



## Administrative Assistant to the Selectmen

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### Proposed Reconfiguration of Technology Room

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The room that houses the hub for the telephone lines, the internet service, the Cable TV System, the circuit breakers and the burglar alarm needs a fair amount of work, as it's been built up piece by piece over the years with little thought given on how to most efficiently use the equipment that we have. To improve the layout and the wiring in this room, I've taken a look at what exists presently, what processes should be taking place in this space, and how the equipment interfaces with those processes and with each other. After going through this exercise, I think I've come up with a plan that will make it much more user friendly, and more aesthetically pleasing.

#### **The Goals**

I've identified four goals for this plan:

1. Make live production more user friendly
2. Eliminate the cluttered and scattered wiring, eliminate "ground loop" problem
3. Maximize access to equipment
4. Group "like" equipment together

#### **Identified Processes according to priority**

1. AC Power Controls
2. Telephone System Controls
3. Burglar Alarm
4. Computer Network & Internet Hub
5. Cable TV System Playback
6. Cable TV System Transmission
7. Cable TV Production
8. Storage of field equipment

Each process has equipment that plays a role in that process

#### **AC Power**

- Circuit Breaker Panel
- Generator Switch
- Existing Outlets
- Strip Outlets
- Uninterruptable Power Supplies (UPS)

**Telephone System**

- Hub/Termination Box
- Time Warner Modem
- Telephone Hand Set

**Burglar Alarm System**

- Alarm Controller Box
- Wires to smoke & motion detectors
- A.C. Cord
- Auto Dialer
- Wires to keypad controller

**Internet/Intranet/Website**

- Server
- Internet Wire Panel (cat 5)
- Wireless Router
- Firewall Unit
- Ethernet Switcher
- Time Warner Modem
- Lots of Cat 5 Cables

**Cable TV Transmission**

- Modulator (Channel 3)
- Laser Wave Guide unit
- Wall Mounted Laser Connection

**Cable TV Playback & Recording System**

- Nexus Unit
- Hard Disc Drive for Nexus
- DVD Player
- HP Computer w/video interface
- Audio Compression Unit
- On Air Monitor
- On Air Light
- CD Player
- Audio Amplifier
- Speakers

### **Cable TV Production**

- Audio wires from meeting room
- Audio Mixer
- DVD Recorder
- Monitor for DVD Recorder
- Video Switcher
- Camera Controller (desktop)
- Multiplex Camera Controller (rack unit)
- Camera Monitors
- HP Computer w/video interface
- Apple Computer
- Audio Compression Unit
- Amp & speakers
- Nexus Unit
- Nexus Hard Disc Drive

### **Television Field Production**

- DVD Recorder (small unit)
- DVD Recorder (consumer unit)
- Monitor
- Audio Mixer (1)
- Audio Mixer (2)
- Video Switcher
- Computer video interface
- Microphone cables
- Camera (1)
- Camera (2)
- Tripods
- Video cables
- Extension Cords
- Tubs to carry all that stuff!

Item	Input	Output	UPS?	No UPS
Camera Controller - Desktop	Multiplex (CAT 5)	Multiplex	X	
Camera Controller – Rack (Multiplex)	CAM 1 (BNC) CAM 2 (BNC) CAM 3 (BNC)	Camera Controller – Desktop (CAT 5)	X	
Monitor – CAM 1	CAM 1 (BNC)	Switcher Ch A (BNC)		X
Monitor – CAM 2	CAM 2 (BNC)	Switcher Ch B (BNC)		X
Monitor – CAM 3	CAM 3 (BNC)	Switcher Ch C (BNC)		X
Monitor – Preview	Switcher PRVW (BNC)	Multiplex		X
Apple Computer	Ethernet (CAT5) Mouse (wireless) Keyboard (wireless)	Ethernet (CAT 5)	X	
Mic Jacks 1-8 (Mtg Room)	Microphones	Audio Mixer	n/a	n/a
Audio Mixer (Yamaha)	Lines from Mtg Room	R&L – Compression Unit (¼" to ¼") Headphones		X
DVD Recorder (Sony)	Video- Switcher Dist Amp (RCA) Audio- Compressor ¼" to RCA L&R	Monitor	X	
Monitor (DVD)	DVD Recorder (RCA)	n/a		X
Video Switcher	CH1-CAM 1 (RCA) CH 2-CAM 2 (RCA) CH 3-CAM3 (RCA) CH 4-HP Video (RCA)	Distribution Amp (RCA) Preview (Mon 4)		X
Distribution Amp	Video Switcher (RCA) Audio – Compressor	DVD Recorder (RCA) Nexus (RCA)		X
Audio Compressor (inputs ¼" jacks)	Ch1 – Mixer (R) Ch 2 – Mixer (L) Ch 3 – Nexus Ch 4 – CD?	Ch 1 – Dist Amp Ch 2 – Dist Amp Ch 3 – Modulator Ch 4 – Nexus input 4		X
On Air Monitor	Cable TV (Coax)	Audio- Amplifier Aux	X	
On Air Light	Nexus	On air light		X
CD Player	n/a	Compressor	X	
Amplifier	On air monitor	Speaker switcher		X
Speaker Switcher	Amplifier	Speakers	n/a	n/a
Speakers (all)	Speaker Switch		n/a	n/a
Internet Modem (TWC)	Cable TV (Coax)	Ethernet (CAT 5)	X	
Phone Modem (TWC)	Cable TV (Coax)	Phone jack to system	X	
CAT 5 Terminal Block	Building wires	Ethernet	n/a	n/a

Item	Input	Output	UPS?	No UPS
Nexus Computer/Controller	Ch 1 – DVD Ch 2- Video Switcher Ch 3 – Ch 4 HP Computer Dist Amp Ch 5 – Ch 6 HP Computer Dist Amp	Ch 1 – Modulator (V) Ch 1 –Compressor (A)	X	
Nexus HDD	Nexus Controller	Nexus Controller	X	
DVD Playback	n/a	Nexus Controller Ch 1		X
HP Computer	Ethernet, Keyboard, Mouse	Video Interface	X	
Video Interface	HP Computer	Monitor Dist Amp.		X
HP Dist. Amp	HP Computer	Nexus (Ch 4 Video) Audio to Ch 6 Ch D – Switcher		X
Smoke & Motion Detectors	n/a	Burglar Alarm Control Box	n/a	n/a
Auto Dialer	Burglar Alarm Control Box	Telephone Jack	X	
Keypad	Burglar Alarm Control Box	Burglar Alarm Control Box	n/a	n/a
Server	Ethernet (CAT 5) or Modem	Keyboard?	X	
Wireless Router	Modem TWC (Cat 5)	n/a		X
Firewall Unit	Modem (Cat 5)	Ethernet (cat 5)		X
Ethernet Switcher	Modem (Cat 5)	Cat 5 Wall Panel	X	
Modulator	Video – Nexus Audio- Compressor	Laser Unit		X
Laser Unit	Modulator	Laser Wire on Wall		X
Telephone	Phone Jack	n/a		X
Phone Hub	TWC Modem	Building phone net	n/a	n/a
Burglar Alarm Box	Keypad Smoke Alarm 1 Smoke Alarm 2 Motion Detector	Audible/visual alarm Phone Dialer Keypad		X

## Electrical Needs by Area

### Rack 1

<b>UPS</b>	<b>Non UPS</b>
Nexus Hard Drive	DVD Player
Nexus Controller	Laser Unit
CD Player	Modulator

### Rack 2 & 3

<b>UPS</b>	<b>Non UPS</b>
Server	DVD Monitor
Ethernet Switcher	Telephone Set
Camera Multiplex	Audio Compressor
Router	Speaker Amp
DVD Recorder	Fire Wall

### Countertop

<b>UPS</b>	<b>Non UPS</b>
HP Computer	On Air Monitor
Apple Computer	Audio Mixer
Video Interface	Cam 1 Monitor
Camera Controller	Cam 2 Monitor
Video Switcher	Cam 3 Monitor
	Preview Monitor
	Distribution Amp
	Distribution Amp

To follow are diagrams of what exists now and the proposed reconfiguration of this equipment. The reconfiguration will require a shelf be built for the camera monitors on the desktop and the on-air and computer monitor be placed on a shelf above that, a relatively minor cost. I've asked Mike Jordan to make that, and he should get to it by the week of 2/28/11

An electrician really needs to look at the needs in this room though, as there is a lot of gear plugged in, and there is some sort of ground looping problem. Additionally, just touching the alarm wires sets off the system, and a conduit system needs to be improved greatly. Noel Dechar will be looking at the system on 2/24/11.