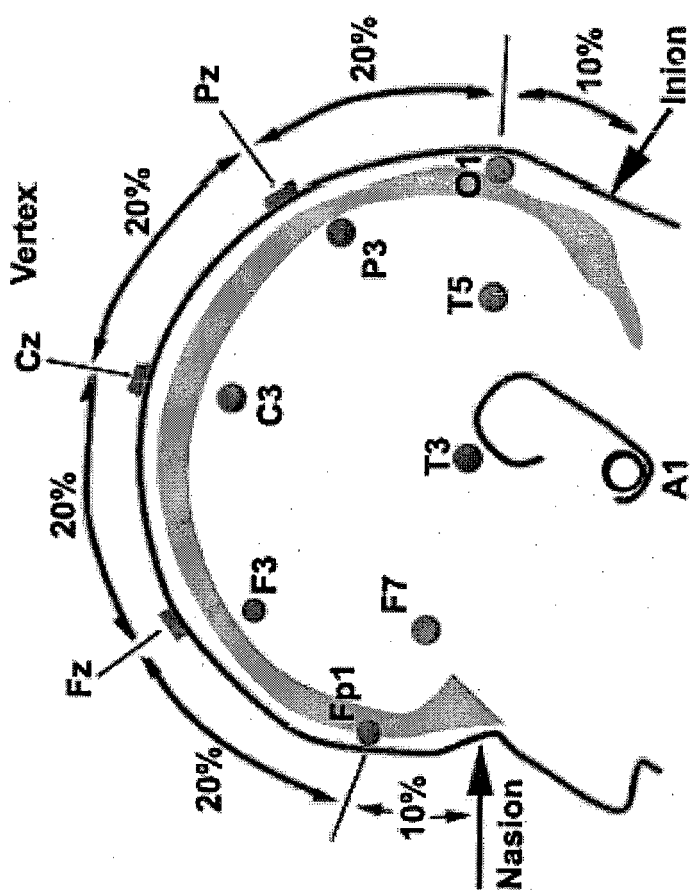


FIG. 2G

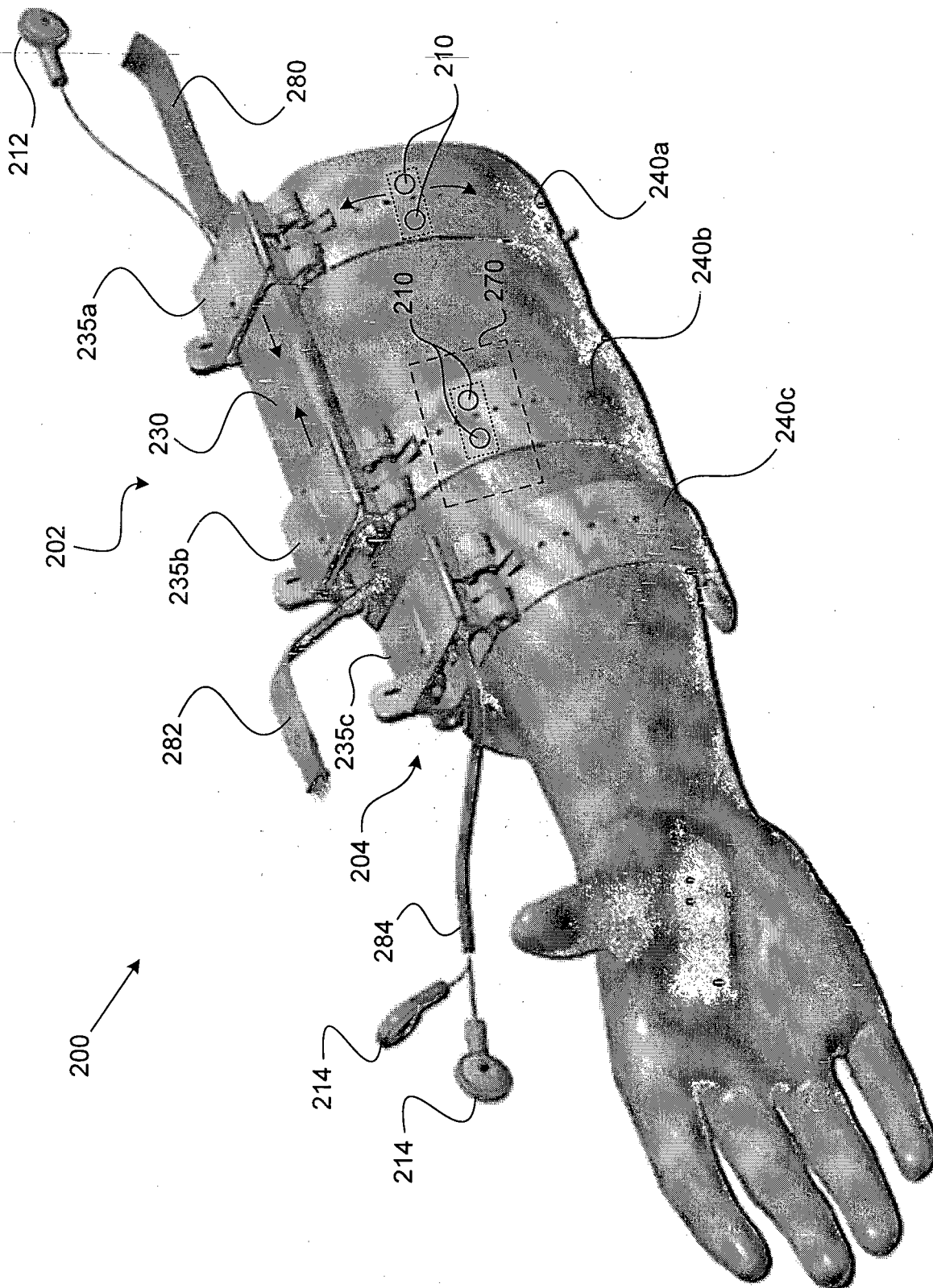
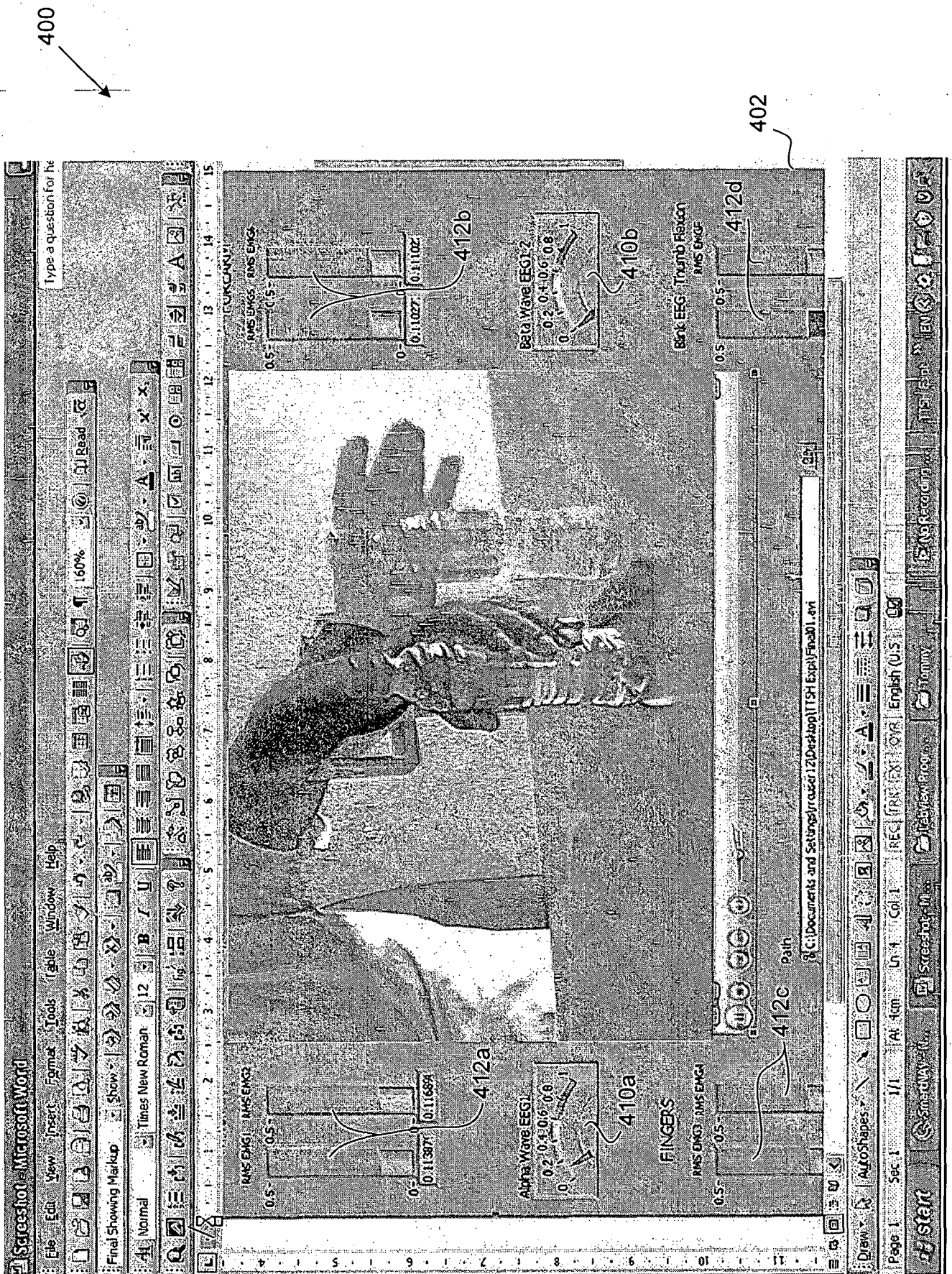


FIG. 2H

FIG. 3A



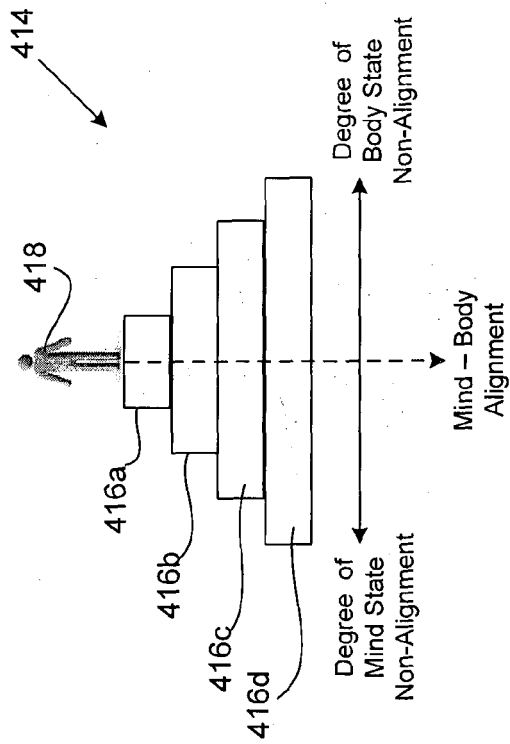


FIG. 3B

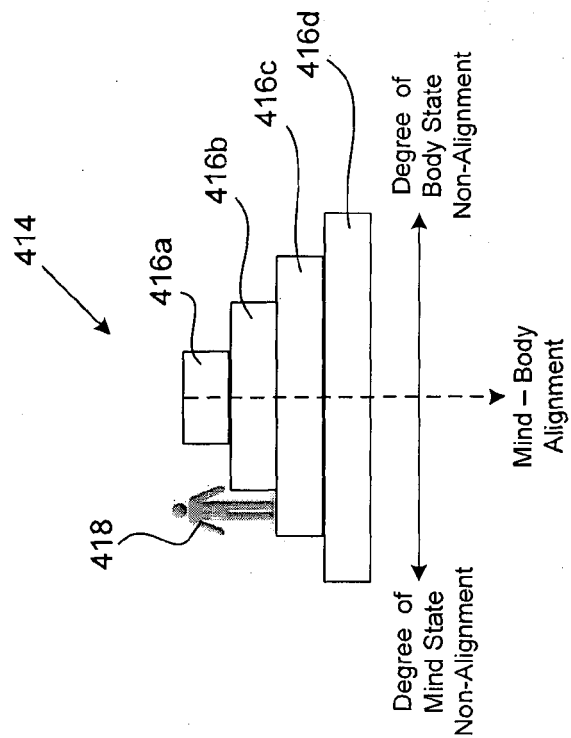


FIG. 3C

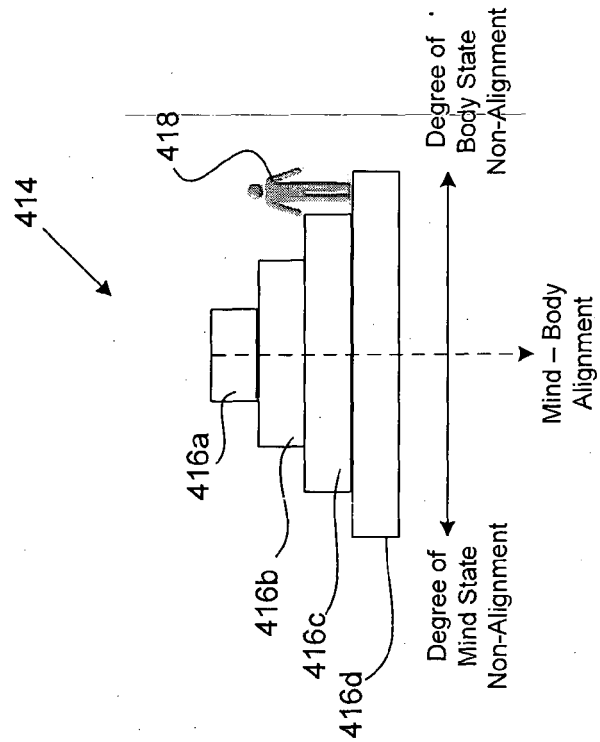


FIG. 3D

FIG. 4A

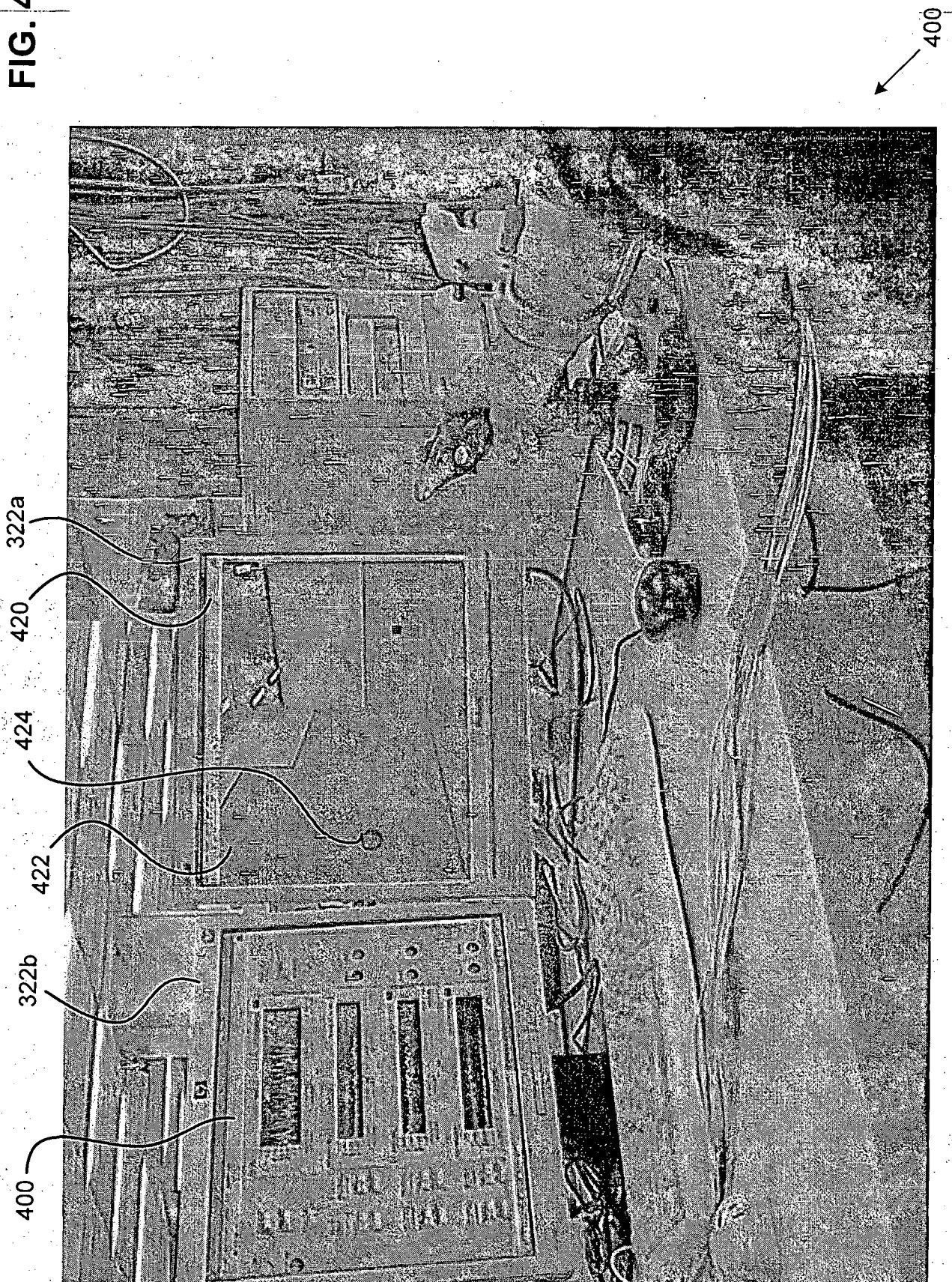
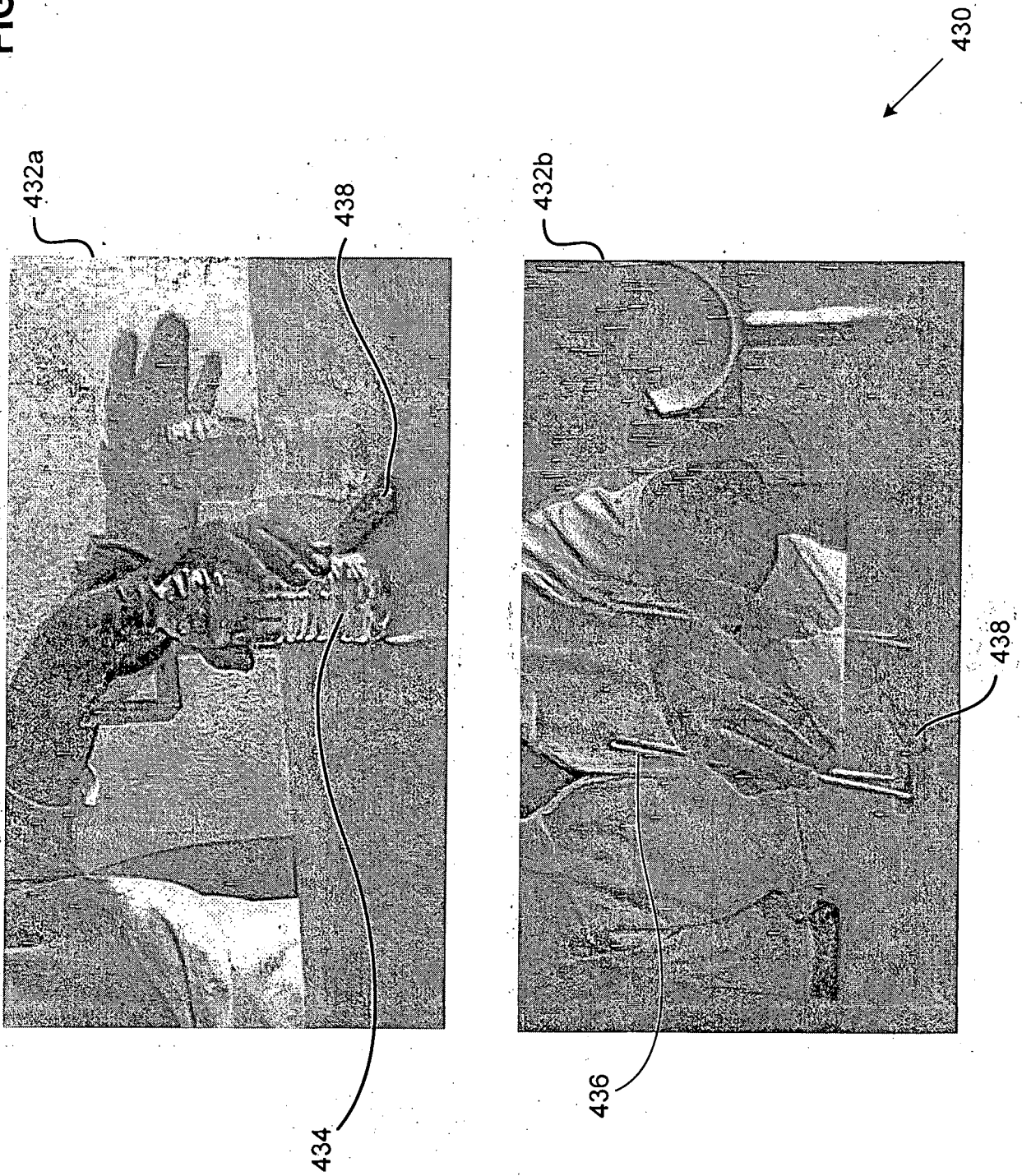


FIG. 4B



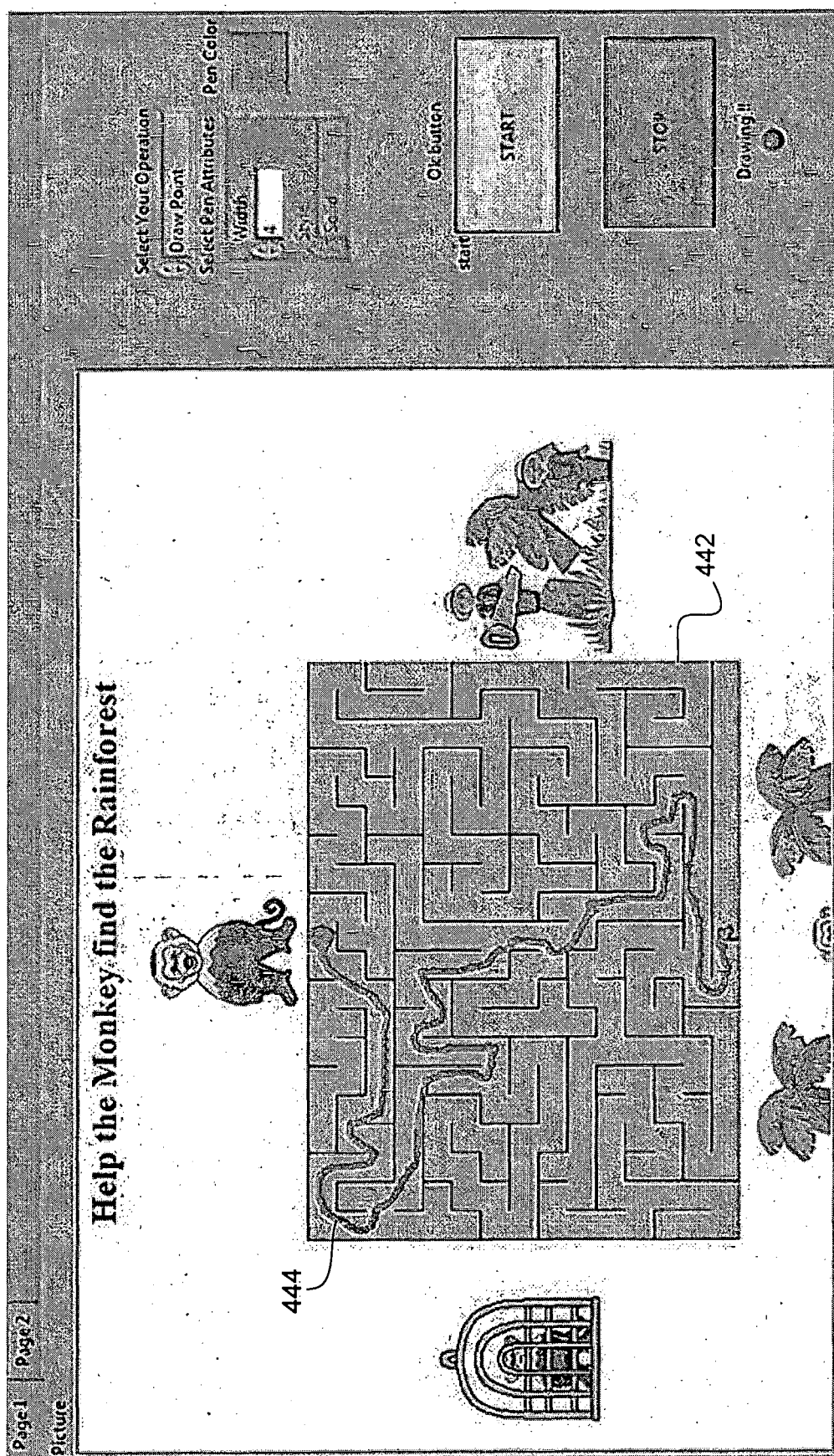
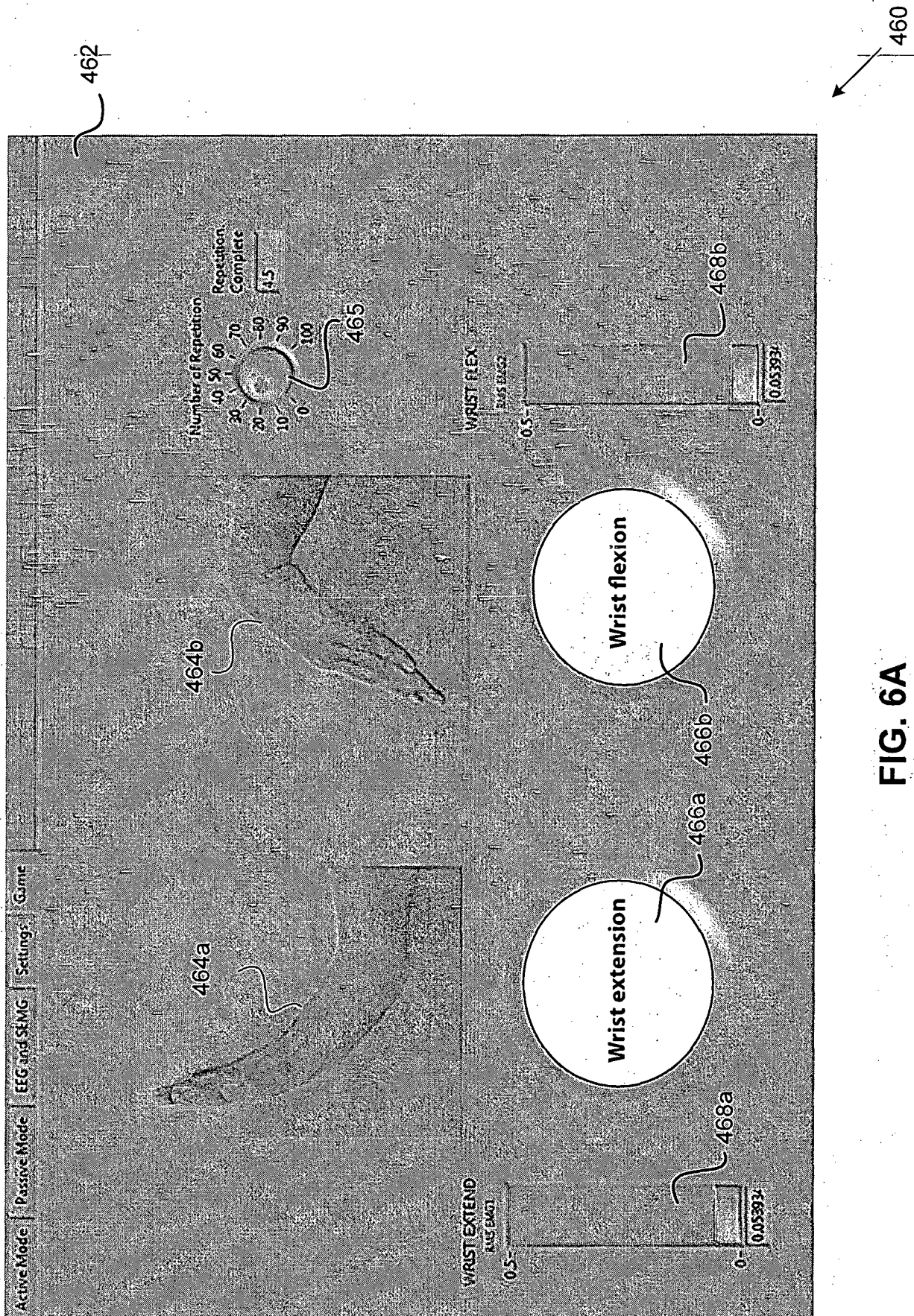


FIG. 5A



**FIG. 5B**

450



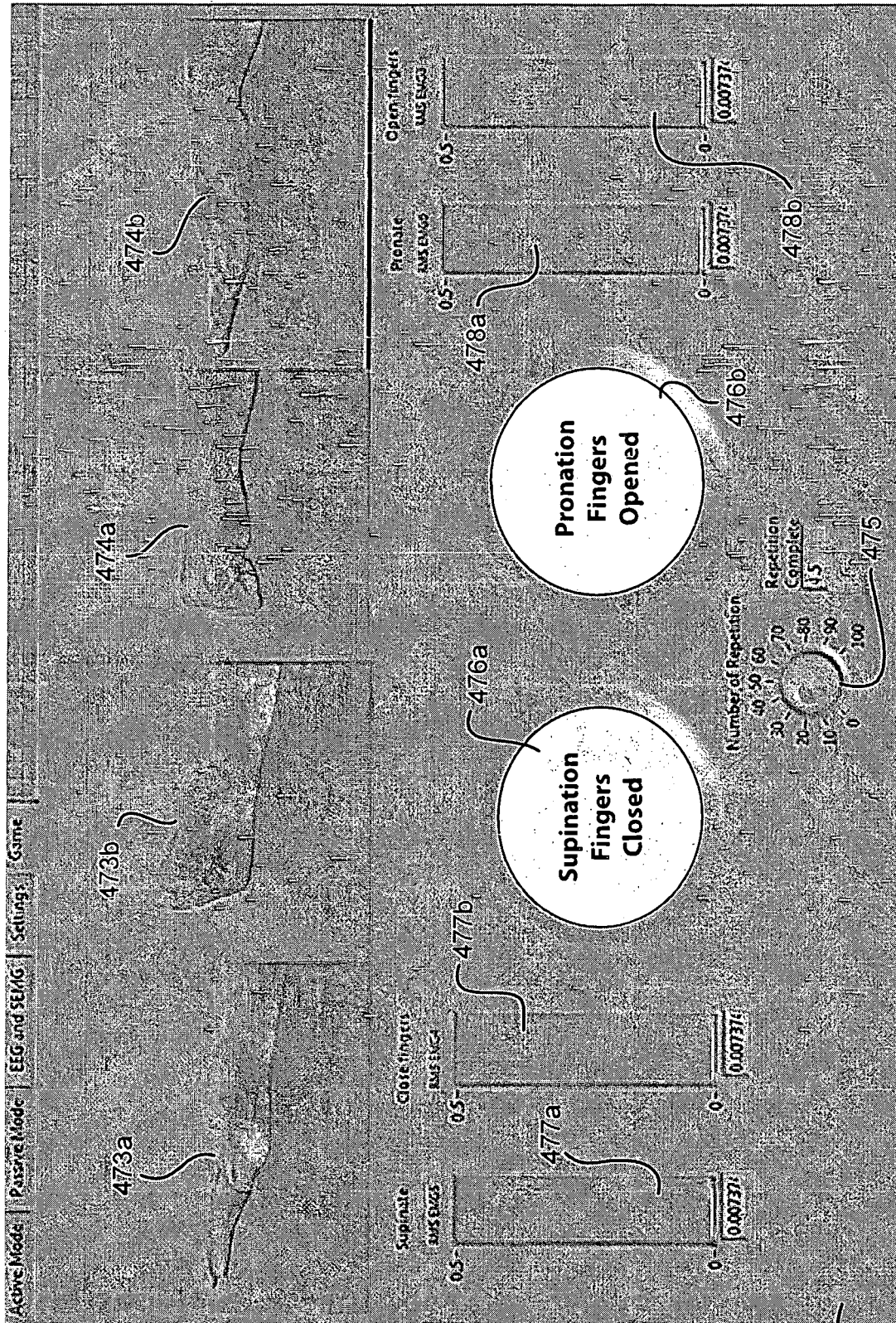


FIG. 6B

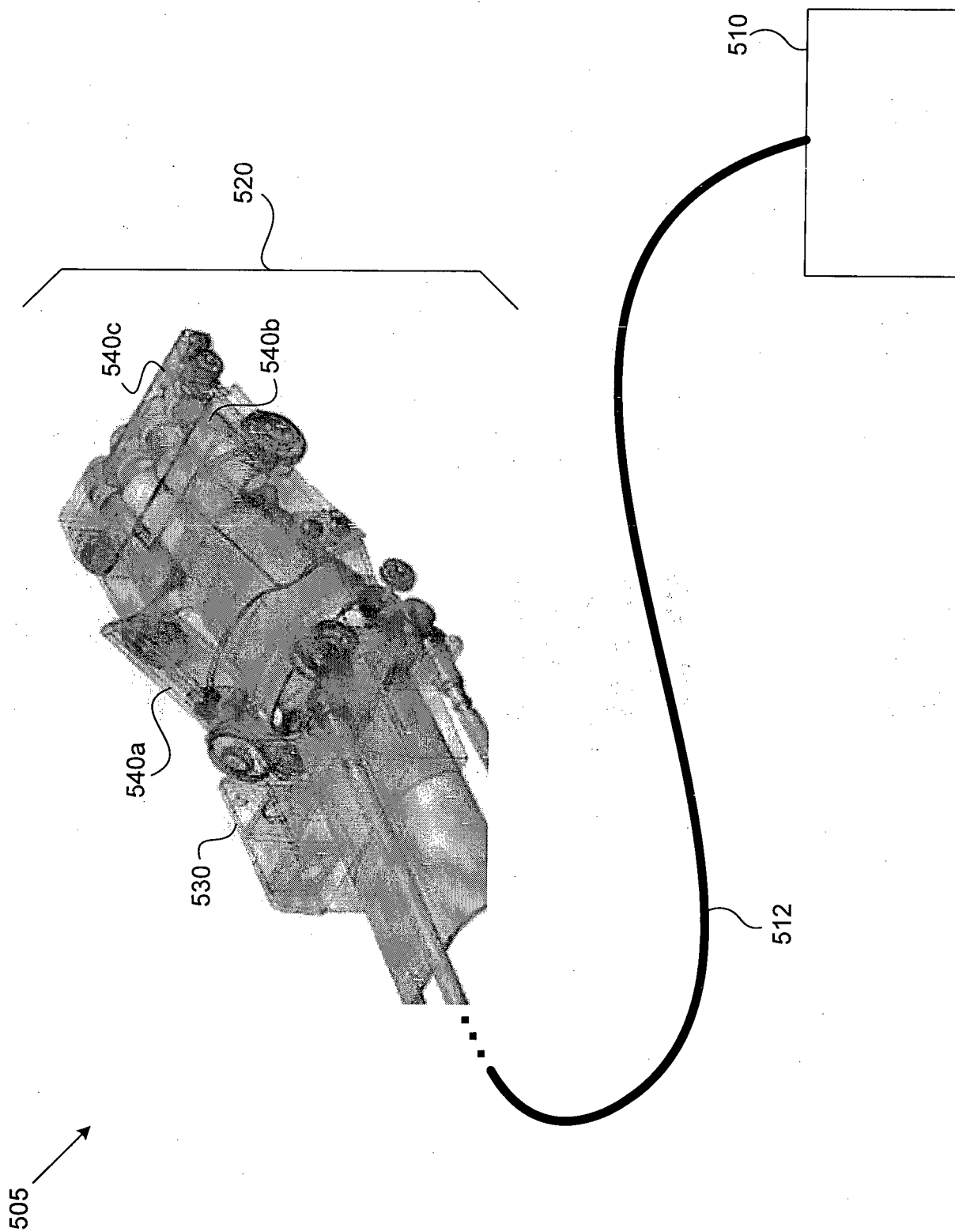
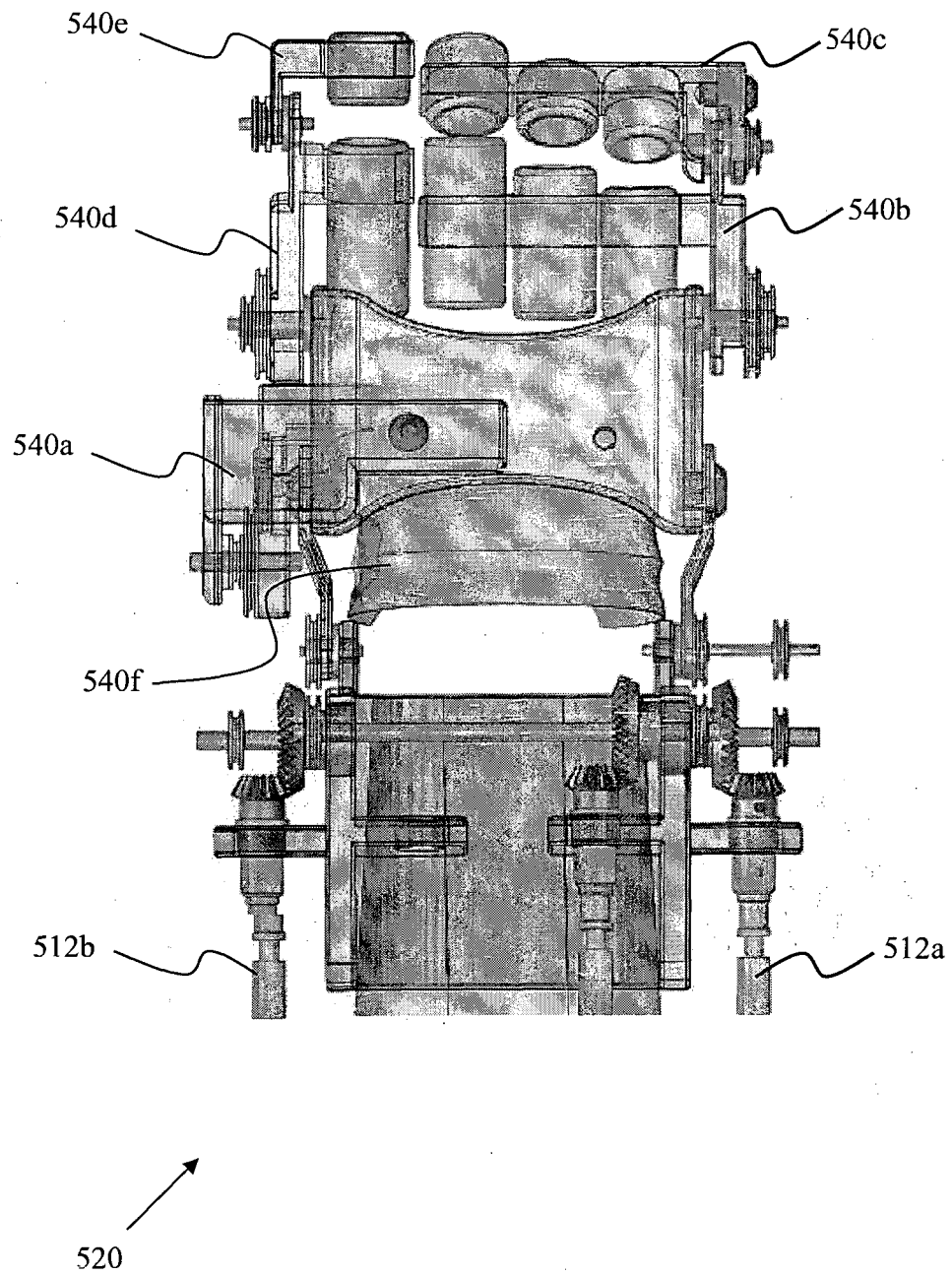


FIG. 7A



**FIG. 7B**

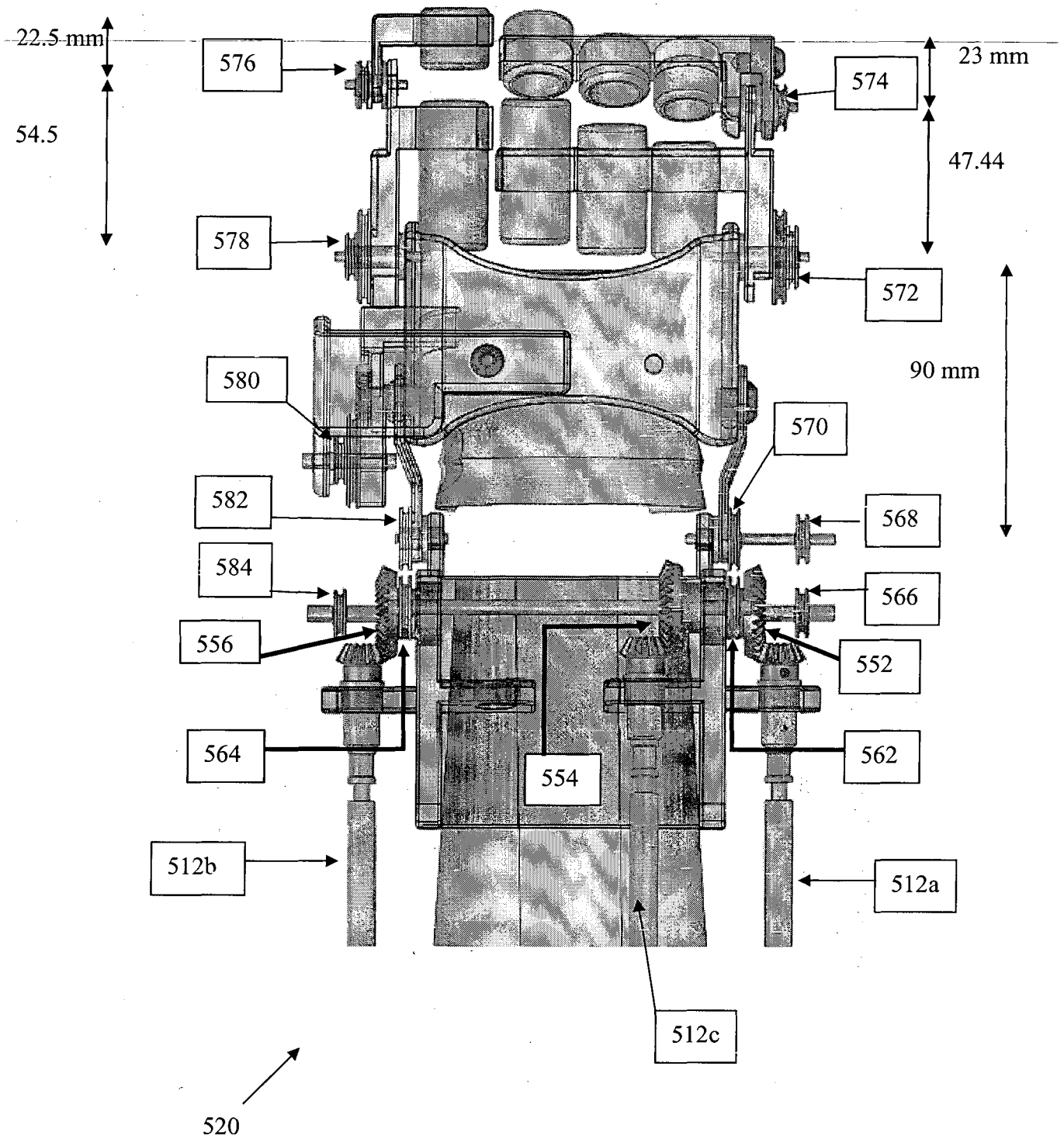
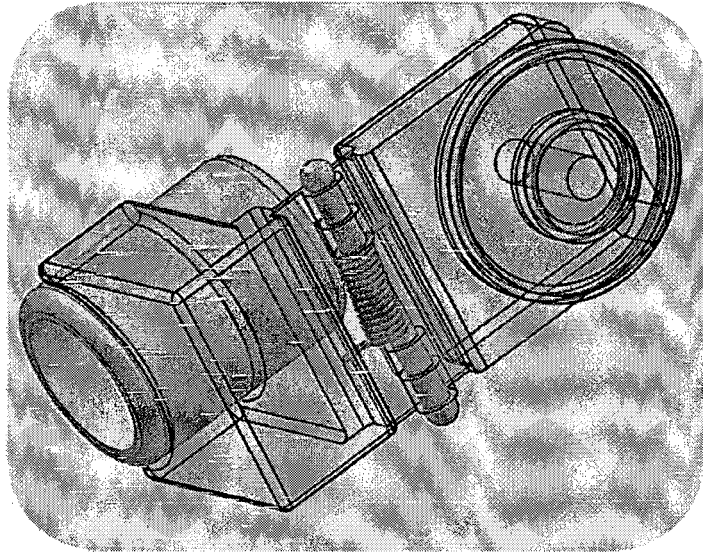
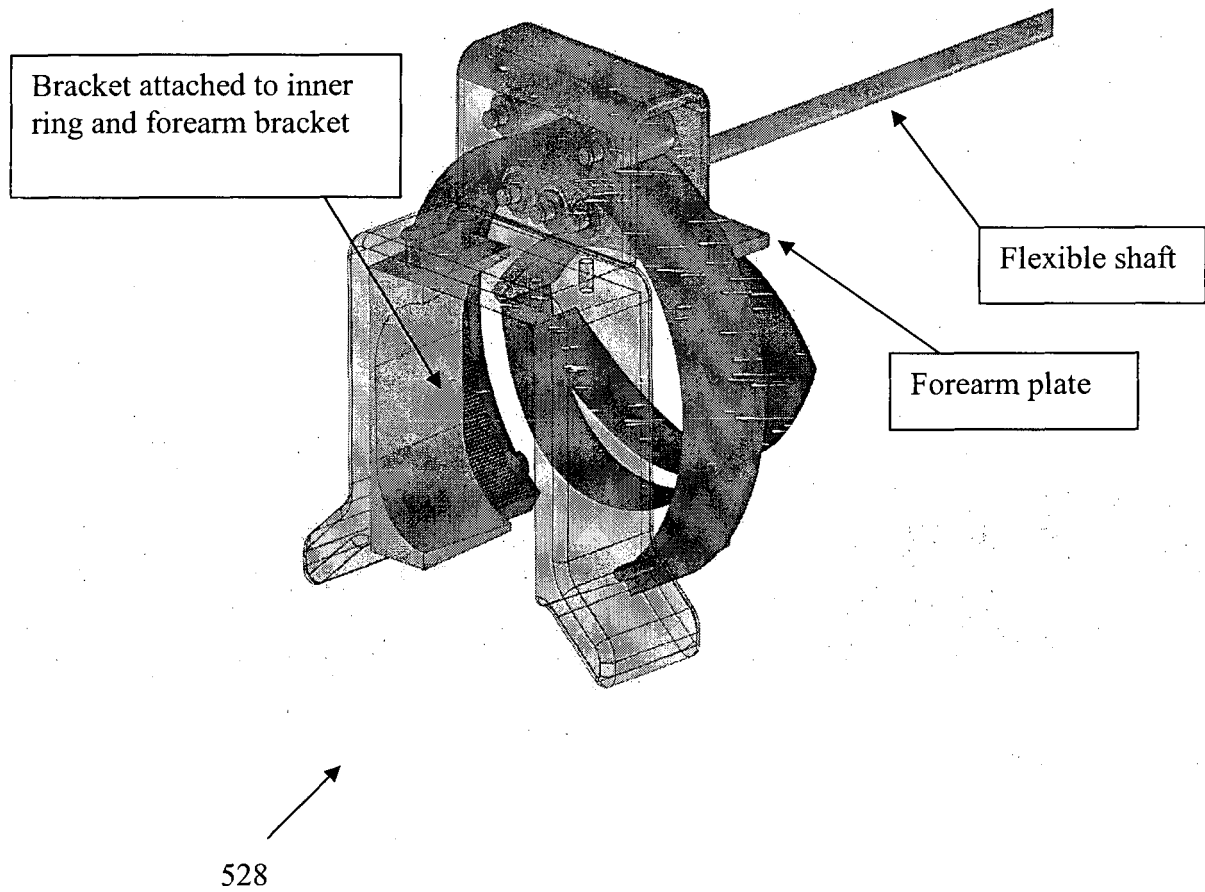


FIG. 7C

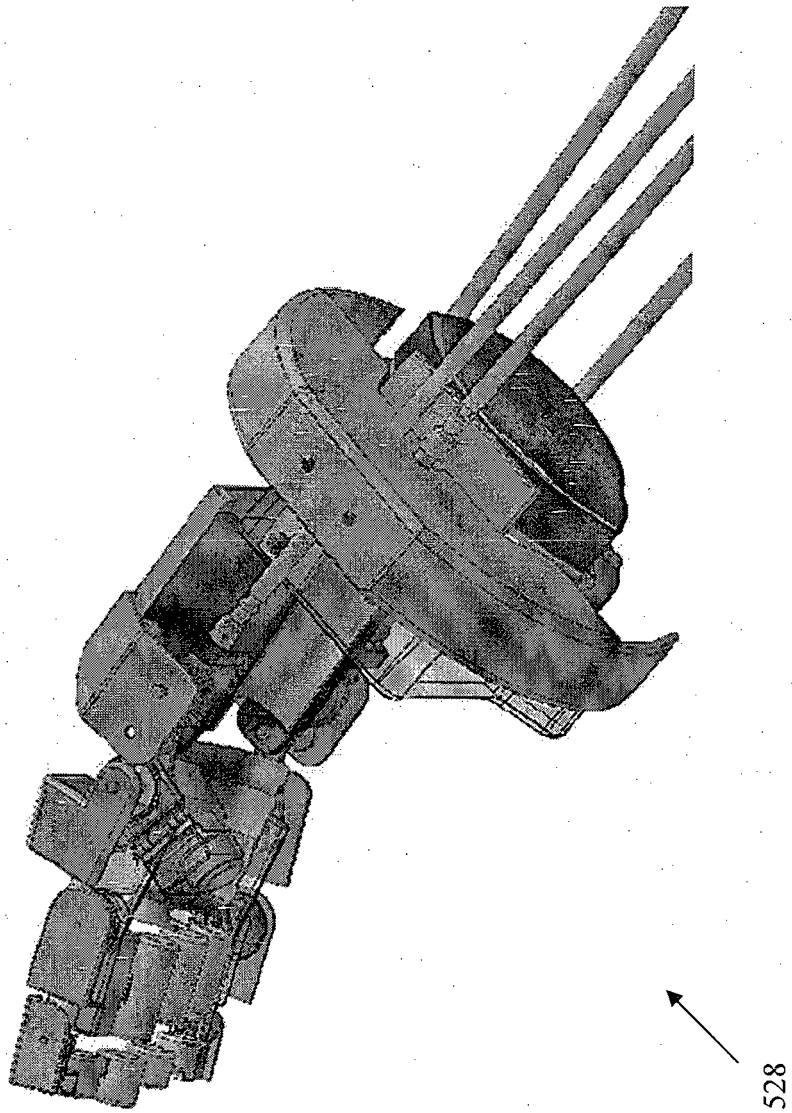


542

**FIG. 7D**



**FIG. 7E**



**FIG. 7F**

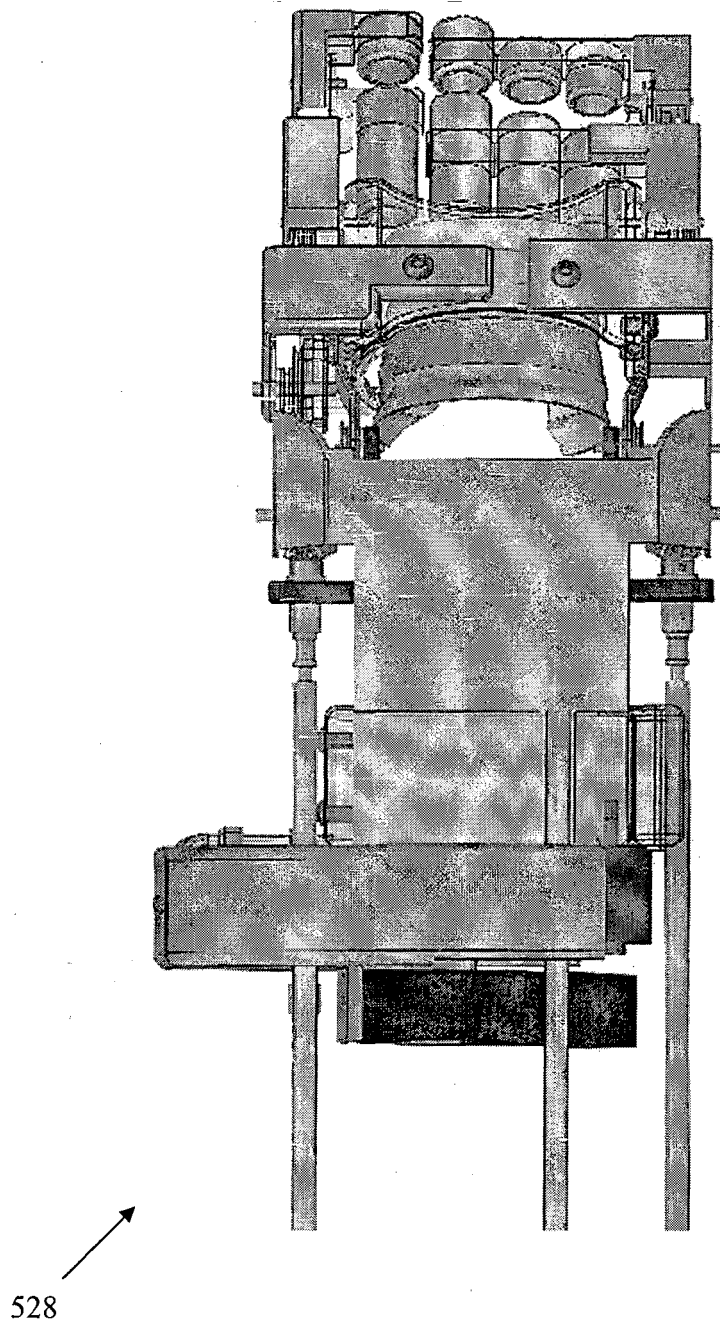
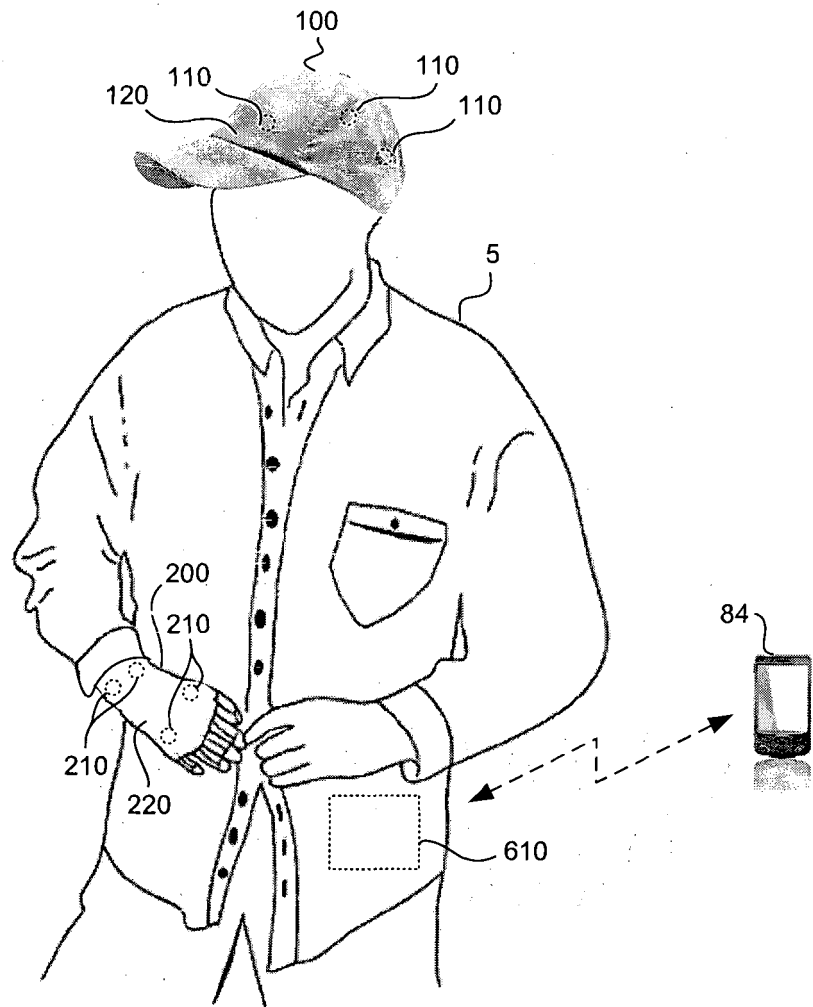


FIG. 7G



**FIG. 8A**

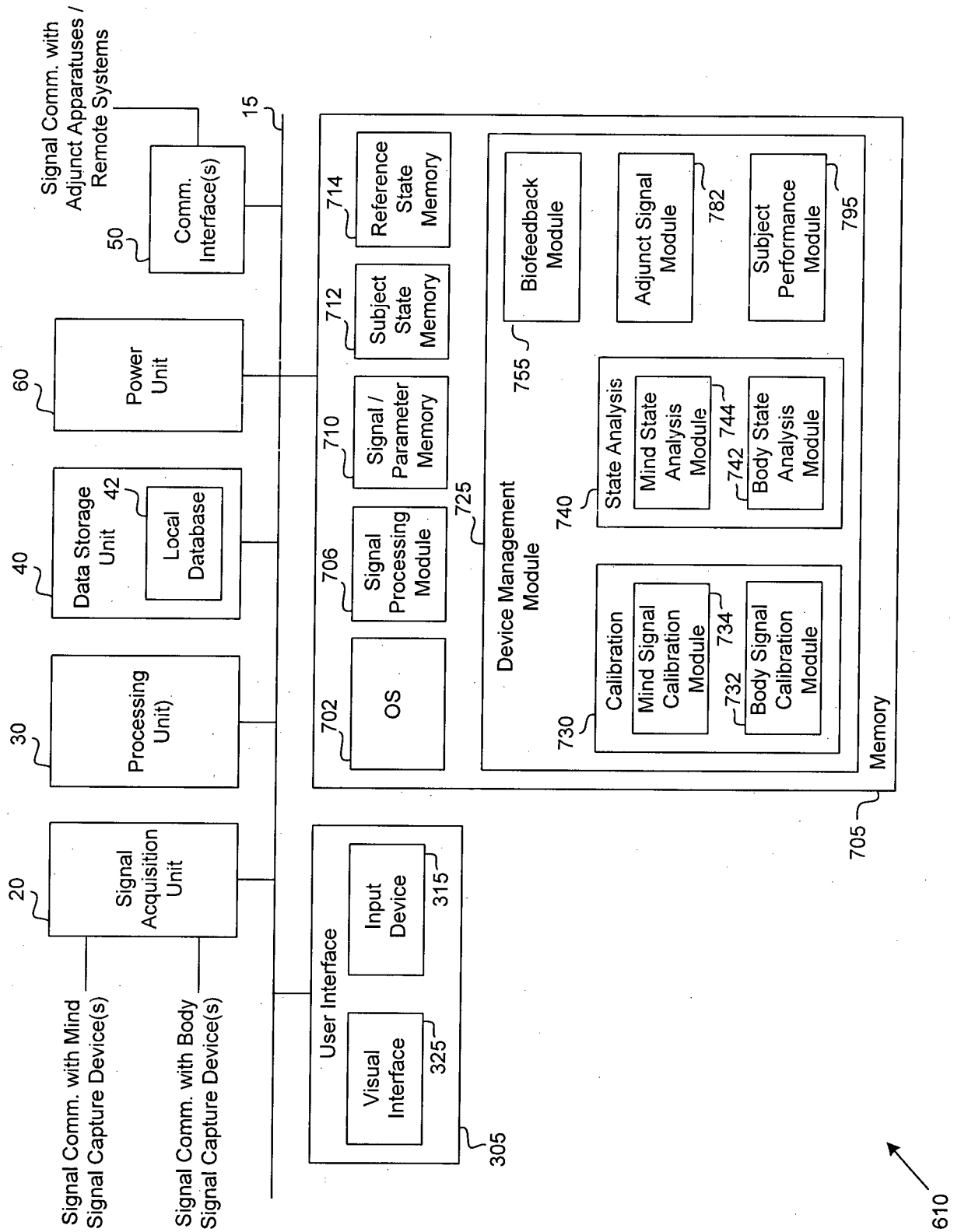
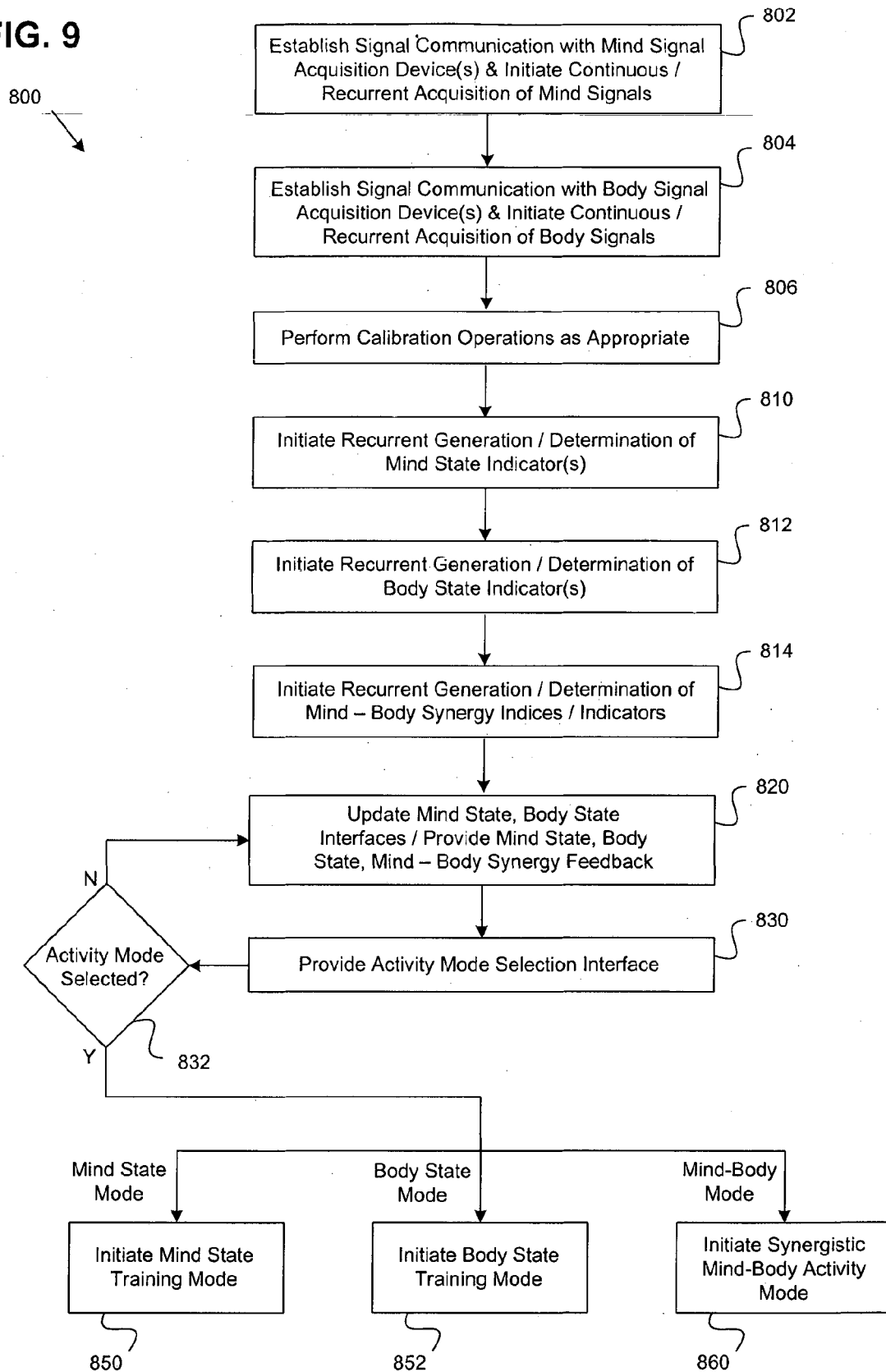


FIG. 8B

**FIG. 9**

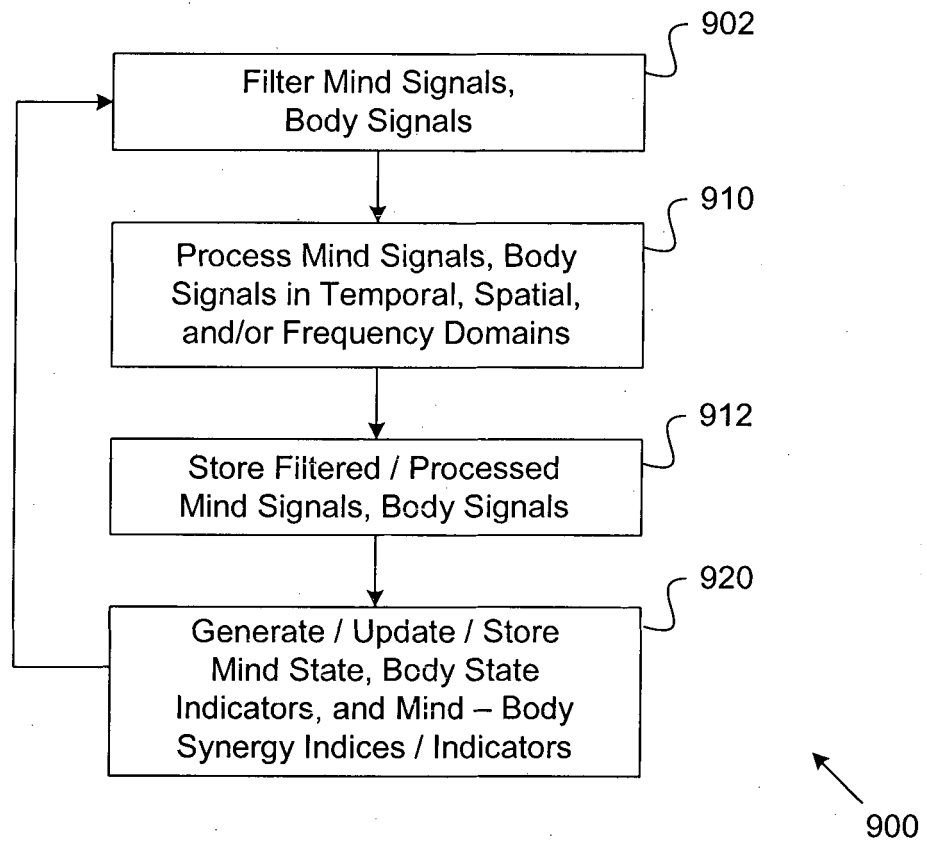
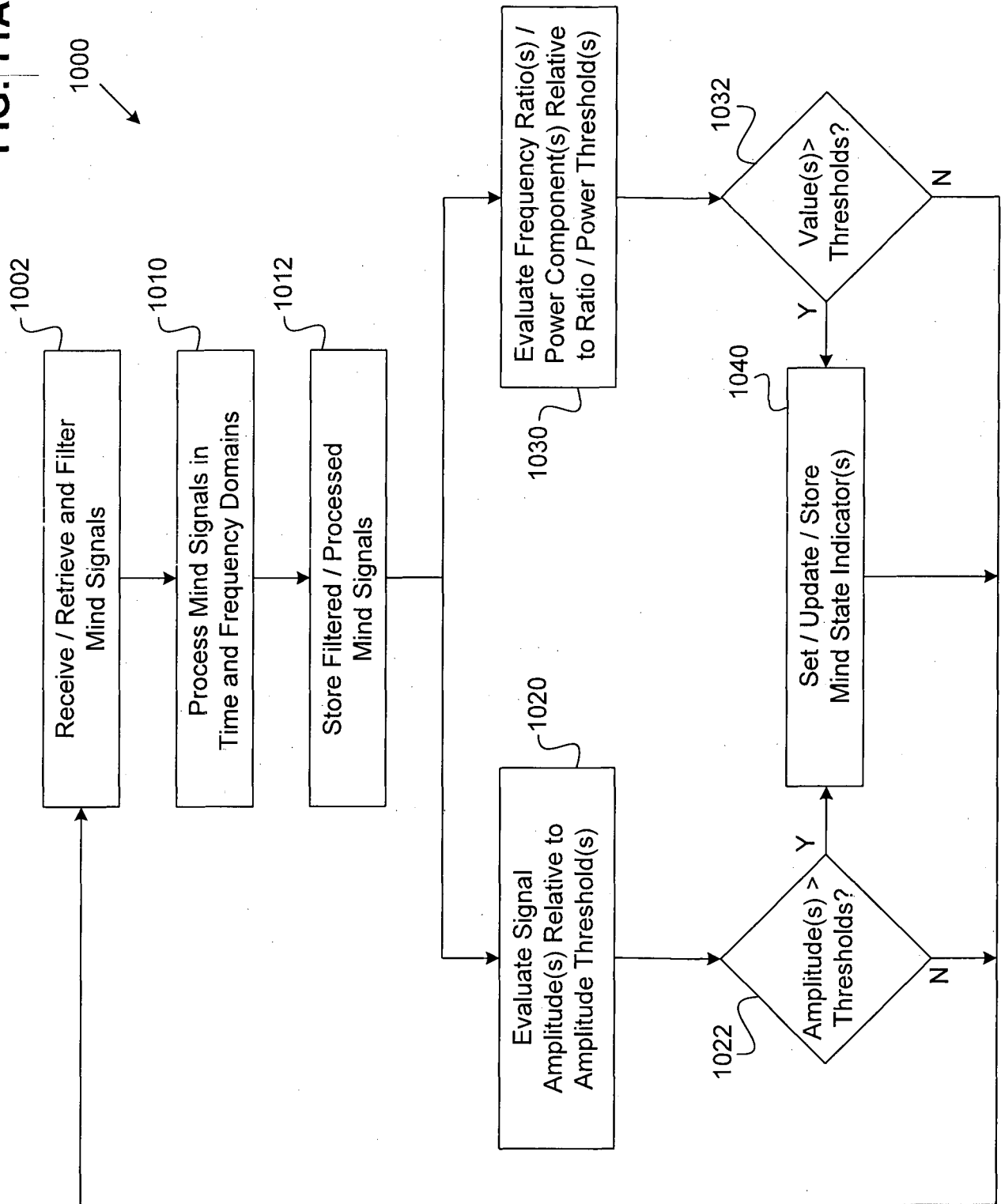
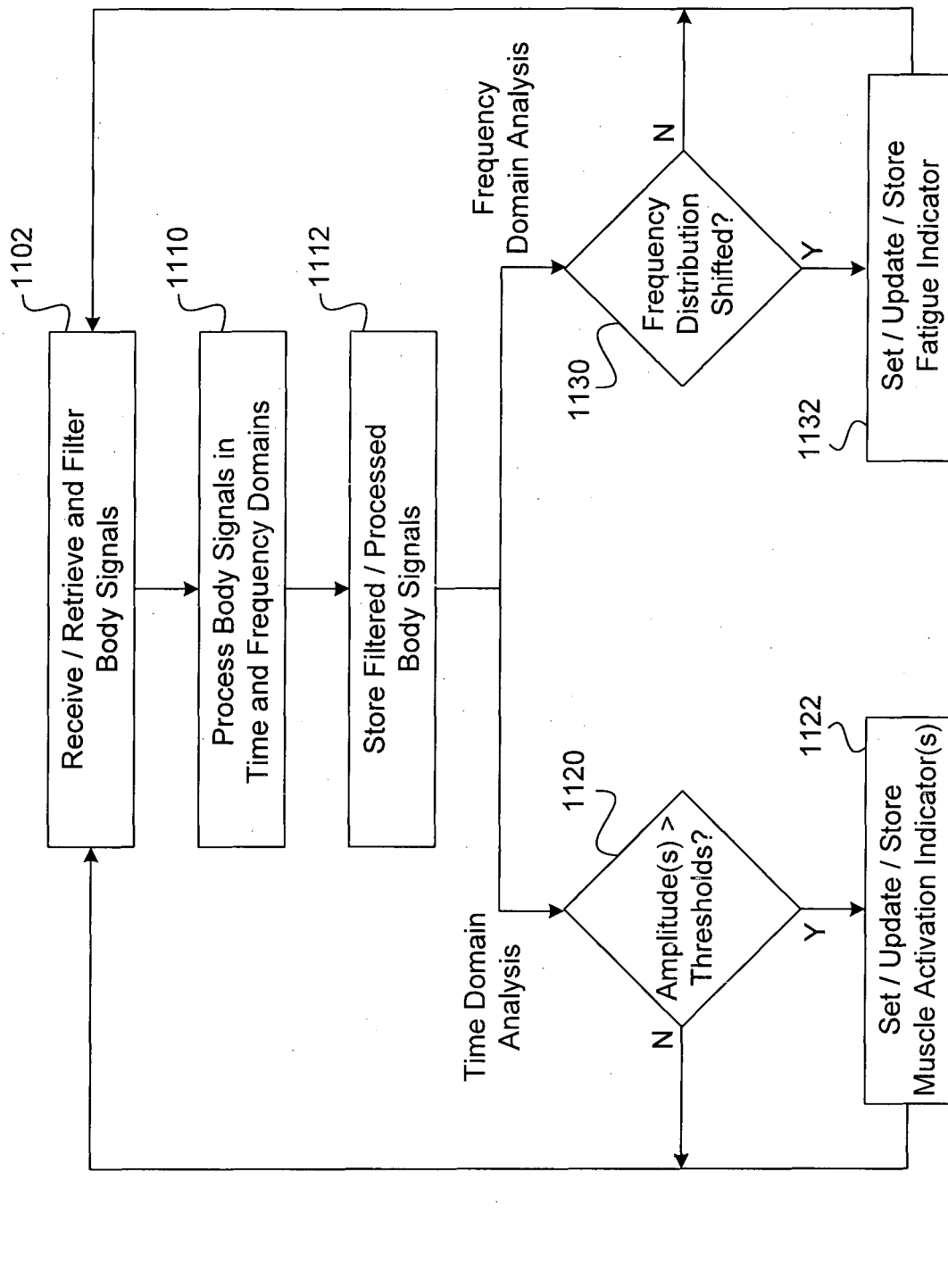
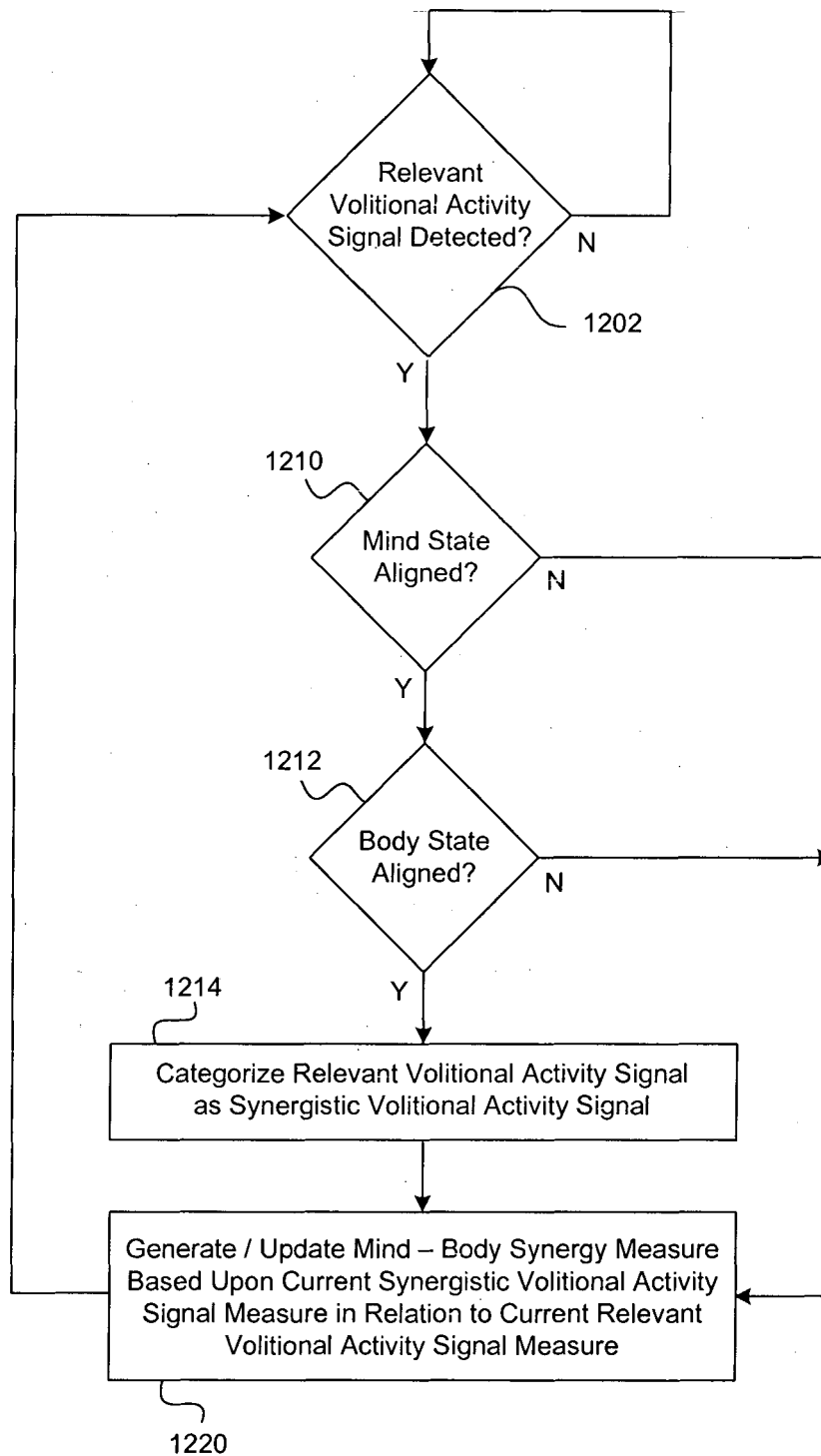
**FIG. 10**

FIG. 11A





**FIG. 11C**

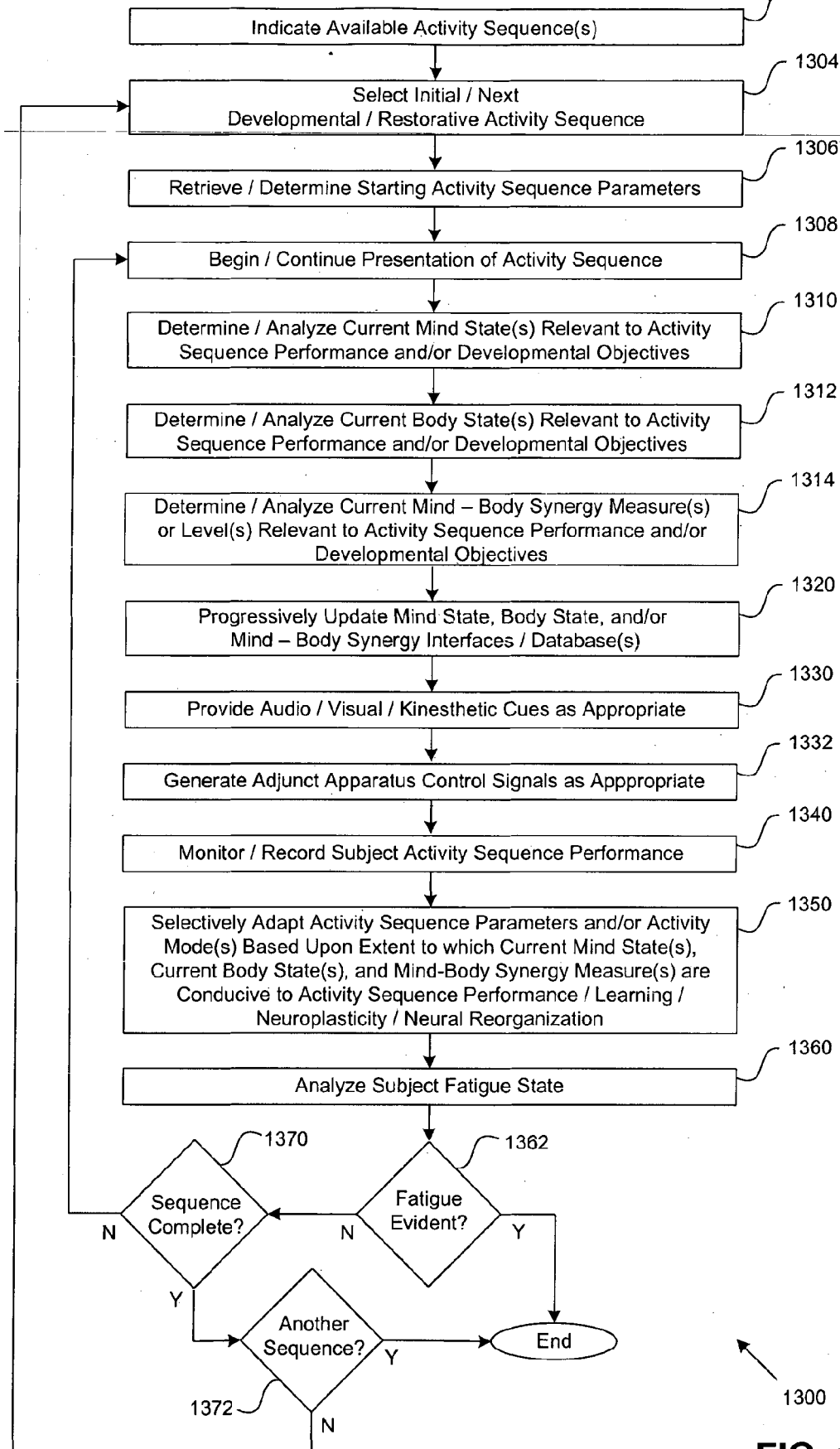


FIG. 12

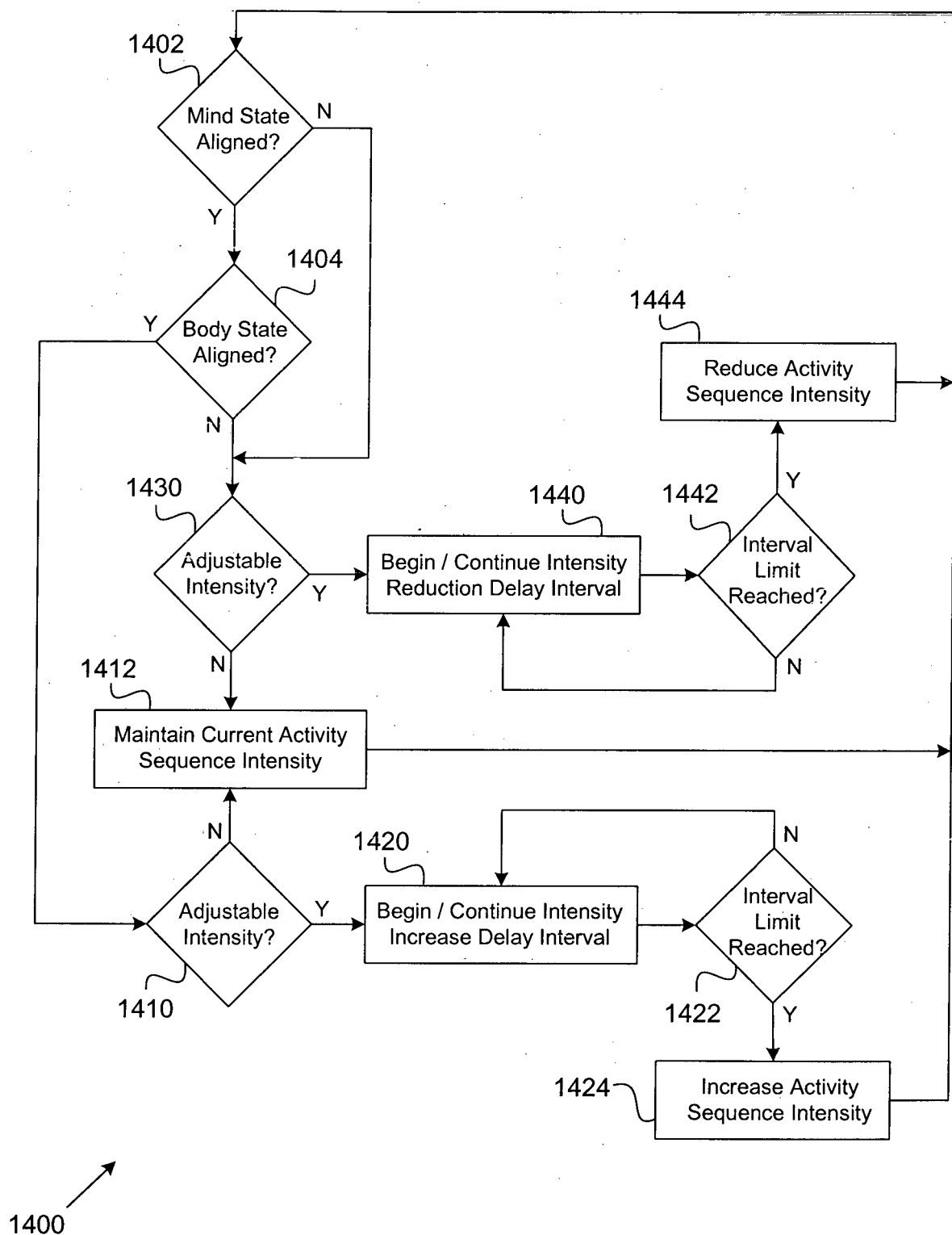


FIG. 13

FIG. 14

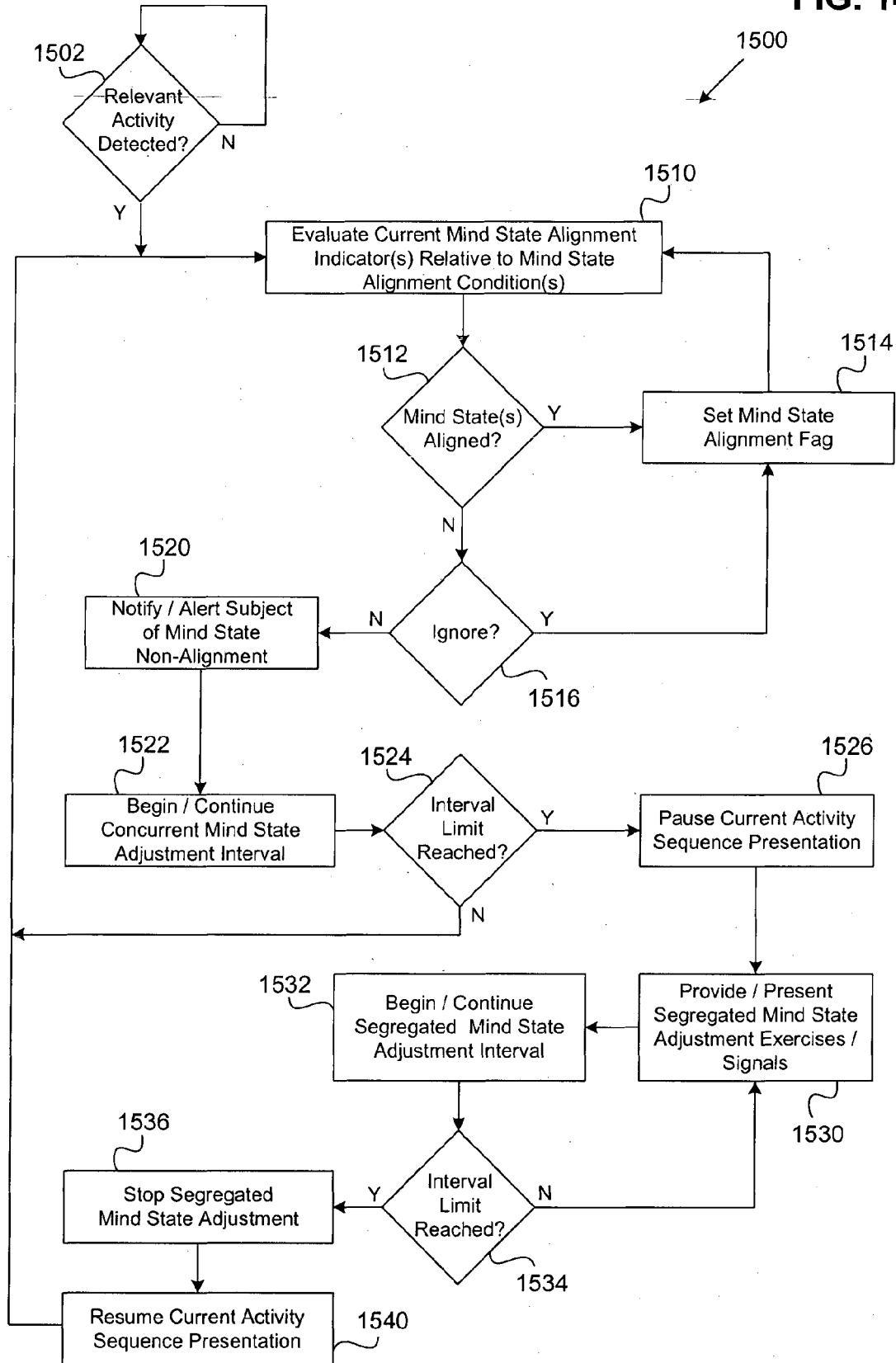
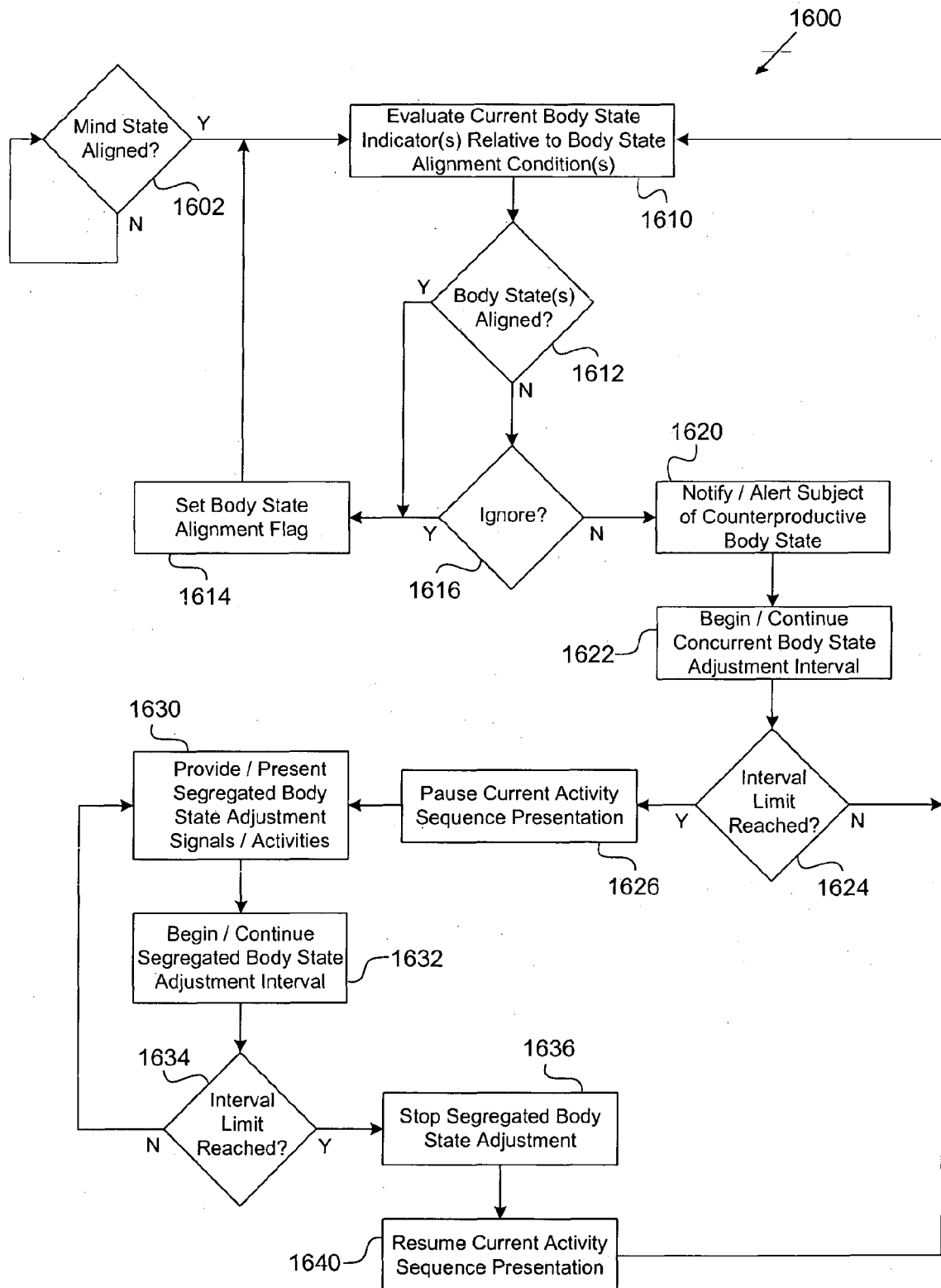


FIG. 15



**THOUGHTS**

**MIND STATE**

**BIOFEEDBACK TIME**

+

0

sec

**CUE PLAYTIME**

+

0

sec

**BIOFEEDBACK OPTIONS**

☐ VISUAL  
☐ AUDIO  
☐ KINESTHETIC

**CUE OPTIONS**

☒ VIDEO/AUDIO  
☐ GAMES  
☐ SCRIPT  
☐ METRONOME

**TEMPORARY IGNORE**

OFF
 
ON

**VIDEO/AUDIO FILE PATH:**

**SAVE**

**RESET**

**File Name:**

**Patient's Folder Path:**

**Path to the Learning Model with FES (not Transport Address):**

FIG. 16A

**PURPOSE**

CO-CONTRACTION  
OR

BIOFEEDBACK TIME + 0 sec

CUE PLAYTIME + 0 sec

**BIOFEEDBACK OPTIONS**

☐ VISUAL  
☐ AUDIO  
☐ KINESTHETIC

☒ VIDEO/AUDIO  
☐ GAMES  
☐ SCRIPT  
☐ METRONOME

VIDEO / AUDIO FILE PATH: (C:\)

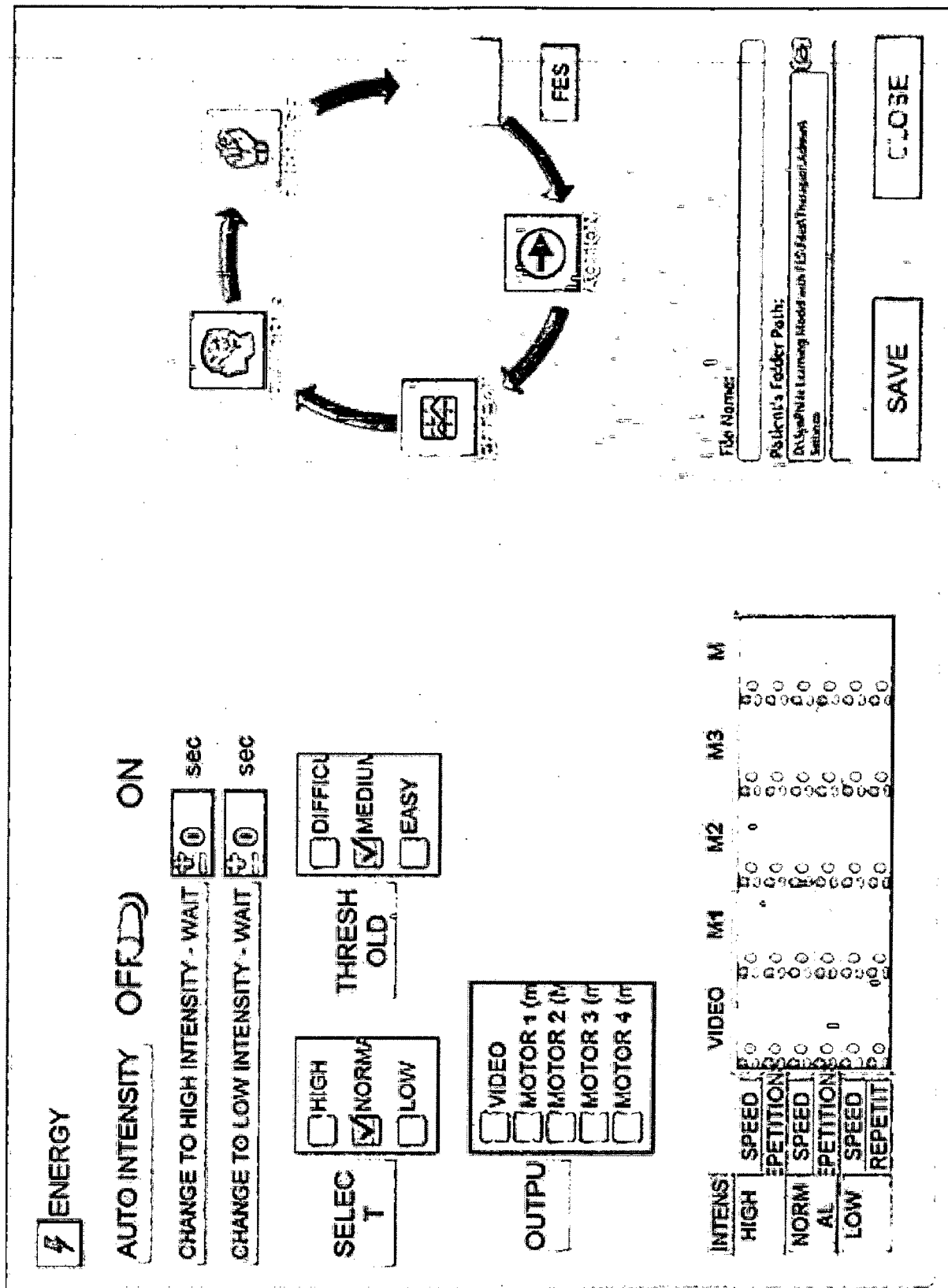
**CUE OPTIONS**

TEMPORARY IGNORE OFF ☒ ON

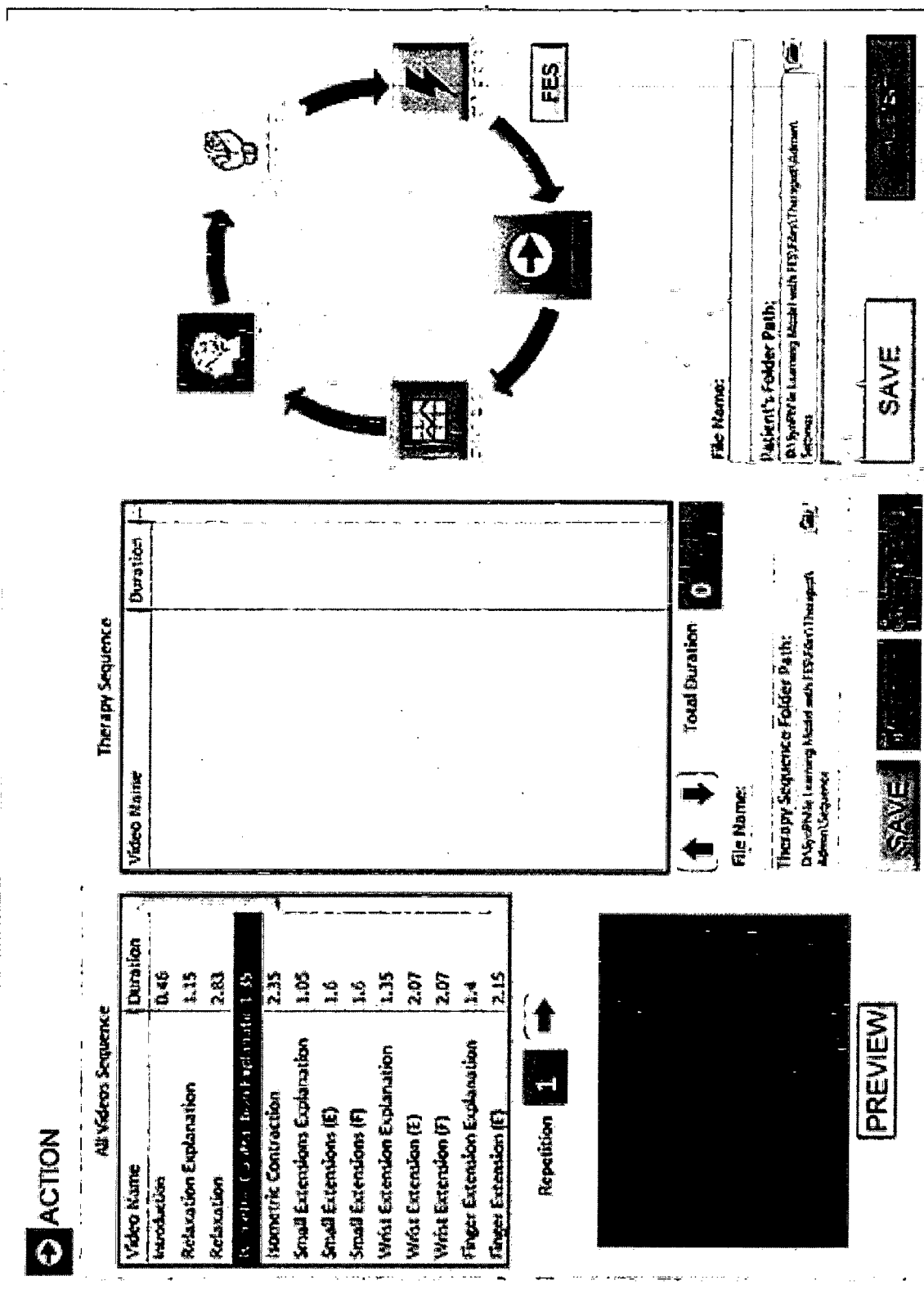
**SAVE**

**CLOSE**

FIG. 16B



**FIG. 16C**



**FIG. 16D**

| 1    | 2           | 3              | 4            | 5                  | 6              | 7            | 8               | 9                  | 10                | 11                   | 12                                     |
|------|-------------|----------------|--------------|--------------------|----------------|--------------|-----------------|--------------------|-------------------|----------------------|----------------------------------------|
| Type | Action Code | Start Time (s) | Duration (s) | Total Duration (s) | Duration (min) | End Time (s) | Primary Agonist | Primary Antagonist | Secondary Agonist | Secondary Antagonist | Action/Task Name                       |
| 1    | INT-R       | 0              | 28           | 28                 | 0.46           | 28           | NA              | NA                 | NA                | NA                   | Introduction                           |
| 2    | REL-R       | 32             | 69           | 97                 | 1.15           | 101          | NA              | NA                 | NA                | NA                   | Relaxation Explanation                 |
| 3    | REL-R       | 101            | 170          | 267                | 2.83           | 271          | NA              | NA                 | NA                | NA                   | Relaxation                             |
| 4    | IC-R        | 272            | 81           | 348                | 1.35           | 353          | NA              | NA                 | NA                | NA                   | Isometric Contraction Explanation      |
| 5    | IC-R        | 354            | 141          | 489                | 2.35           | 495          | Wrist extensor  | Wrist flexor       | NA                | NA                   | Isometric Contraction                  |
| 6    | SE-R        | 496            | 63           | 552                | 1.05           | 559          | NA              | NA                 | NA                | NA                   | Small Extensions Explanation           |
| 7    | SE-R        | 560            | 96           | 648                | 1.60           | 656          | Finger extensor | Finger flexor      | NA                | NA                   | Small Extensions (E)                   |
| 8    | SE-R        | 560            | 96           | 648                | 1.60           | 656          | Finger flexor   | Finger extensor    | NA                | NA                   | Small Extensions (F)                   |
| 9    | SF-R        | 560            | 96           | 648                | 1.60           | 656          | NA              | NA                 | NA                | NA                   | Wrist Extension Explanation            |
| 10   | WE-R        | 557            | 81           | 729                | 1.35           | 738          | Wrist extensor  | Wrist flexor       | NA                | NA                   | Wrist Extension (E)                    |
| 11   | WE-R        | 739            | 124          | 863                | 2.07           | 863          | Wrist flexor    | Wrist extensor     | NA                | NA                   | Wrist Extension (F)                    |
| 12   | WF-R        | 739            | 124          | 863                | 2.07           | 863          | Wrist flexor    | Wrist extensor     | NA                | NA                   | Finger Extension Explanation           |
| 13   | FE-R        | 864            | 84           | 937                | 1.40           | 948          | NA              | NA                 | NA                | NA                   | Finger Extension (E)                   |
| 14   | FE-R        | 864            | 84           | 937                | 1.40           | 948          | NA              | NA                 | NA                | NA                   | Finger Extension (F)                   |
| 15   | FE-R        | 949            | 129          | 1066               | 2.15           | 1078         | Finger extensor | Finger flexor      | NA                | NA                   | Pronation Supination Explanation       |
| 16   | FF-R        | 949            | 129          | 1066               | 2.15           | 1078         | Finger flexor   | Finger extensor    | NA                | NA                   | Pronation Supination (P)               |
| 17   | PRO-R       | 1079           | 99           | 1165               | 1.65           | 1178         | NA              | NA                 | NA                | NA                   | Pronation Supination (S)               |
| 18   | PRO-R       | 1179           | 156          | 1321               | 2.60           | 1335         | Pronator        | Supinator          | NA                | NA                   | Wrist & Fingers Explanation            |
| 19   | SUP-R       | 1179           | 156          | 1321               | 2.60           | 1335         | Supinator       | Pronator           | NA                | NA                   | Wrist & Fingers                        |
| 20   | OG-R        | 1336           | 70           | 1391               | 1.17           | 1406         | NA              | NA                 | NA                | NA                   | Fingers & Forearm Rotation Explanation |
| 21   | OG-R        | 1407           | 119          | 1510               | 1.98           | 1526         | Wrist extensor  | Wrist flexor       | Finger extensor   | Finger flexor        | Fingers & Forearm Rotation             |
| 22   | FFR-R       | 1527           | 84           | 1594               | 1.40           | 1611         | NA              | NA                 | NA                | NA                   | Picking Up a Pen Explanation           |
| 23   | FFR-R       | 1612           | 114          | 1708               | 1.90           | 1726         | Finger extensor | Finger flexor      | Wrist extensor    | Wrist flexor         | Picking Up a Pen                       |
| 24   | T1PEN-R     | 1727           | 127          | 1835               | 2.12           | 1854         | NA              | NA                 | NA                | NA                   | Grasping a Bottle Explanation          |
| 25   | T1PEN-R     | 1855           | 152          | 1987               | 2.53           | 2007         | Finger extensor | Finger flexor      | Wrist extensor    | Wrist flexor         | Grasping a Bottle                      |
| 26   | T2BOT-R     | 2008           | 94           | 2081               | 1.57           | 2102         | NA              | NA                 | NA                | NA                   | Flipping the Pages Explanation         |
| 27   | T2BOT-R     | 2103           | 204          | 2285               | 3.40           | 2307         | Wrist extensor  | Wrist flexor       | Finger extensor   | Finger flexor        | Flipping the Pages                     |
| 28   | T3PG-R      | 2308           | 103          | 2388               | 1.72           | 2411         | NA              | NA                 | NA                | NA                   | The Use of Chopsticks Explanation      |
| 29   | T3PG-R      | 2412           | 98           | 2486               | 1.63           | 2510         | Finger extensor | Finger flexor      | Supinator         | Pronator             | The Use of Chopsticks                  |
| 30   | T4CHP-R     | 2511           | 85           | 2571               | 1.42           | 2596         | NA              | NA                 | NA                | NA                   | End                                    |
| 31   | T4CHP-R     | 2597           | 167          | 2738               | 2.78           | 2764         | Finger extensor | Finger flexor      | Wrist extensor    | Wrist flexor         |                                        |
| 32   | END         | 2765           | 59           | 2797               | 0.98           | 2824         | NA              | NA                 | NA                | NA                   |                                        |
| 33   |             |                |              |                    |                |              |                 |                    |                   |                      |                                        |

FIG. 16E

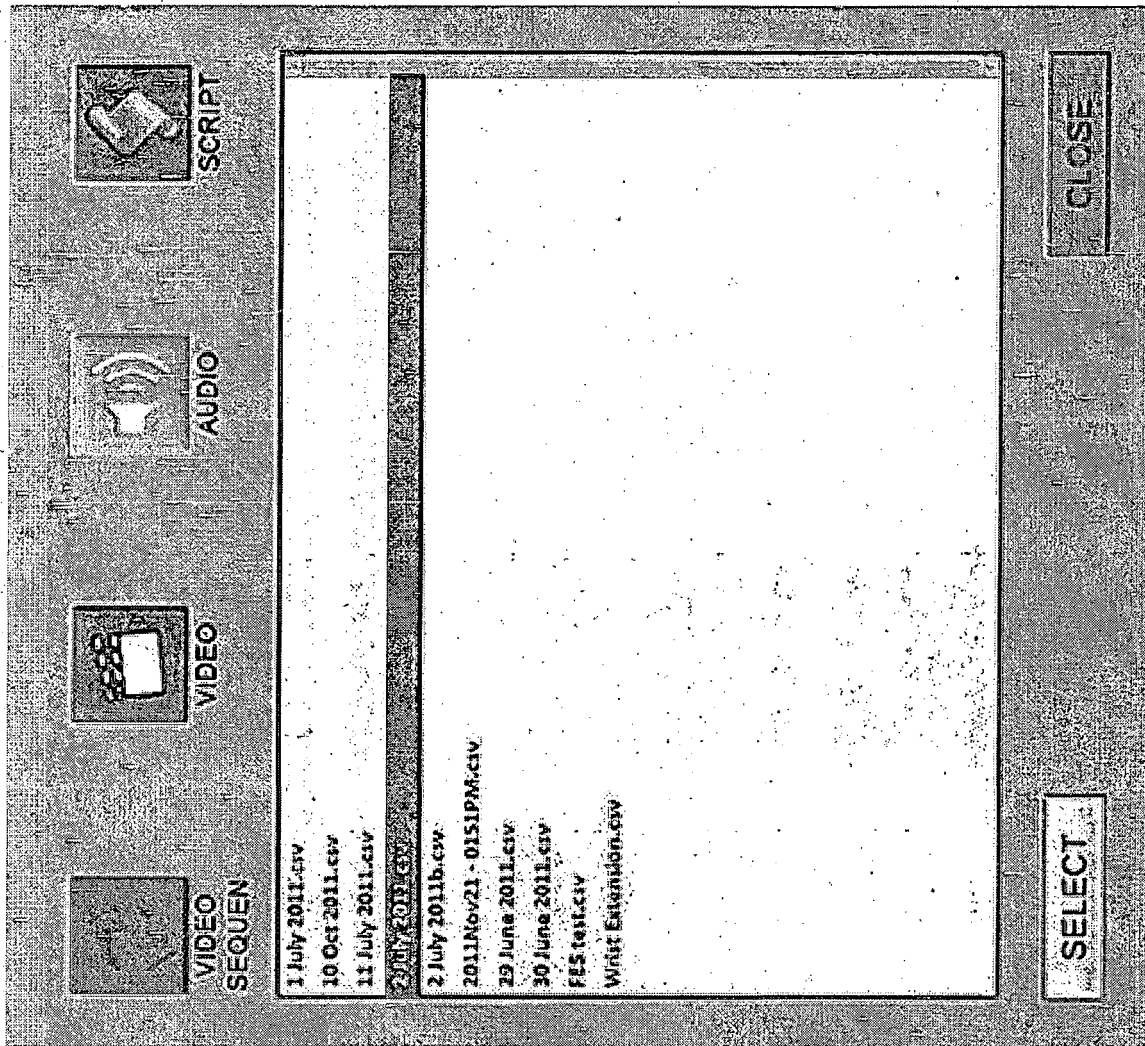


FIG. 16F

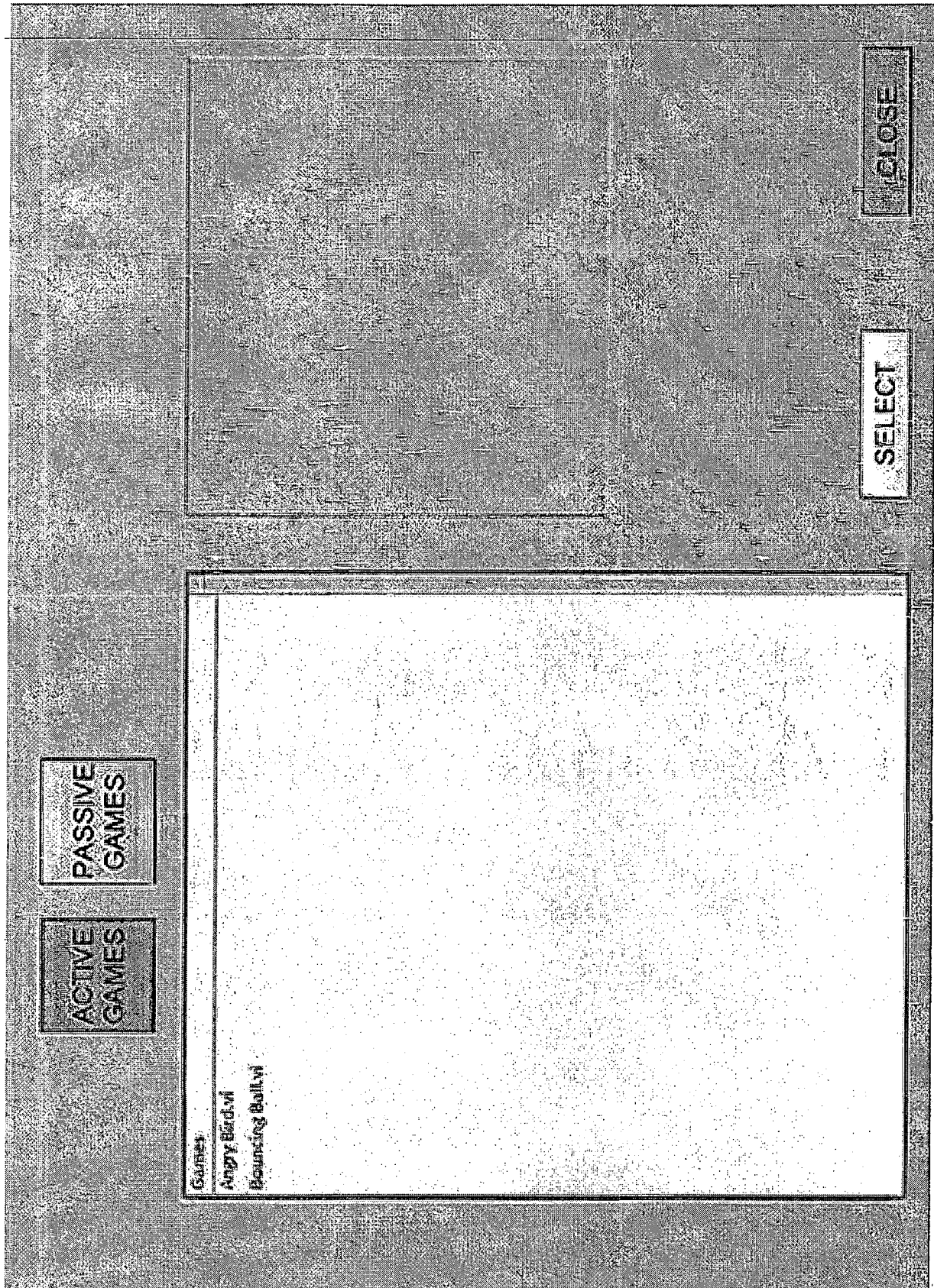


FIG. 16G



FES

FES ENABLE OFF ON

THRESHOLD  $\pm 2$  %

PULSE WIDTH  $\pm 200$  US

CURRENT  $\pm 20$  MA

STIMULATION  $\pm 2$  sec

SEMG CHANNEL

| CHANNEL 1 | CHANNEL 2 | CHANNEL 3      | CHANNEL 4    | CHANNEL 5 | CHANNEL 6       | CHANNEL 7     | CHANNEL 8    |
|-----------|-----------|----------------|--------------|-----------|-----------------|---------------|--------------|
| Pronator  | Supinator | Wrist extensor | Wrist flexor |           | Finger extensor | Finger flexor | Thumb flexor |

SAVE DISK

**FIG. 161**

[illegible]

**FIG. 17A**

[illegible]

**FIG. 17B**

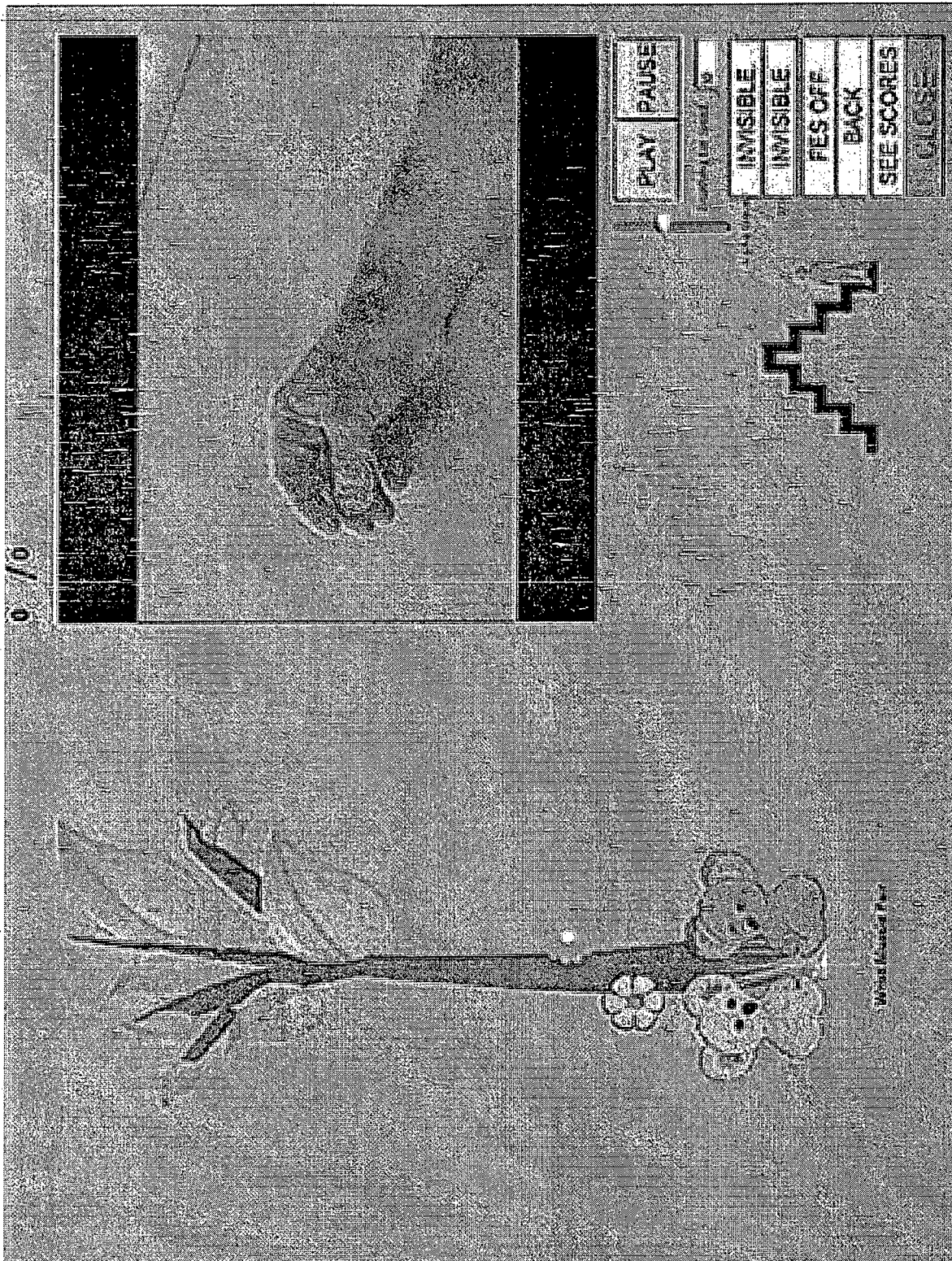


FIG. 18A

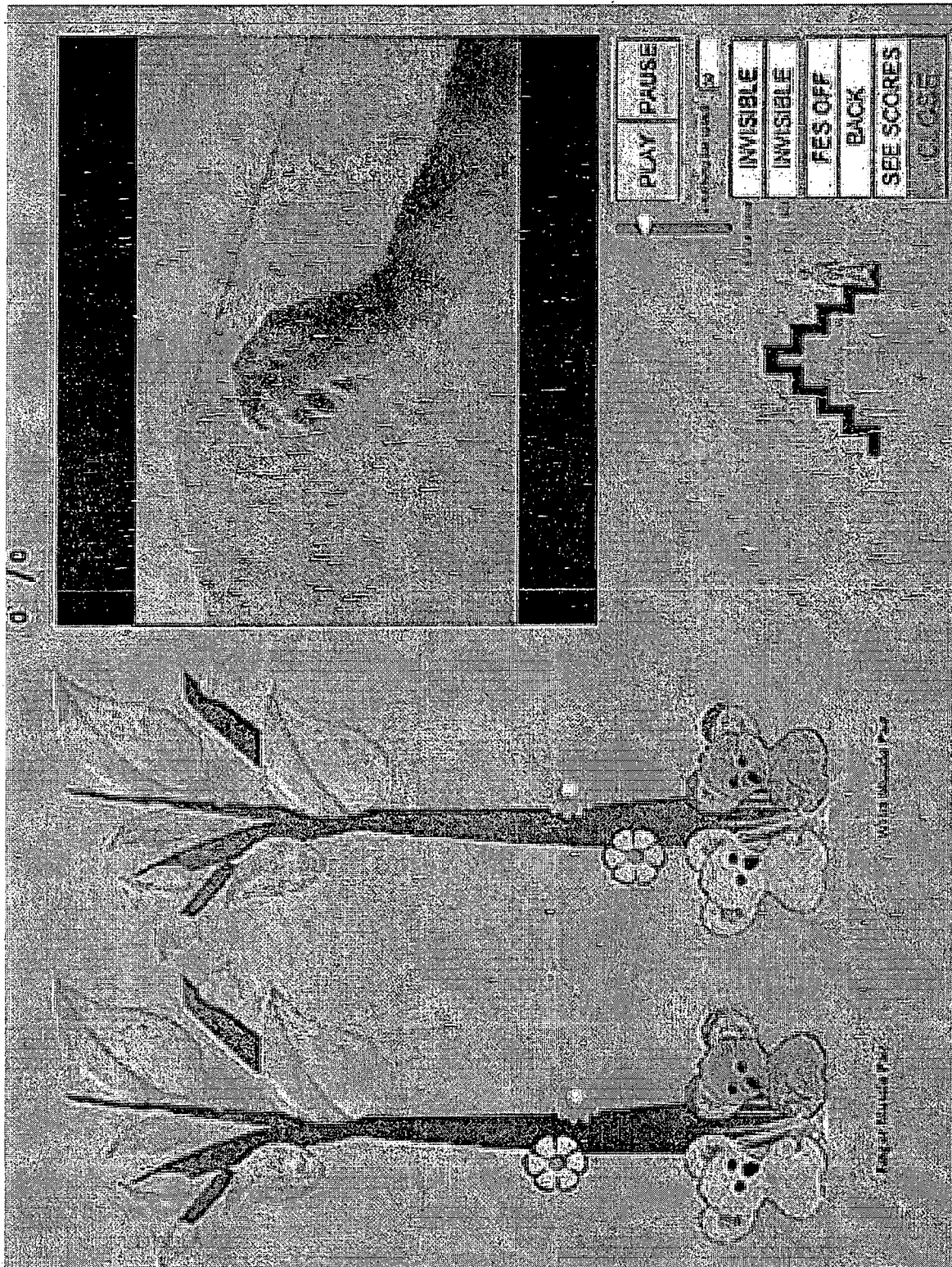


FIG. 18B



FIG. 18C

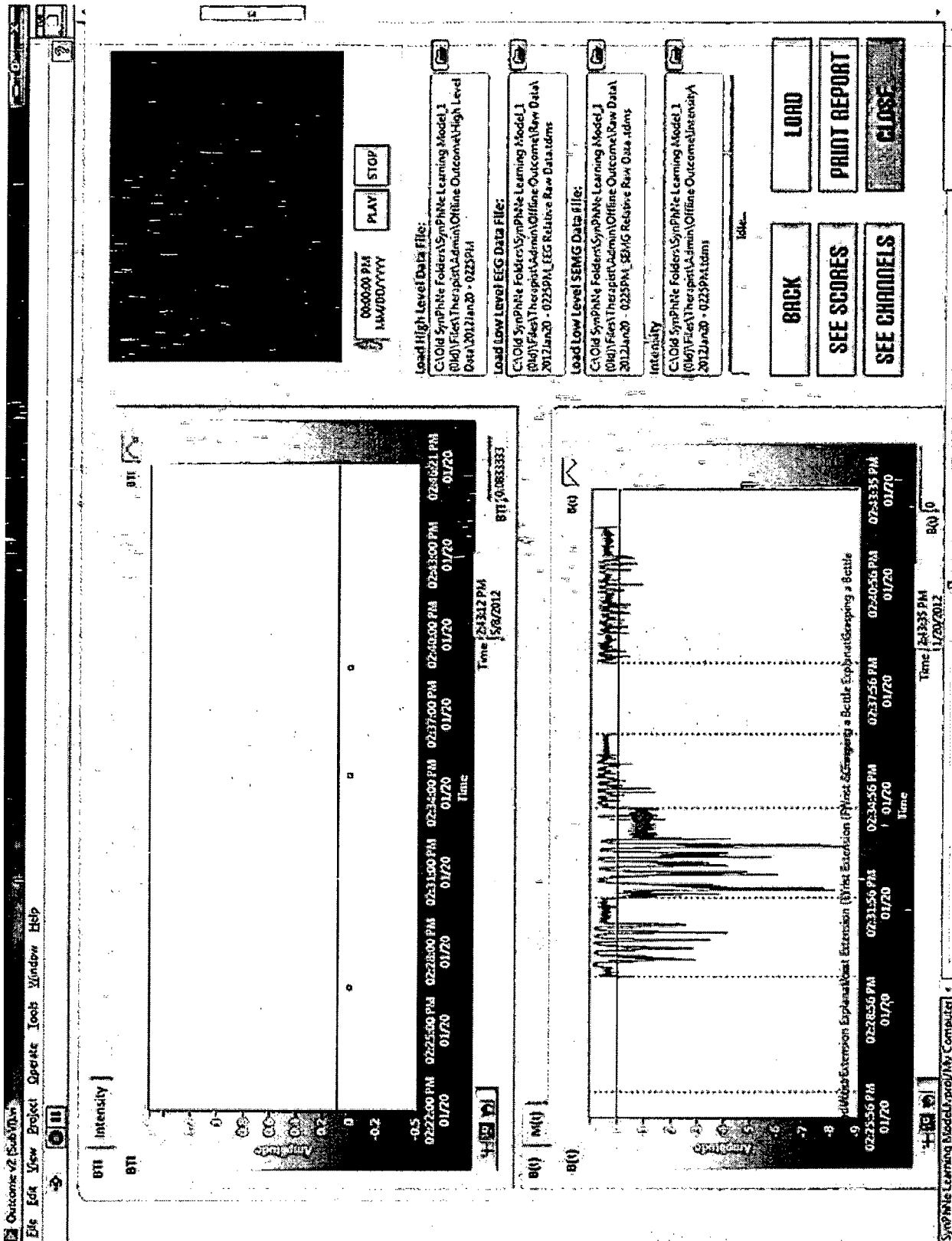


FIG. 19A

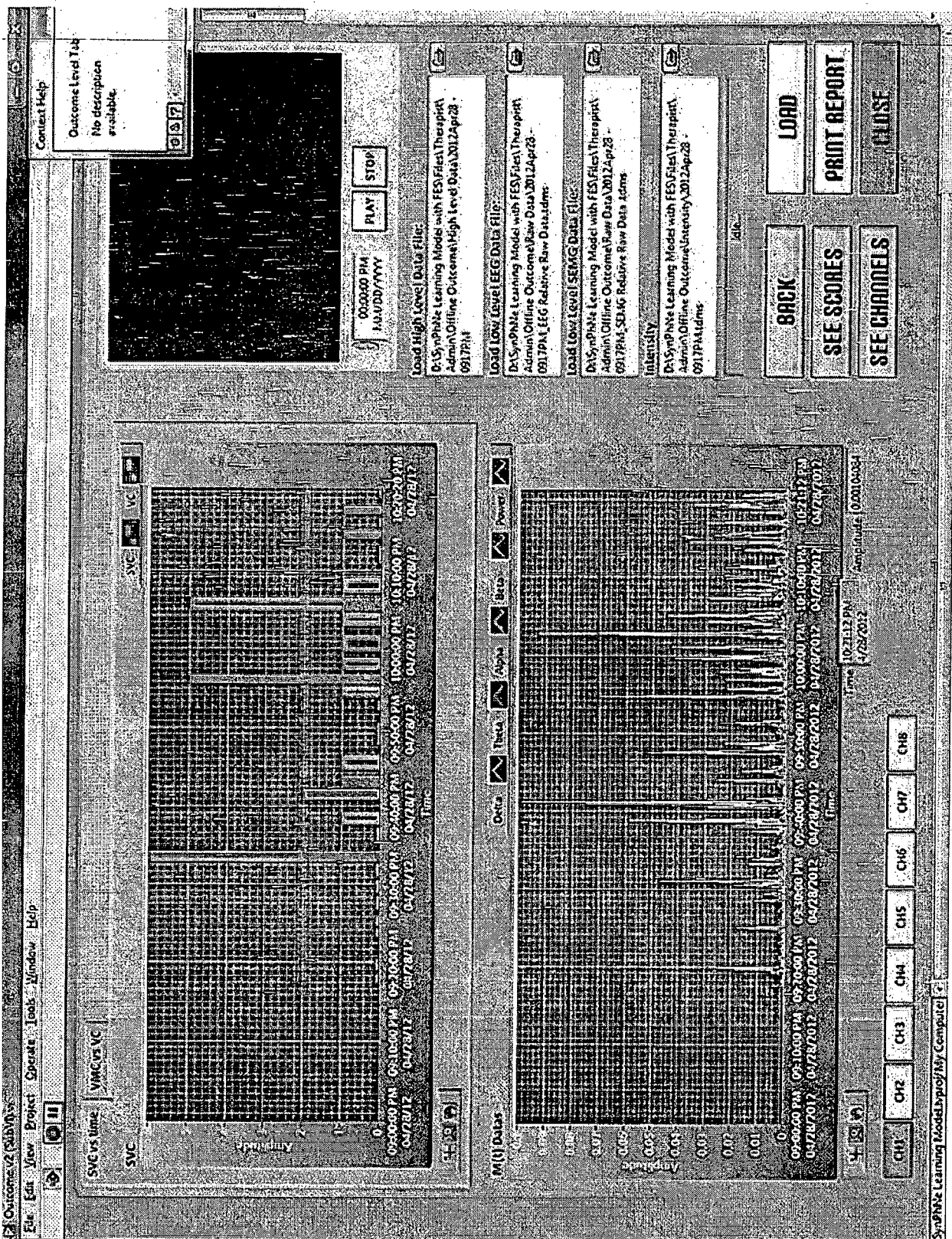


FIG. 19B

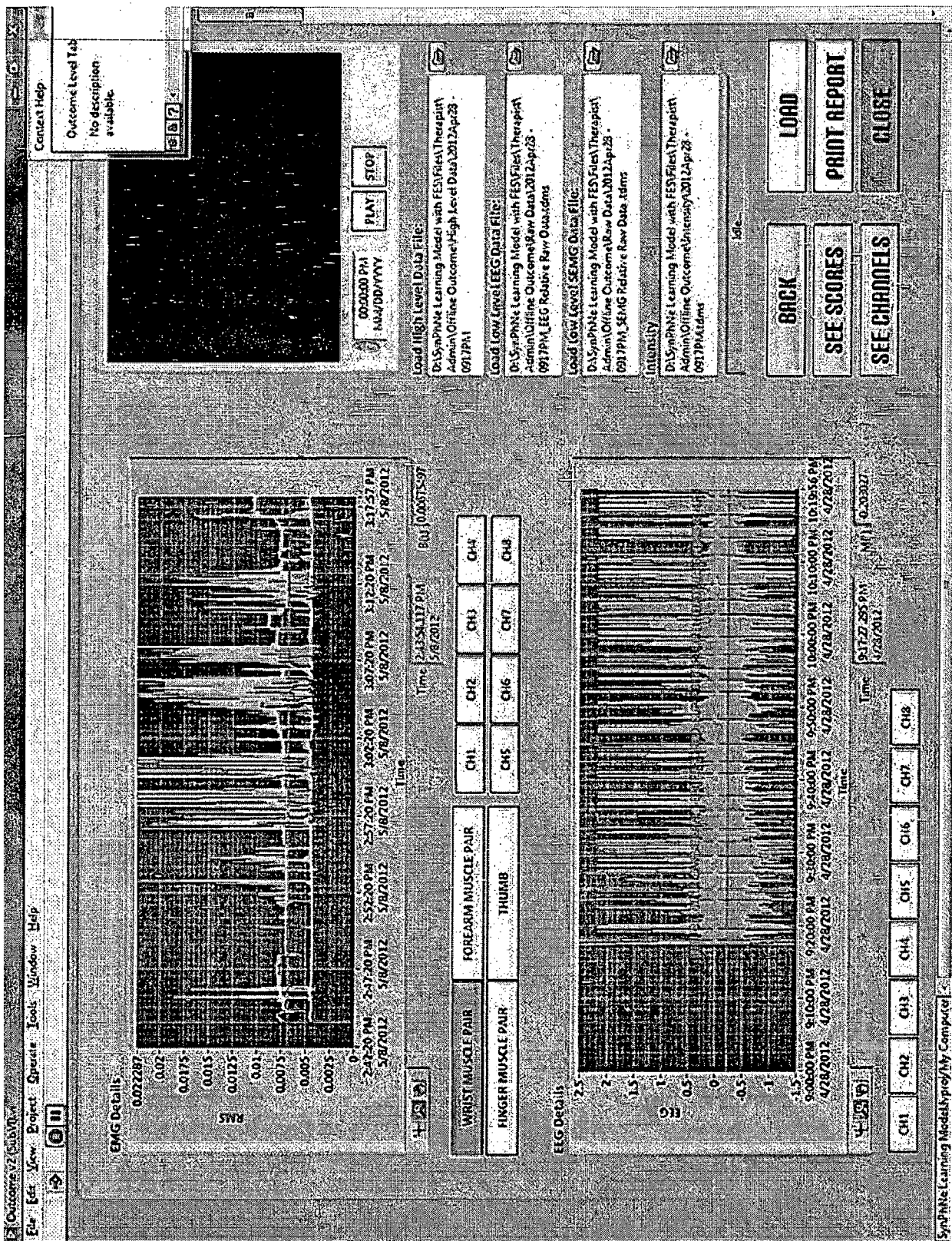
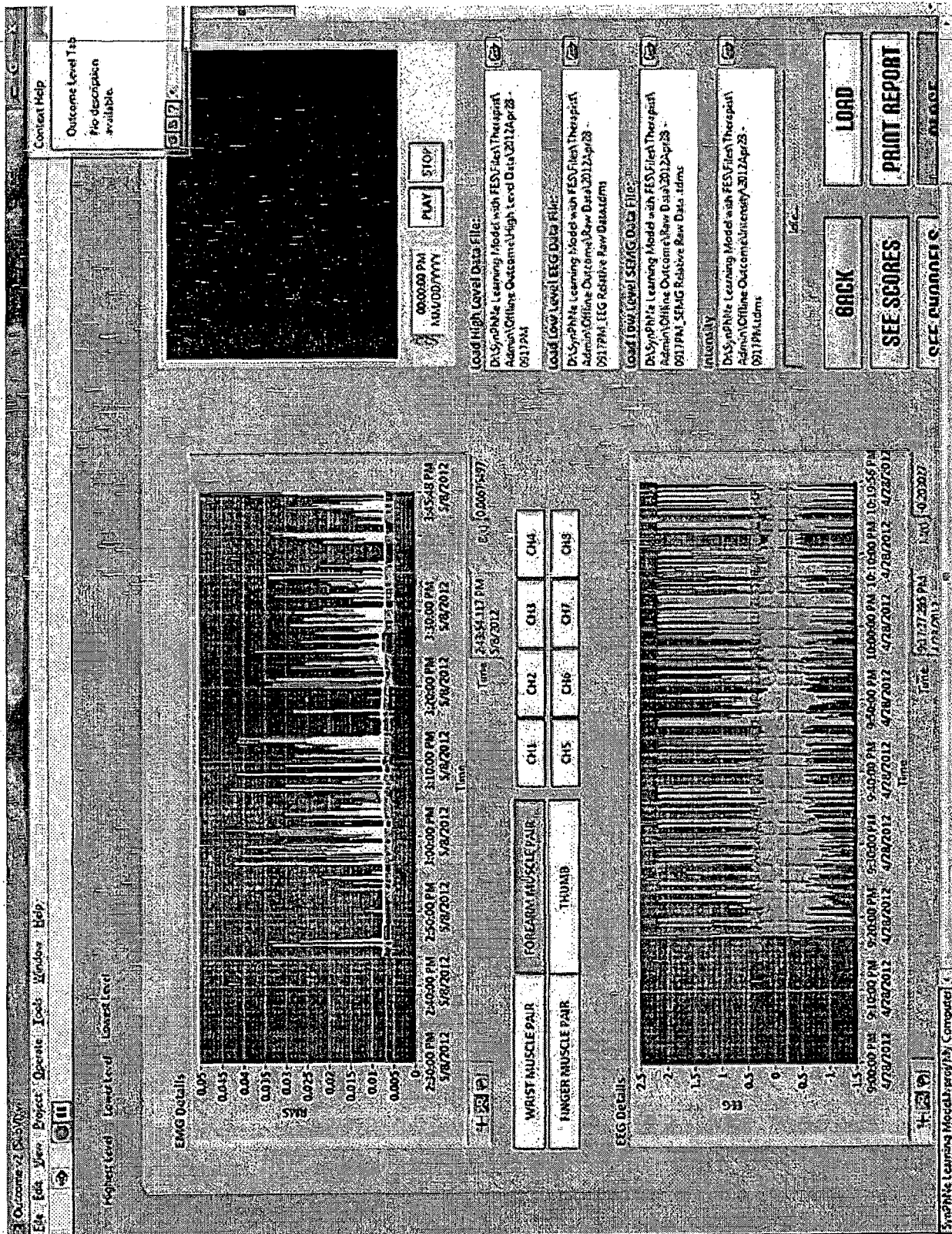
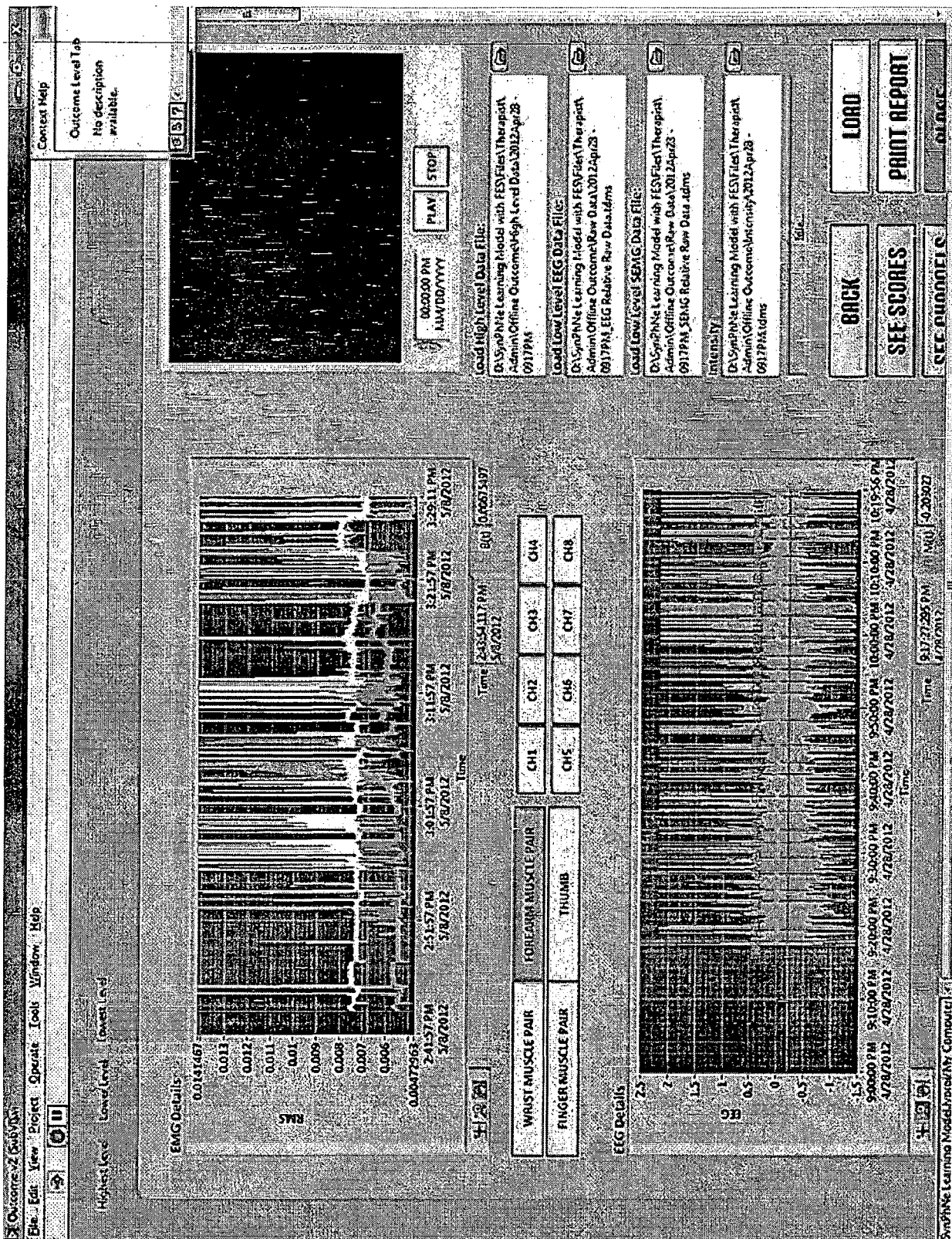


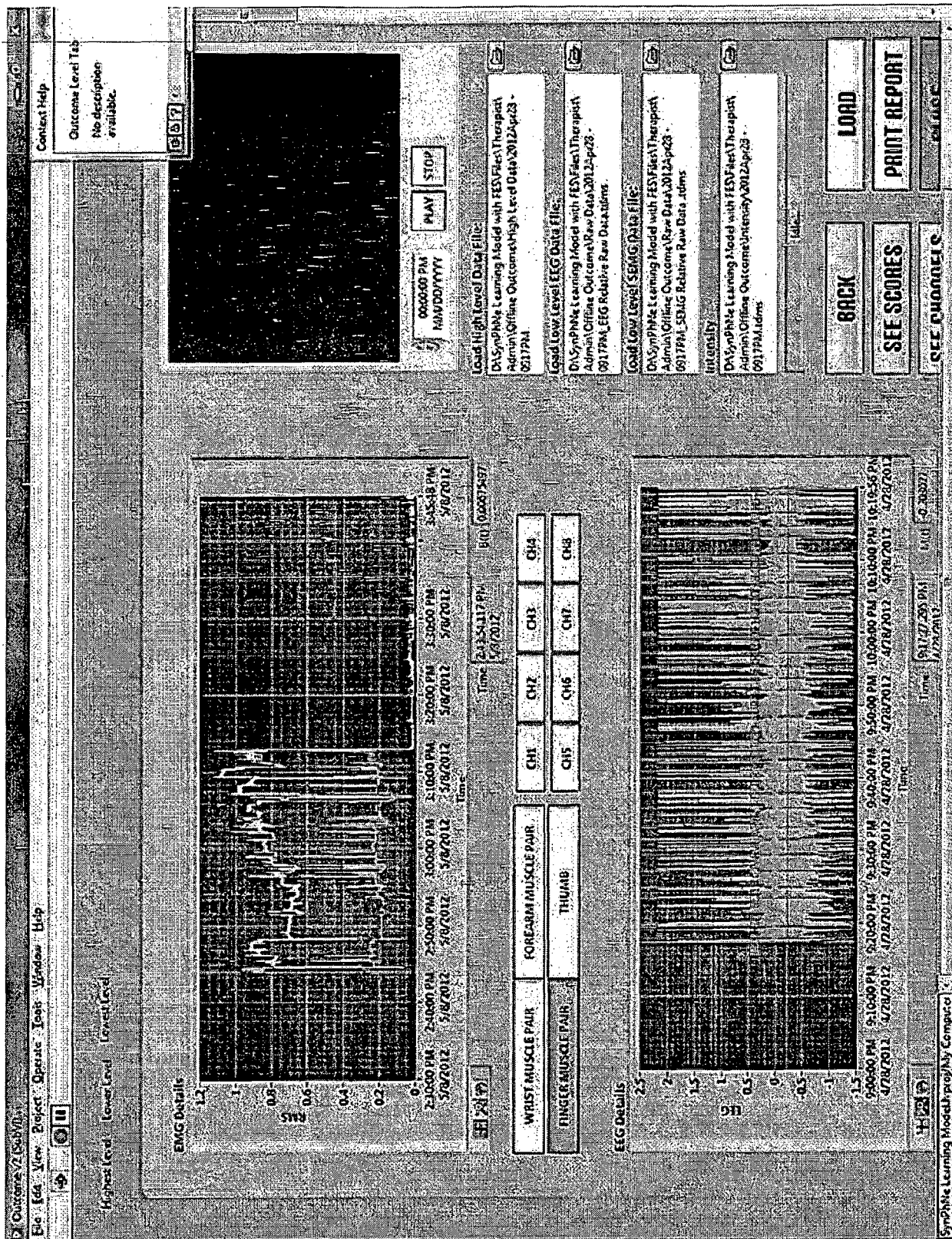
FIG. 19C



**FIG. 19D**



**FIG. 19E**



**FIG. 19F**

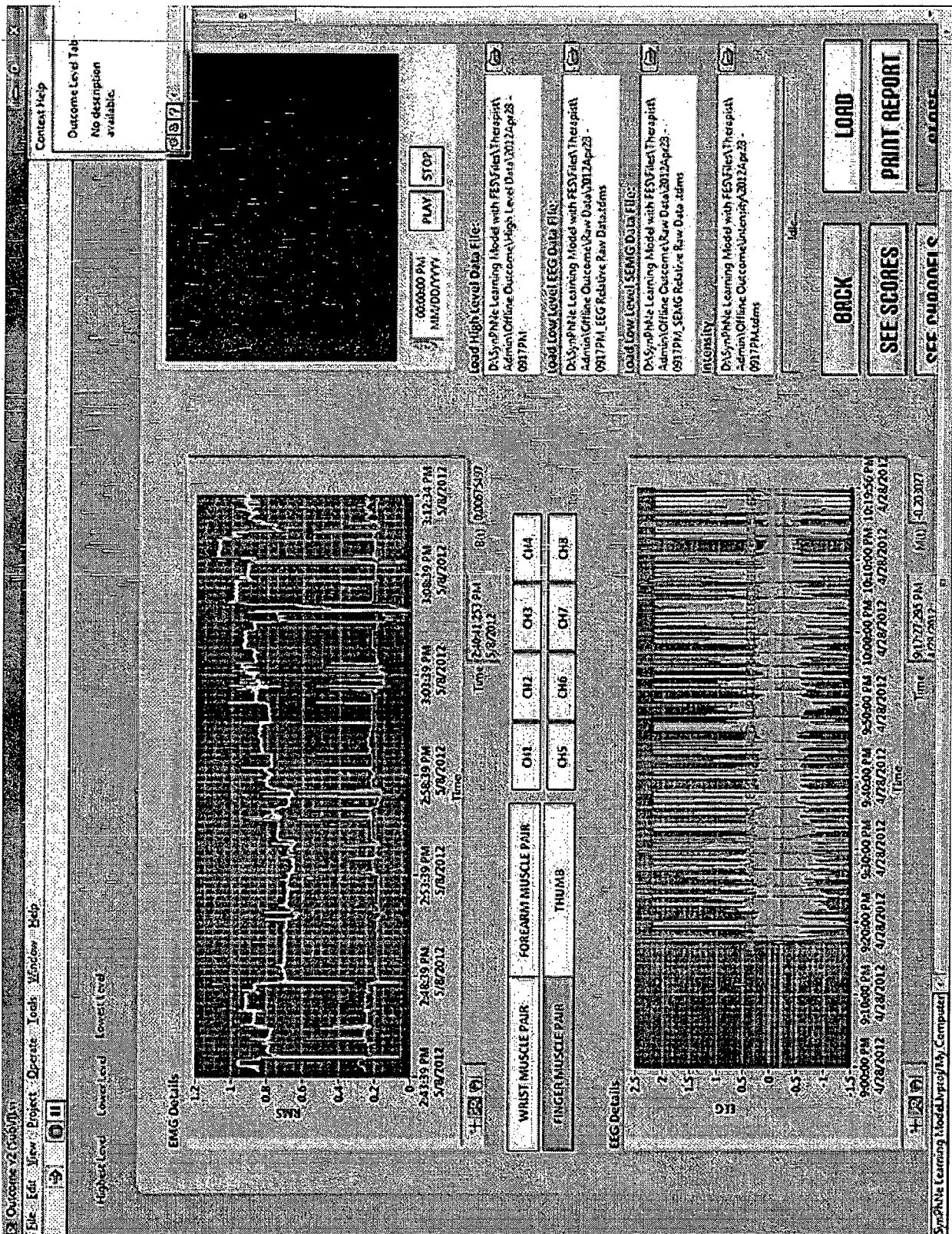


FIG. 19G

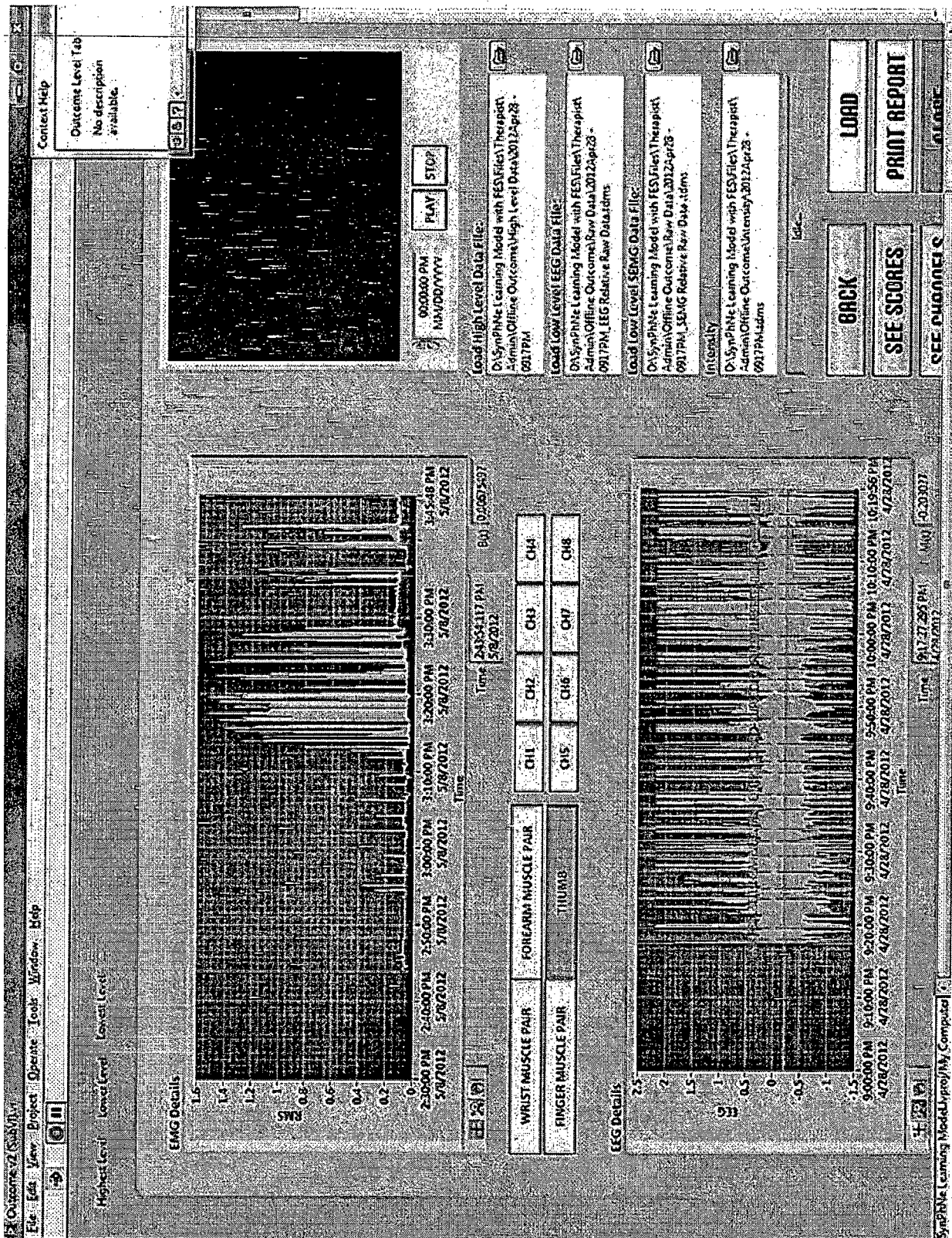


FIG. 19H

## SynPhNe Report

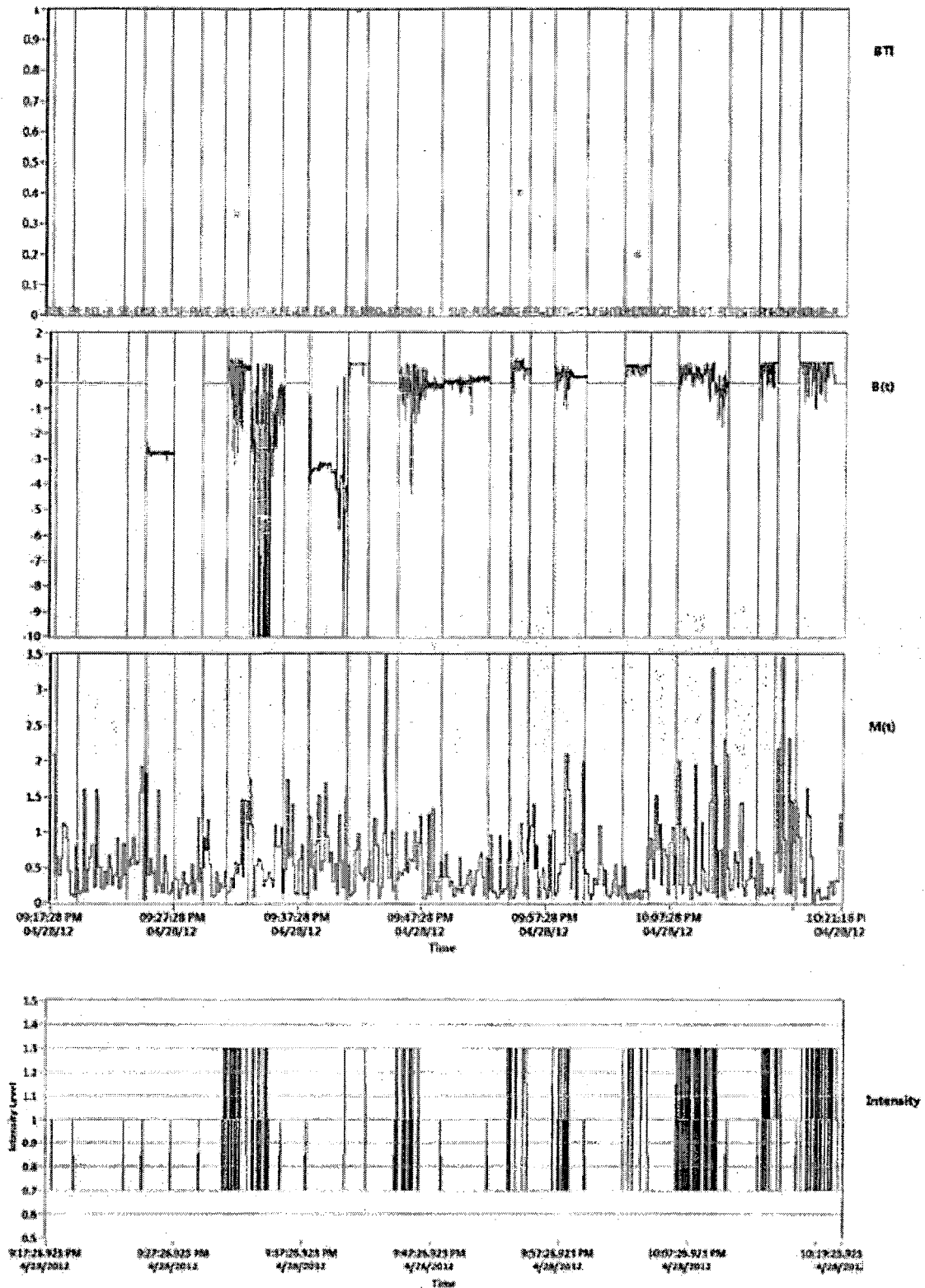
Client Name: AdminDate: 4/28/2012Time: 10:21:17 PM

FIG. 20A

## SynPhNe Report

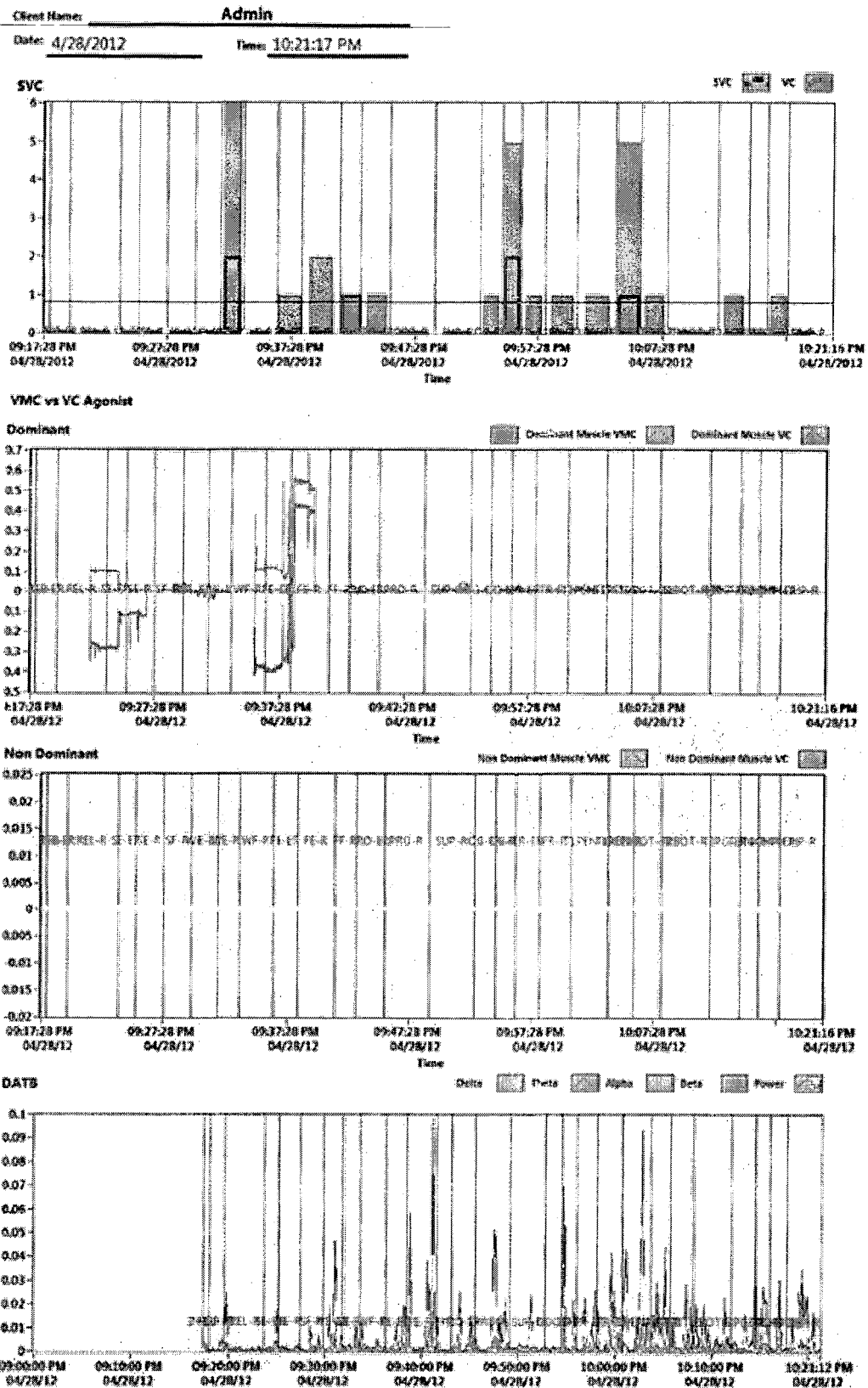


FIG. 20B

## SynPhNe Report

Client Name: Admin  
 Date: 4/28/2012 Time: 10:21:17 PM

**Settings:**

Threshold: ☐ 20 ☒ 40 ☐ 60

FES Threshold: 5 % FES: ON

Intensity: ☒ Normal ☐ Low ☐ High ☐ Auto

**Summary:**

Total Time: 63.8 min

Total Expected Reps: 75

Total Successful Reps: 20

Playlist: \_\_\_\_\_

Average Intensity: 1

| Routine  | Reps | Successful |
|----------|------|------------|
| INT-R    | 0    | 0          |
| REL-ER   | 0    | 0          |
| REL-R    | 5    | 0          |
| SE-ER    | 0    | 0          |
| SE-R     | 5    | 0          |
| SF-R     | 5    | 0          |
| WE-ER    | 0    | 0          |
| WE-R     | 5    | 6          |
| WF-R     | 5    | 0          |
| FE-ER    | 0    | 0          |
| FE-R     | 5    | 2          |
| FF-R     | 5    | 1          |
| PRO-ER   | 0    | 0          |
| PRO-R    | 5    | 0          |
| SUP-R    | 5    | 0          |
| OG-ER    | 0    | 0          |
| OG-R     | 5    | 5          |
| FFR-ER   | 0    | 0          |
| FFR-R    | 5    | 1          |
| T1PEN-ER | 0    | 0          |
| T1PEN-R  | 5    | 5          |
| T2BOT-ER | 0    | 0          |
| T2BOT-R  | 5    | 0          |
| T3PG-ER  | 0    | 0          |
| T3PG-R   | 5    | 0          |
| T4CHP-ER | 0    | 0          |
| T4CHP-R  | 5    | 0          |
|          |      |            |
|          |      |            |
|          |      |            |
|          |      |            |

| Abbreviation | Full Name                              |
|--------------|----------------------------------------|
| INT-R        | Introduction                           |
| REL-ER       | Relaxation Explanation                 |
| REL-R        | Relaxation                             |
| SE-ER        | Small Extensions Explanation           |
| SE-R         | Small Extensions (E)                   |
| SF-R         | Small Extensions (F)                   |
| WE-ER        | Wrist Extension Explanation            |
| WE-R         | Wrist Extension (E)                    |
| WF-R         | Wrist Extension (F)                    |
| FE-ER        | Finger Extension Explanation           |
| FE-R         | Finger Extension (E)                   |
| FF-R         | Finger Extension (F)                   |
| PRO-ER       | Pronation Supination Explanation       |
| PRO-R        | Pronation Supination (P)               |
| SUP-R        | Pronation Supination (S)               |
| OG-ER        | Wrist & Fingers Explanation            |
| OG-R         | Wrist & Fingers                        |
| FFR-ER       | Fingers & Forearm Rotation Explanation |
| FFR-R        | Fingers & Forearm Rotation             |
| T1PEN-ER     | Picking Up a Pen Explanation           |
| T1PEN-R      | Picking Up a Pen                       |
| T2BOT-ER     | Grasping a Bottle Explanation          |
| T2BOT-R      | Grasping a Bottle                      |
| T3PG-ER      | Flipping the Pages Explanation         |
| T3PG-R       | Flipping the Pages                     |
| T4CHP-ER     | The Use of Chopsticks Explanation      |
| T4CHP-R      | The Use of Chopsticks                  |
| END          | End                                    |
|              |                                        |
|              |                                        |
|              |                                        |

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FIG. 20C