

64 BIT MAGNETIC MEMORY SYSTEM BREADBOARD

64 bit core matrix
1747C x 1

$C_{\text{FILT}} = 1000\text{pF}$

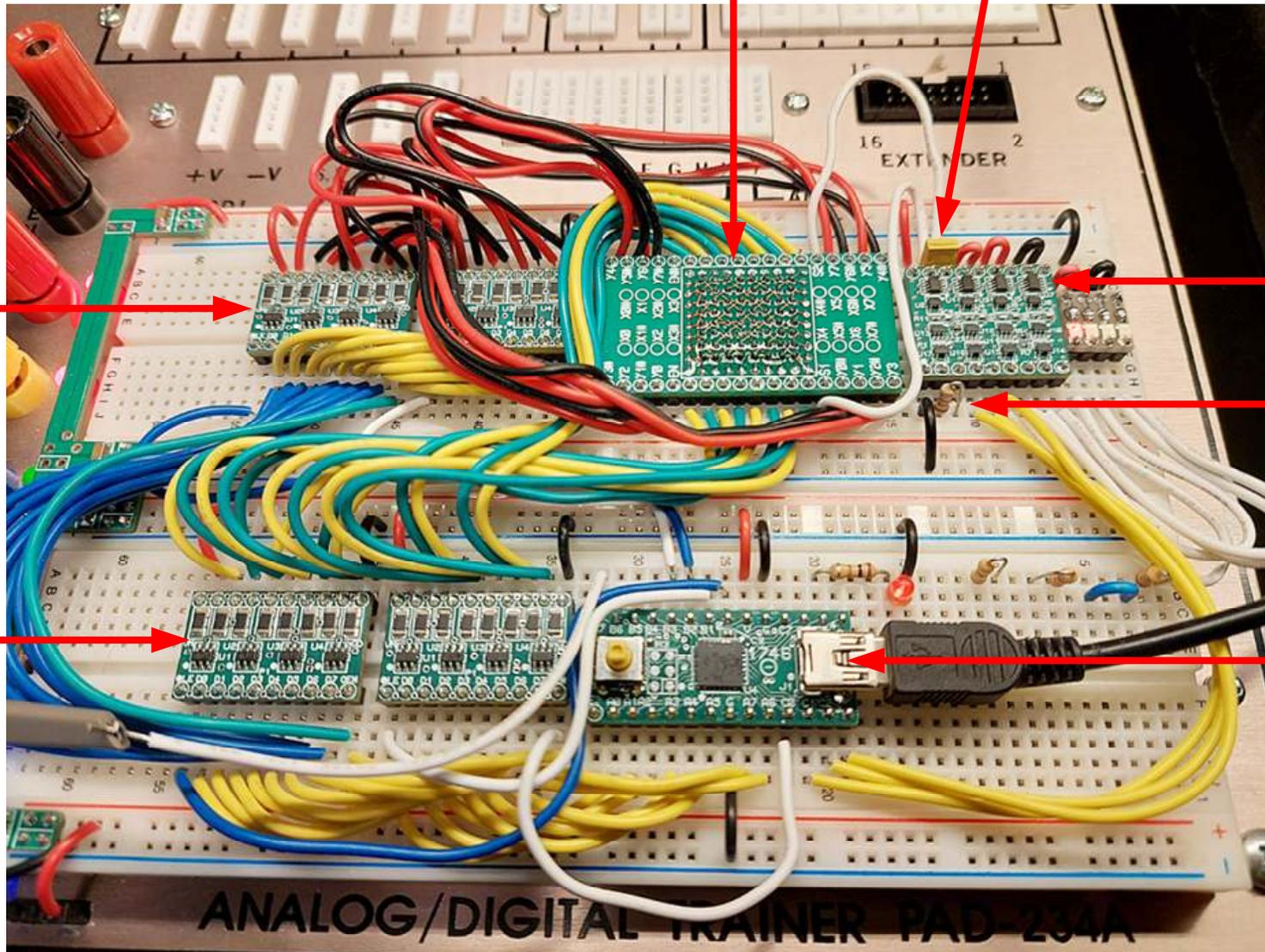
Y Drivers
1749 x 2
 $R = 10\Omega$

X Drivers
1749 x 2
 $R = 10\Omega$

Sense Amp
1752 x 1

$R_{\text{SET}} = 1\text{K}$
 $= 0.95\text{V}/1\text{K}$
 $= 950\mu\text{A}$
 $= 9.50\text{mV}$

Controller
1746P x 1



ANALOG/DIGITAL TRAINER PAD 254A

TEST UI

Clicking each cell writes to matrix bit using the selected T/S/C mode

Toggle, Set or Clear on cell click (T/S/C)

```
$0013xxyyssh[cr]
$0013      Matrix write command
xx         X coordinate, 00-07
yy         Y coordinate, 00-07
ss         Core state, 00 or 01
hh         Hold time, uS
```

```
!0013ss[cr]
!0013      Matrix write response
ss         Core state, 00 or 01
```

The Current cell is shrunk

- Read entire matrix to UI cells
- Write entire matrix from UI cells
- Loop T/S/C on all cells
- Loop cancel
- Set all cells to Red = "1"
- Clear all cells to Green = "0"
- Set "Checker board" pattern #1
- Set "Checker board" pattern #2
- Hold time, uS
- Loop count
- Loop delay, n x 100mS
- Audible tick for Write and Loop
- Loop count down
- Sense amp reported "No change"
- Sense amp reported "Change"
- Response count

Matrix Tests

1. Toggle: A sense amplifier change is expected for every bit write. Tests that the coincident current is set high enough and that the sense amplifier threshold is set low enough.
2. Write 0 on 0 or 1 on 1: Tests that the sense amplifier is set high enough to ignore the "transformer spikes" and that the coincident current is not set too high, flipping bits that are not properly addressed.



When a set or clear event does not produce the expected sense result, a dot is drawn in the expected cell

