



# I Survived Rock n' Roll

*"The Show Must Go On"*

**How Stevie Wonder, Bob Marley, Jimi Hendrix & Liza Minnelli  
prepared Me For Security & Incidence Response**

**Winn Schwartau**

[www.TheSecurityAwarenessCompany.com](http://www.TheSecurityAwarenessCompany.com)

Stevie Wonder sits in with the Wailers, Kingston 1975.

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# Lessons We Will Learn:

- ◆ I grew up ANALOGUE...
  - ◆ Security Folks Need to Think Less Binary (~Digital)
  - ◆ Music Industry / Security = Not so Different
- ◆ Cyber-Physical Convergence was a GIVEN
  - ◆ The Show MUST go on = Mission Critical
  - ◆ Teach Failure First
- ◆ Feedback is Your Friend
  - ◆ Time-Based Security Saves the Show!
  - ◆ High-Speed (Analogue) Detection, Reaction and Remediation





# My Mom (1943)

## NBC Mastering Engineer





# My Dad, NBC (1946)

Oscilloscope and Radar Dev. WWII





# Winn As Young TV Repairman



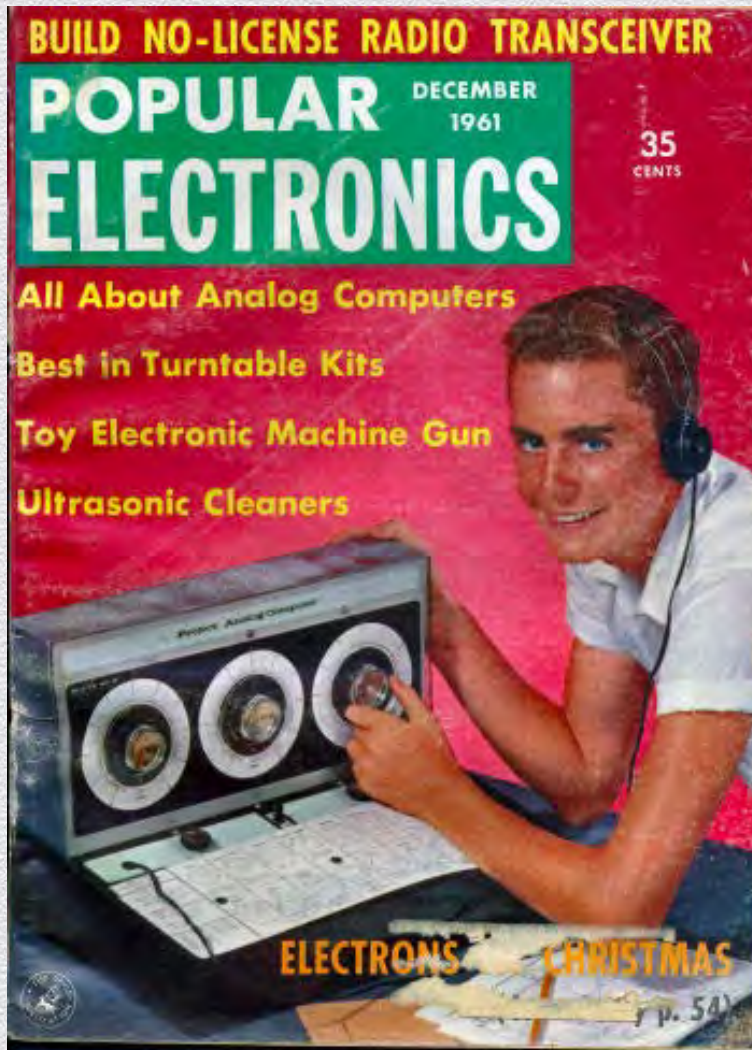


# My Electronics Store





1961





# High School Computer





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**Going Pro at 16**



# My First Sessions

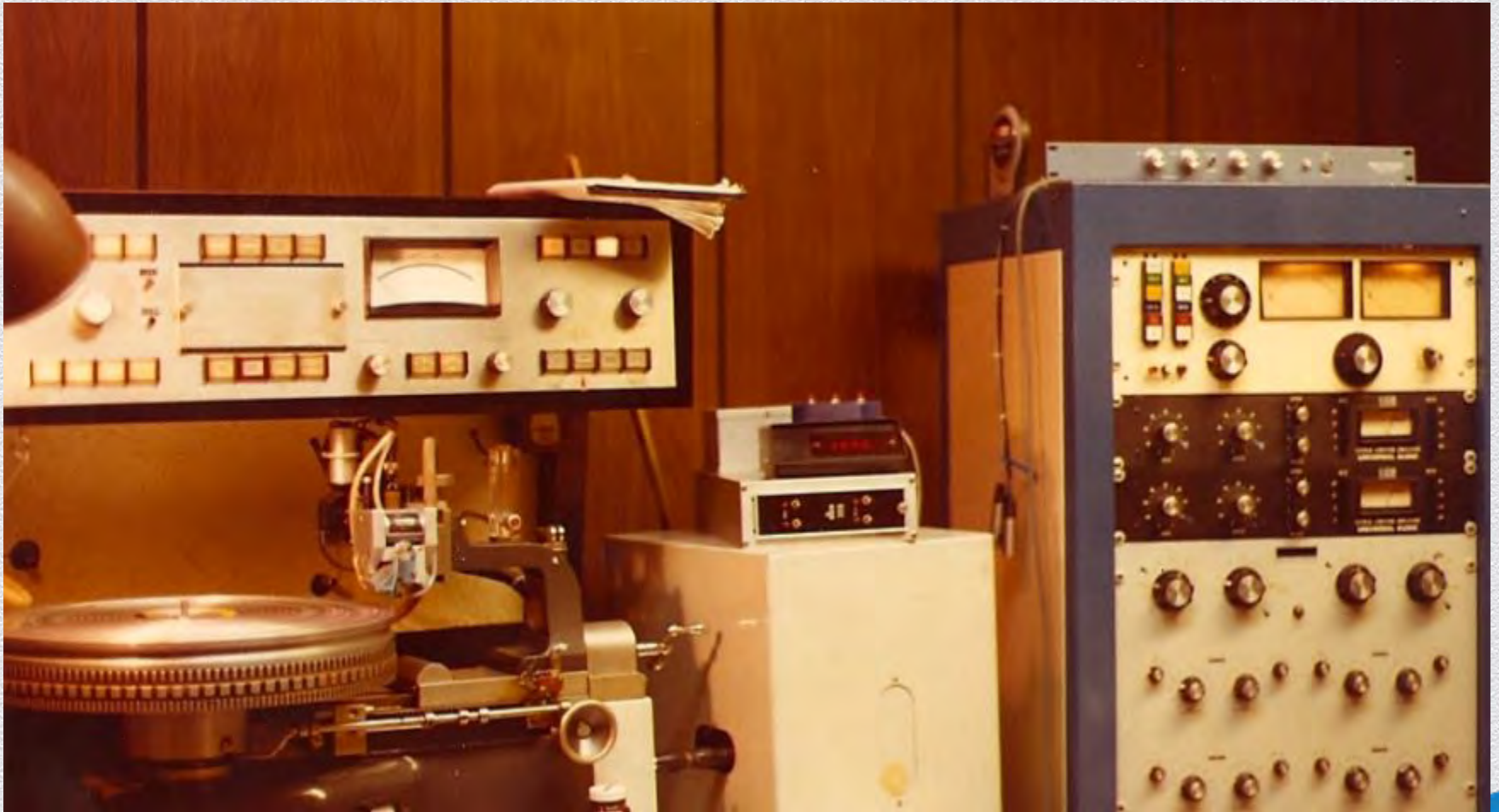


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# My First Lathe





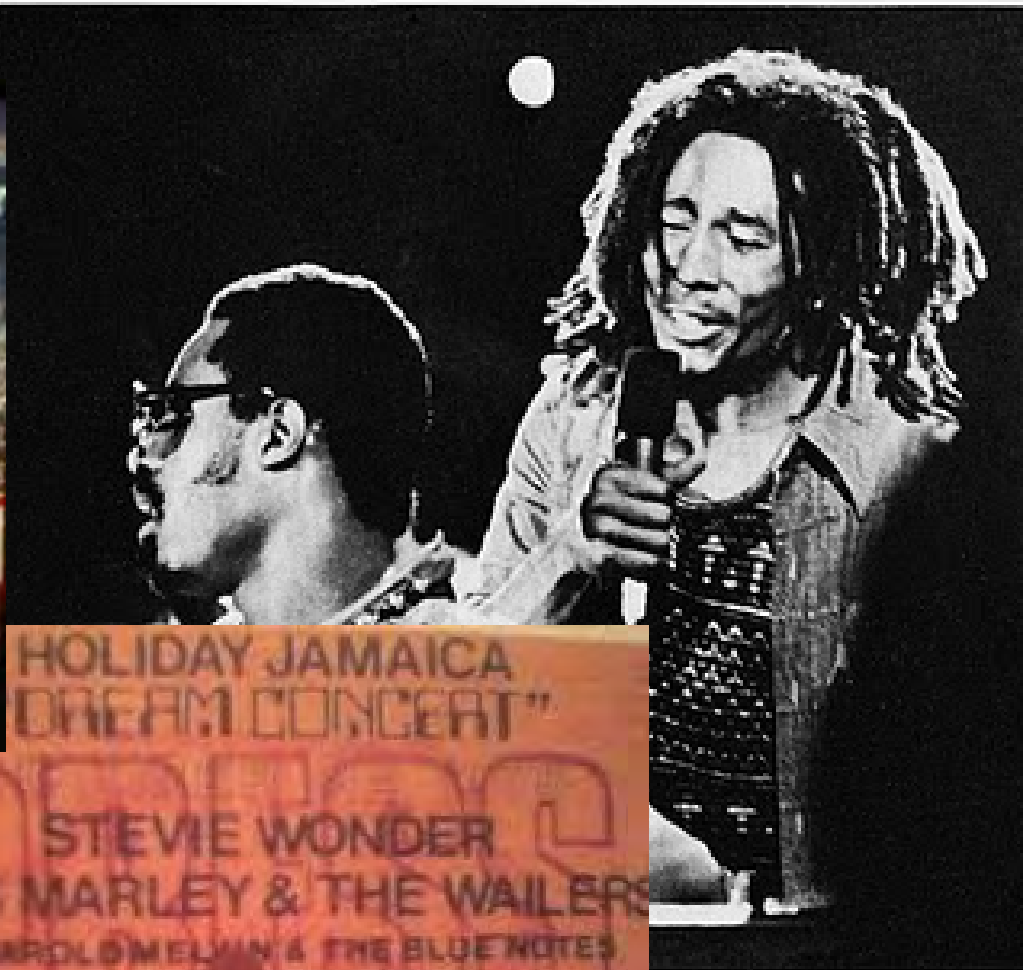
# Winn's EPIC FAILS





# Stevie Wonder & Bob Marley – 1975

## “Holiday Jamaica, Mon” (Free!)



Stevi

HOLIDAY JAMAICA  
DREAM CONCERT

STEVIE WONDER  
BOB MARLEY & THE WAILERS  
CAROL KEMELYN & THE BLUE NOTES  
AND MANY OTHERS

AT THE JAMAICA CONVENTION CENTER  
JANUARY 28, 1975 8:00 PM  
TICKETS \$10.00 \$5.00 \$2.50  
OFFICIAL TICKETS LIMITED JAMAICA, INC.



# Restoring Power (Remediation)





# Stevie Wonder: Security Take-Aways

- ◆ Cyber is Physical.
- ◆ Power is GOD!
- ◆ When the IT hits the fan...ask for forgiveness, not permission.
- ◆ **Let the crazy guy try something crazy. What do you have to lose when 100,000 people start to riot?**





# Liza With a 'Z'



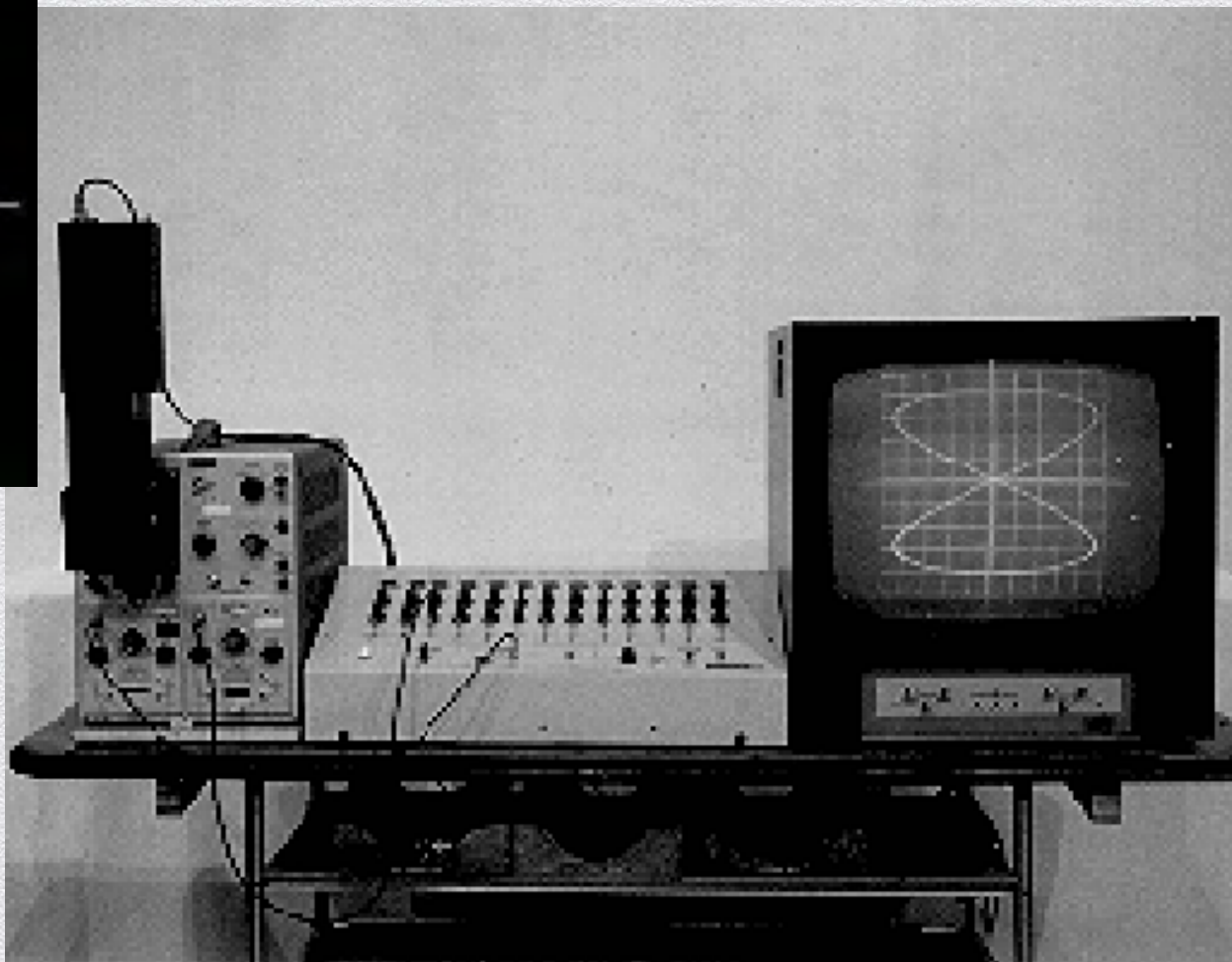
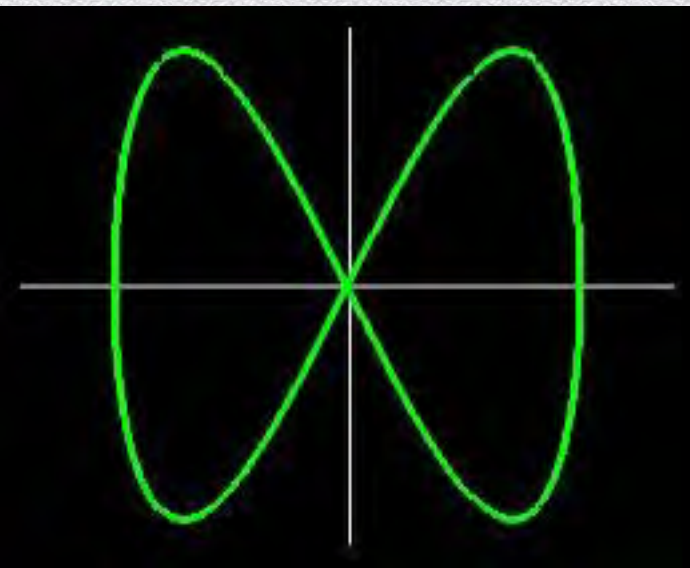


# Auto Sync (No Contingency)





## Manual Sync (DR + Remediation)



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# Liza Minnelli:

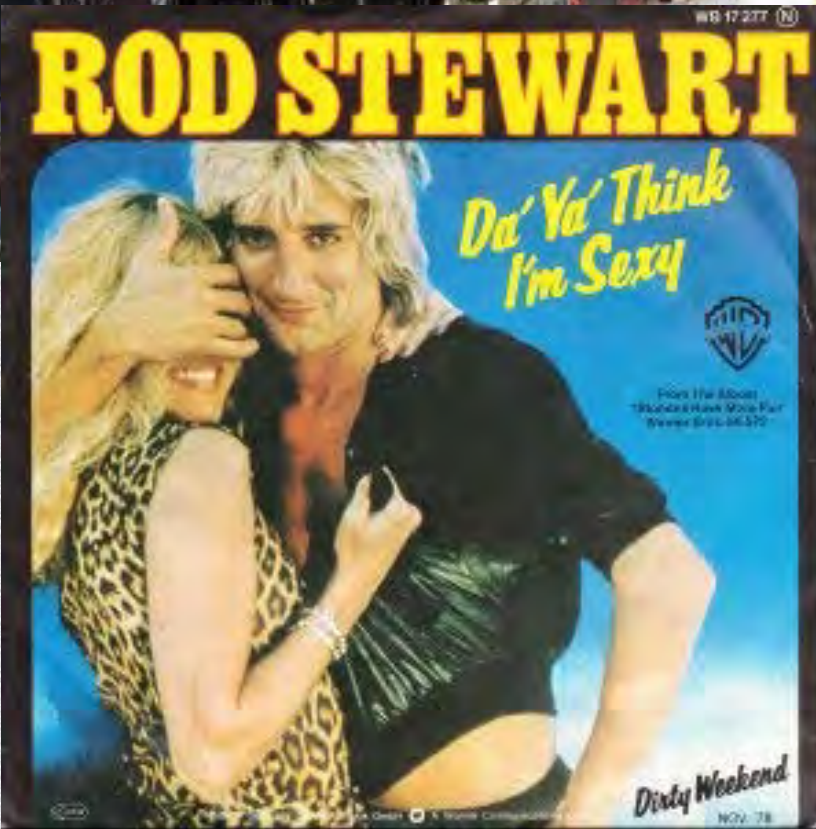
## Security Take-Aways

- ◆ Can U Go Manual Synchronization Mode?
  - ◆ Develop test
  - ◆ Develop skills
  - ◆ Have the manual tools in a kit
  - ◆ Test the process
  - ◆ Regularly
- ◆ Sync
  - ◆ Policy, AD, AS, Mobile, Backup, DR, etc.
  - ◆ Manual Mode available?





# More Sync Failures (Single Point of Failure)






# The Reality of Remotes: Take-Aways

- ◆ “You know, it’s always something.”
- ◆ Murphy has a tent city here.
- ◆ One backup is not enough.
- ◆ Always – *always!* – have Plan-B and Plan-C ready to go.
- ◆ Overstaff.





# Studio R-1: Flop, Flop, Fizz, Fizz



**Plop Plop, Fizz Fizz.**

Read and follow label directions.

If there's one thing you always look forward to, it's a weekend party. You munch on chips and dip. You chug-a-lug your beer. You bugaloo till two.

But sometimes you overdo it. You wake up feeling less than your best. When you do, reach for Alka-Seltzer. The moment you drink it, those tiny bubbles start to speed relief through your system. With specially buffered aspirin to soothe your throbbing head. And antacids to calm your upset stomach.

You'll be thankful you have Alka-Seltzer on hand. Because when morning comes, the only sound your aching head can bear to hear is a gentle plop plop, fizz fizz.

**Alka-Seltzer**  
**Oh, what a relief it is!**

© 1979 Wm. S. Johnson & Son, Inc.



# Supposed to Be...

(Single Point, no DR)





# What We Had To Do...



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# Studio R-1:

## Security Take-Aways

- ◆ Learn How to 'Patch' Around Systems
- ◆ Disaster Recovery
- ◆ Graceful Degradation
- ◆ Have a backup... Always!





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**Systems**  
(Think Analogue)



# My First Studio (16 yrs. Old)





# 1969-1970: Complex Systems





# Automation

**NEW** Proprietary Transformerless Microphone Preampifier is available at no extra cost in all 32C series consoles. Opening up a new world of sonic experience, it's a difference you can hear. Contact your Harrison distributor for a demonstration. For those who would prefer the traditional transformer mike pre-amp continues to be available.

**NEW** 4432C Master Recording Console. 48 I/O module positions with VCA grouping and AUTOSSET are ideal for mixing from two locked 24 track recorders. 48 I/O modules also allow effective split operation. Record on one group of modules and monitor on another group. Master modules may be placed in the center for easy access.

**NEW** 4432C Master Recording Console. A compact, light weight Harrison made especially for remote recording and any other weight or space sensitive application. Utilizing the standard 32C series modules, the Harrison 4432C does not include wood trim or patch bays. It does come with all normal patch points terminated in quick connect splice blocks for easy connection of full external patching. All "normal" patch points are looped with jumpers on splice blocks so that full patching need not be installed for operation. A new compact aluminum frame and efficient wire routing keep weight extremely low for a full 44 X 32 console. The 4432C is ideal for studio applications where it is desired to customize patching and cabinetry.

**NEW**  
FROM  
**Harrison**

**NEW** High Resolution LED meters are now standard at no extra cost in the Harrison 32C series console. The Harrison high resolution meters have both true ASA VU Ballistics and true DIN PPM Ballistics available at the push of a button. In addition, each meter includes instantaneous peak detector to indicate overload of the recording medium. The Harrison high resolution meters have no digital clocks or high voltages to interfere with sensitive audio circuits. The 36-segment bar display gives a highly accurate and visible flicker-free display.

**NEW** AUTOSSET Automation Programmer. A true multiprocessor system under software control, AUTOSSET can store up to four separate and independent dynamic mixes on each channel of an audio recorder. An integral data cartridge can store up to 630 snapshot or preset mixes. Most important it's simple to operate. Even a guest mixer can use AUTOSSET with only a couple of minutes instruction and an experienced operator can virtually perform miracles. Demonstrations can be arranged. Call today.

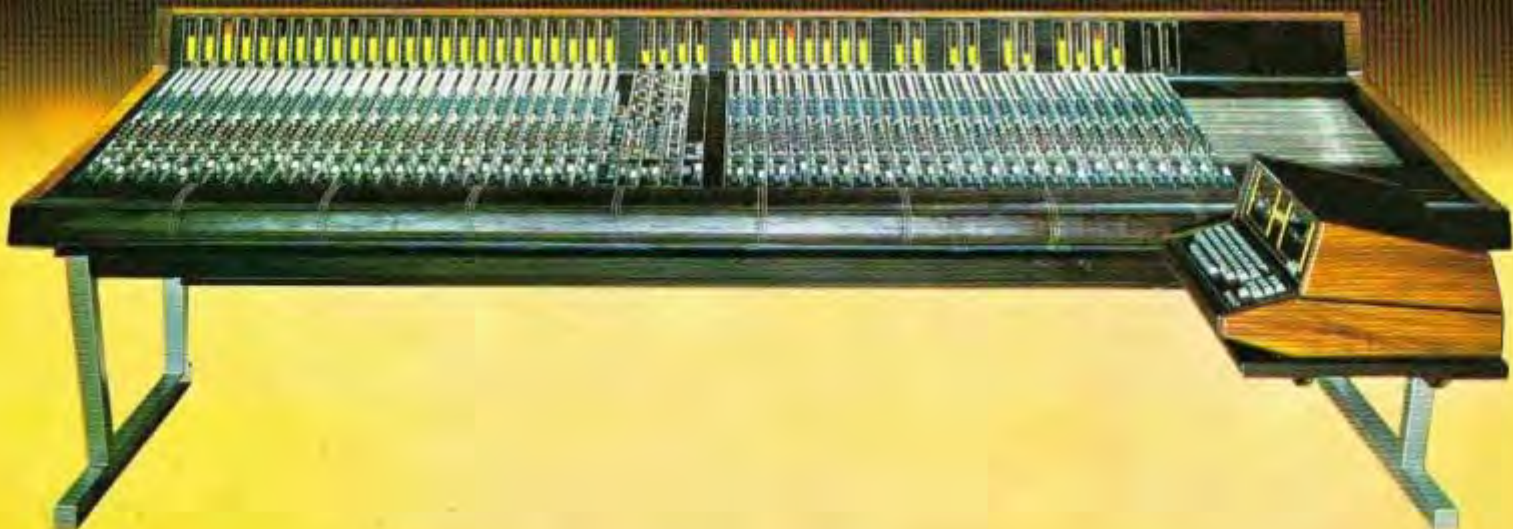
HARRISON PRODUCTS ARE AVAILABLE THROUGH THE FOLLOWING DISTRIBUTORS:

**Factory**  
Harrison Systems, Inc.  
Box 22964  
Nashville, Tennessee 37202  
(615) 834-1684 • Telex 555133  
Dave Harrison • Tom Piper  
Dave Purple

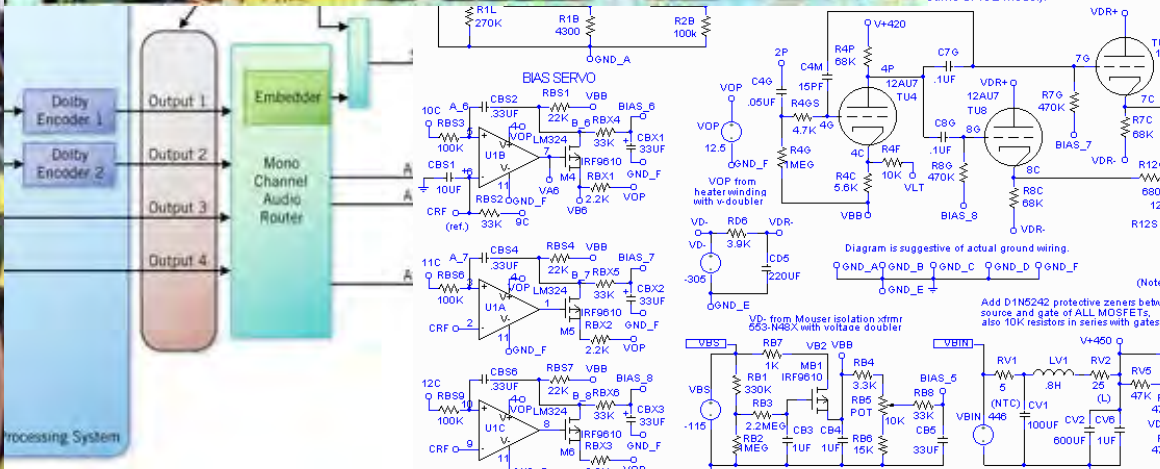
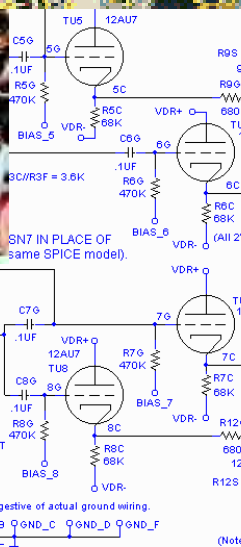
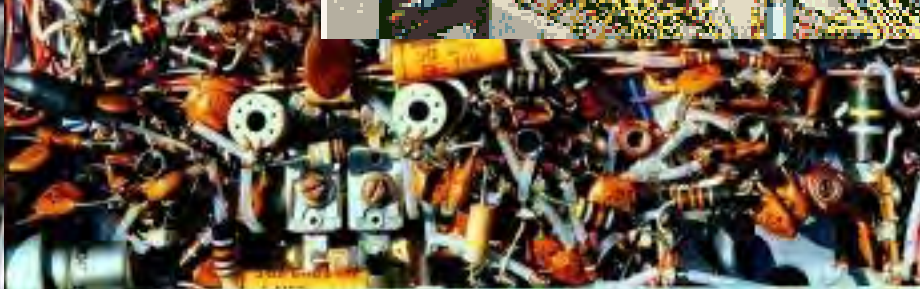
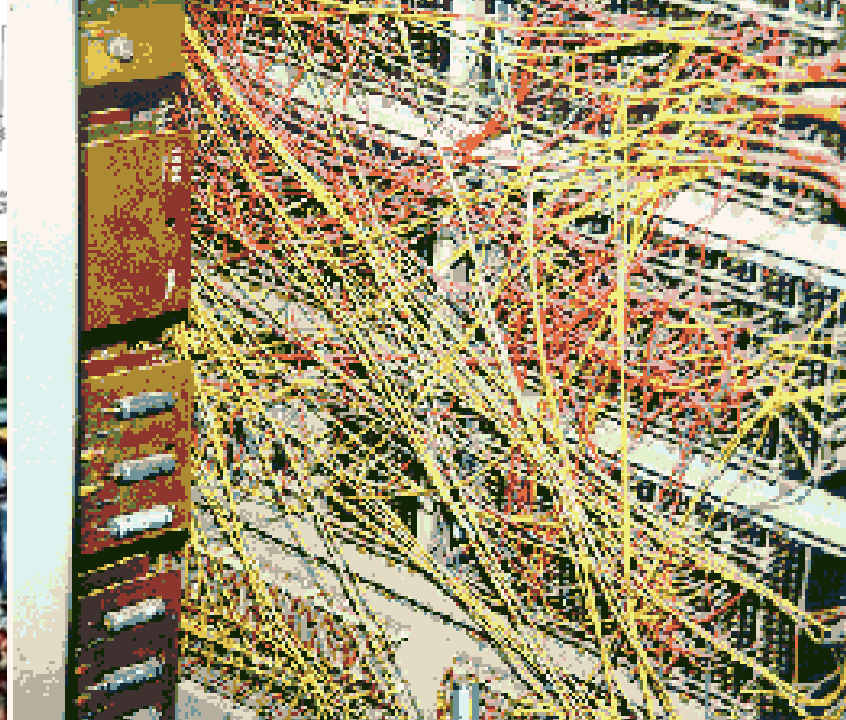
**Eastern U.S.**  
Studio Supply Co.  
P.O. Box 280  
Nashville, Tennessee 37202  
615-327-3075  
Tom Irbay

**International**  
Audio Systems International  
128 N. Highland Avenue  
Los Angeles, California 90016  
213-933-2210 • Telex 666101  
Paul Ford

**Western U.S.**  
Electra Media Systems, Inc.  
8230 Beverly Boulevard Suite 28  
Los Angeles, California 90048  
213-653-4931  
Dan Gwynne







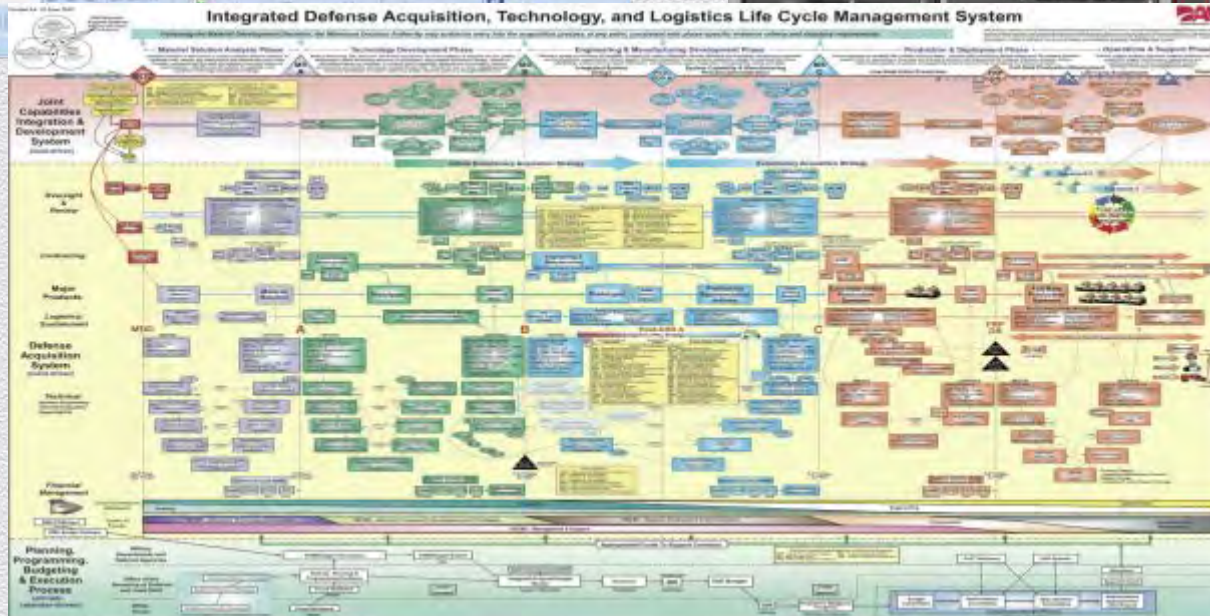
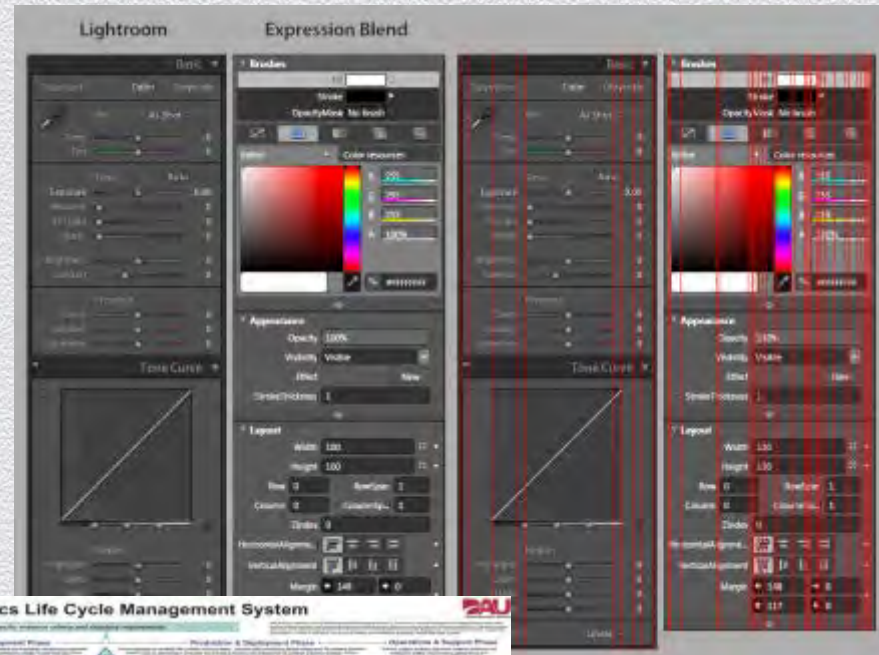
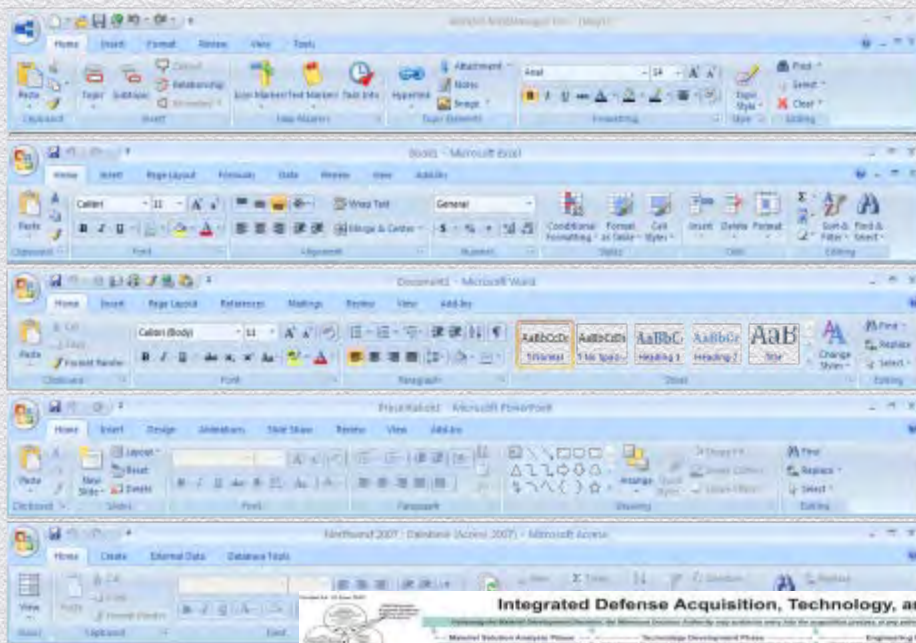


# Turn All The Knobs





# Turn All The V-Knobs





# Complexity: Take-Aways

- ◆ Breeds Problems
- ◆ Tracing
- ◆ Finding
- ◆ Fixing
- ◆ Introducing Error
- ◆ Breeds Insecurity:
  - ◆ Too many options!
- ◆ Engineer for Robust Simplicity





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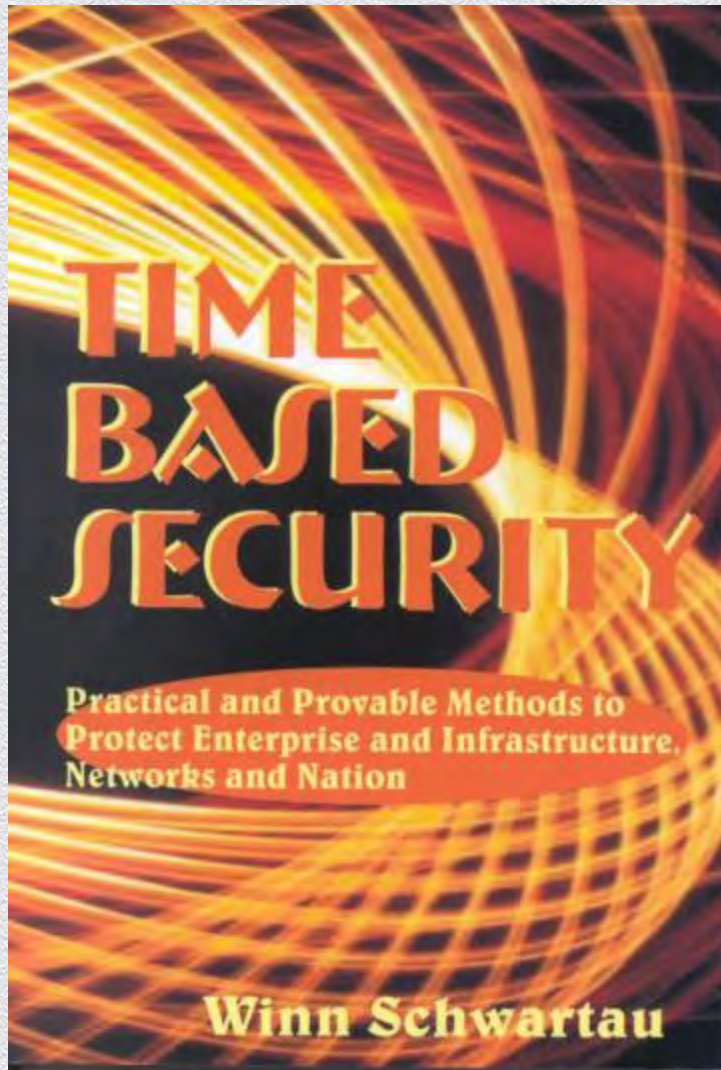
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**It's All About  
Time**



# Time Based Security



- ◆ Common Metric
- ◆ Security
- ◆ Privacy
- ◆ Risk



## Time Based Defense in Depth

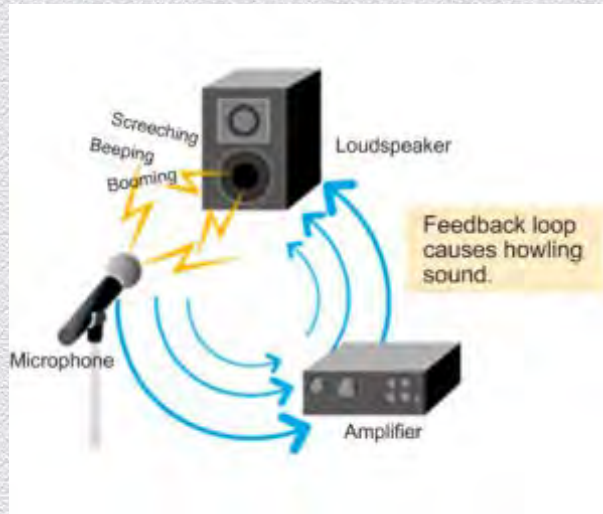
$$P > D + R$$

$$P_{(d1)} > D_{(d1)} + R_{(d1)}$$

$$P_{(r1)} > D_{(r1)} + R_{(r1)}$$



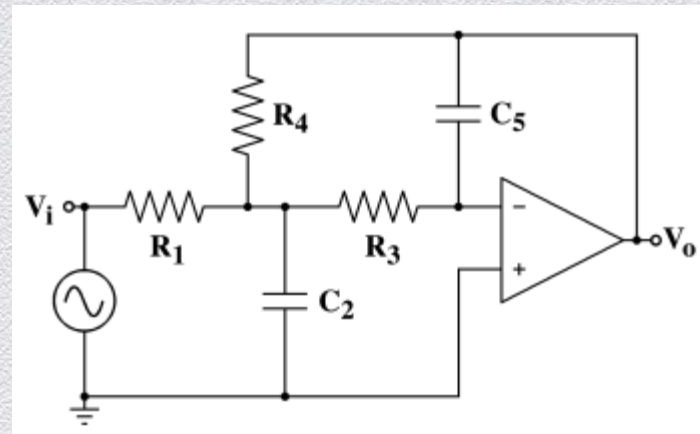
# Feedback



**Acoustic**



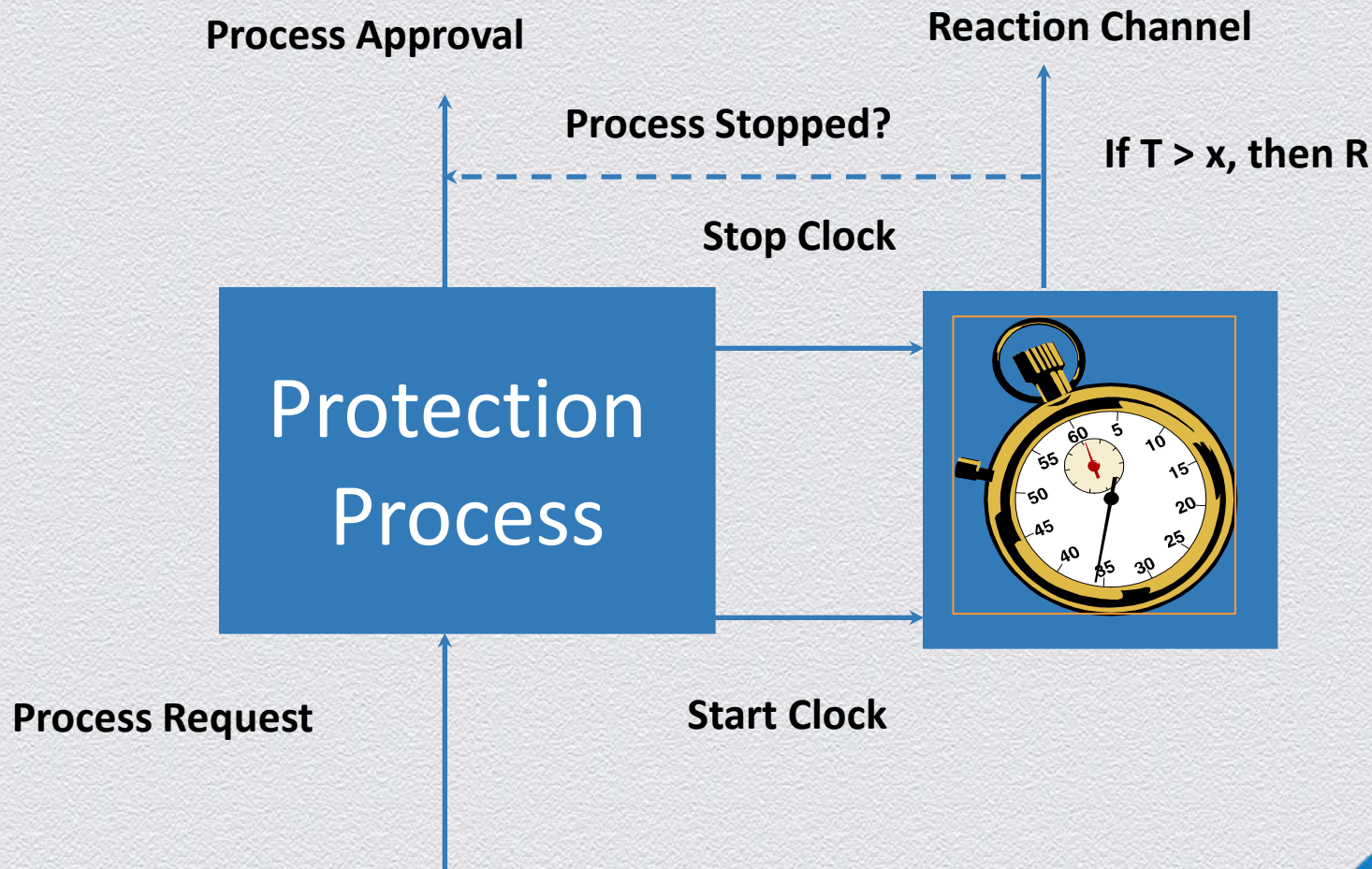
**Mechanical**



**Electrical**



# Adding TBS to Protection Process





# Time Based Security: Take-Aways

- ◆ Time is the under-utilized security metric
- ◆ Feedback is a Time-Function
  - ◆  $f(t)$
- ◆ Without feedback
  - ◆ Runaway Conditions
- ◆ Resonance can be your friend... or your enemy





# Final Rant

- ◆ Think Analogue
- ◆ Embrace Failure
- ◆ More Hands-On **Engineering**
- ◆ Learn Systems Thinking
- ◆ Inter-Disciplinarianism
- ◆ Always Employ Feedback





# Comments, Q & A?

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