Birth of Television
- Nipkow Disk
- Philo T. Farnsworth
- Vladimir Zworkin

The Big Freeze
- 1946-100 licenses cause problems
- FCC froze until develop master plan
- 1952 plan to prevent interference, still in use today
- 1952 most Americans had a set

TV Nation
- 6-7 inch sets at $400
- By 48, in bars and could gather and watch
- 1950-10% of homes
- 1960-90% of homes
- 50’s about 4 ½ hours a day
- How much do you watch?

Color TV
- 1929 begin experimentation
- 1946 CBS had a rotating disk system
- FCC demand compatibility
- 1953 RCA develop system
- 1967 most sets and programs in color
- Mid 90’s almost all TV sets are color

Two Golden Ages of TV
- 1952-1960
  - Rapid growth
  - Quality programming
- 1960-1980
  - Economic boom
  - But dissatisfaction with medium

The Big Three

Alternatives to Broadcast
- Cable Television
  - Started to get TV to where no signal
  - 60’s start to grow and networks say pirates
  - 80’s less 20% homes by 2000 68%
  - Market share reduced
  - Segments viewers
- VCR and DVD
  - Ampex develop in 1956
  - 1970 developing small home version
  - Sony Beta and Panasonic VHS
Threat to TV and movies?
- Digital Versatile Disc

Direct Broadcast Satellite

Digital TV
- Numbers instead of electrical impulses
- 16 by 9 instead of 4 by 3
- June 2009 all analog transmitter are turned off

TV as Contemporary Medium
- 8 hours 15 minutes per day (household)
- Economic competition
  - 2000- 1,248 commercial/ 354 public
  - 5 or 6 major networks
  - Barter syndication
  - Audience attention
  - Ratings
  - Law of large numbers

Content Producers
- Networks produce content
- Large ownership companies (85% group owned)
- Increase in average owner per group (8.1 in 2002 from 3.5 in 1985)

Industry in Transition
- Global media
- Cable/DBS/DVD/DVR

V-chip and ratings system
- TV-Y, TV-Y7, TV-G, TV-PG, TV-14, TV-MA

Television Production Process

Three Phases of Production
- Pre-Production
  - Hit target audience
  - Set in motion
  - Rehearsals
- Production
- Post Production

TV Production Crew
- Producer
- Director
- Technical Director
- Engineer
- Lighting Director
- Floor Director
- Audio Director
- Camera Operators
- Assistant Director
- CG Operator
- Talent
TV Studio Operation

Tools for Studio Operations
- Studio Camera - generally three in studio
- Lighting - TV camera needs more light than eye
- Audio (Microphones) - often forgotten
- Video Switcher - controls flow of video

Camera as a Tool
- Be able to operate it.
- Understand how it works to solve problems.
- Learn the technology to communicate with engineers.

How the Camera works!
- Electronic Eye

- Video (NTSC)
- 525 lines (640/480)
- 30 frames/second
- 2 fields/frame

Basic Camera Design

A. Viewfinder
B. Camera Body
C. Pedestal
D. Lens
E. Tally Light
Studio Camera Setup

A. Viewfinder
B. Camera Body
C. Pedestal
D. Lens

Camera Lens and Functions

A. Focus Ring
B. Iris Ring
C. Servo Zoom
D. Manual Zoom
E. Macro Focus

Studio Camera Lens

A. Focus Ring
B. Manual Zoom
C. Iris Ring

Depth of Field
Camera Operations - Visual Modes

- Exposition Mode - present to camera
- Subjective Mode - point of view
- Observational Mode - third party
- Mixing Modes - need some consistency

Basic Camera Shots

Shot Composition - Headroom
Shot Composition-Talk Space

Correct headroom on different-sized shots. As a general rule—with many exceptions—the longer a shot is, the more headroom it should have.

Shot Composition-Lead Room

Proper lead room or “talk space.” The camera operator should always intuitively give additional space in the direction that the talent is looking.

Rule of Thirds

Proper lead room for a moving subject. Whenever a person is moving across the screen, the camera operator should visually anticipate the flow of movement allowing the viewer to see where the subject is going.

Basic Camera Movements
Primary Factor of Lighting
- Understand 3 point lighting to illuminate subject, give shape, add texture, fill in harsh shadows and separate from background
- Not too large contrast light and dark
- Create an even base light
- Working knowledge of two type of instruments
- Reasonable understanding of color temperature

Measuring Light
- Reflected Light- gives shape and texture, paints visual image
- We perceive shape and color by what is not reflected

- Incident Light- direct path from instrument to subject
- Without enough there are black holes

Foot Candles- Light’s Measurement
- Amount of light collected in a one foot radius of a standard candle.

- Using a light meter, you measure the objects.
- Example-Suit 15 ftc/Wall 700 ftc… 46:1 ratio

Color Temperature
- Different types of lighting casts a different temperature of light.
- Different temperatures cast different color tints of light.
- Indoor Lighting generally is 3200 K (Kelvin) **red**
- Outdoor Lighting 5600 K **blue**

Lighting Instruments-Spot
- Focused, Narrow and Directional

- Parts of Light
- Pin
- Barn Doors
- Lens- Fresnel

*Lighting Instruments-Flood*

- More Diffused, Wide Spread of Light

- Types of Floods
- Scoop
- Broad

- Internal/External Reflector

*Three Point Lighting*

- Key Light- Strong and Focused

- Fill Light- Softer, Fills in Harsh Shadows

- Back Light- Separates Subject from Background

*Floor Director - Hand Signals*
<table>
<thead>
<tr>
<th>CUE</th>
<th>MEANING</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STAND BY</strong></td>
<td></td>
<td>Gesture arms at sides, hands at sides, fingers pointing upward</td>
</tr>
<tr>
<td><strong>YOU'RE ON TAKE YOUR CUE</strong></td>
<td></td>
<td>Position hands in air on take.</td>
</tr>
<tr>
<td><strong>GET CLOSER TOGETHER</strong></td>
<td></td>
<td>Stage Manager signals actors to come together or gather, hands come together.</td>
</tr>
<tr>
<td><strong>GET FURTHER APART</strong></td>
<td></td>
<td>Stage Manager signals actors to move apart or distance actors.</td>
</tr>
<tr>
<td><strong>TALK TO THIS CAMERA</strong></td>
<td></td>
<td>Stage Manager signals actors to talk to camera (hands in front, palms facing camera).</td>
</tr>
<tr>
<td><strong>STRETCH IT OUT</strong></td>
<td></td>
<td>Move hands as if pulling something apart or reaching for something with hands.</td>
</tr>
<tr>
<td><strong>SPEED IT UP</strong></td>
<td></td>
<td>Move fingers in circles.</td>
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**SPEED IT UP**
- Move fingers in circles.
TV Audio
Similar to audio production
Wireless Lav. Placement- L rule

The Video Switcher
Basic Video Switching Theory
- Route multiple sources together
- Switch from one source to another
- Integrate multiple sources into one picture
- Preview upcoming shots before on live

Basic Video Effect
- Cut- picture immediately replaced
- Dissolve- gradually replaced
- Wipe- replaced in a pre-selected pattern
- Key- cutting out a portion of picture
  - Luminance Key
  - Chroma Key

Switcher Design and Function
Switcher Design and Function

A- Program Bus
B- Preview Bus
C- Auto Transition
D- Take Transition
E- T- Bar
F- Auto Trans Speed
G- Downstream Key

Upstream and Downstream

Video Graphics

Video Graphics Equipment
- Art Card- black cardboard with white lettering
- Character Generator (CG)- typewriter like
- Computer Driven Graphics- 4 main types
Computer Driven Graphics
- Paint Effects - pre-selected shapes/clip art
- Animation - Frame by Frame/Real Time
- Image Manipulation - D.V.E.

Digital Graphics Take Memory
- Each Pixel (picture element) is one bit of information.
- 13 inch B&W image may consist of 640 lines with 480 pixels on each line. 300,000 bits per screen
- 30 screens of information per second.

Fundamentals of Graphic Design
- Dimension and Size
- Contrast
- Pleasing to the Eye

Dimension and Size
- Aspect Ratio - 4 to 3
- Essential Area - Over scan
- Graphic Size - big enough to see

Contrast
- Color - Hue/Saturation/Luminance
- Black and White - light on light

Pleasing to the Eye
- Visually Appealing
- Sense of Order to Screen
- Balance
- Simplified Detail

What & How Graphics Communicate
- Graphics Communicate and Demonstrate
- Create an Image or Mood

Don’t Use a Graphic Because it is Available!
IF IN DOUBT/LEAVE IT OUT!

Television Scripting
Film Script Style
Film Script Style

CUT TO:
A man, JOHN DOE, walks into a bar.

JOHN
Hello, there.

John orders a drink from the BARTENDER.

Split Column- NonDramatic

Common Script Abbreviations
- XLS- Ext. Long Shot
- LS- Long Shot
- MS- Medium Shot
- CU- Close Up
- XCU- Ext. Close Up
- 2S- Two Shot
- OC- On Camera
- OS- Over the Shoulder
- SOT- Sound On Tape
- VTR- Recorded Video
- VO- Voice Over

The Storyboard- Another Script
The Storyboard- Another Script

Mechanics of Scriptwriting
- Writing to Video
- Important to convey message in visuals
- Watch TV with mute on and see if you still understand content and context
- Simplicity is key

Six Rule for TV Scripting
- Assume conversational tone
- Avoid complex sentences
- Provide adequate logical structure
- After make important point expound and illustrate
- Pace it
- Don’t pack too many facts into one message

TV Interviewing Tips

Interview- Prepared Open
- What is the topic?
- Who is the guest?
- Why is the guest worth listening to?
- Why should the audience care about the topic?

Interview-Prepare Questions
- Avoid “Dead End” Questions
- Avoid Yes/No
- Avoid Obvious/Obscure Questions
- Get the interviewee to explain and add own context… Why? How?

Interview- Prepared Close
- Thank Guest
- Thank Audience
- What is on next show?
- Must be keep loose, because of time!
Television Directing

Start to Finish Preparation/Execution

- Production Feasibility
- Book Studio/Assign Crew
- Supervise Equipment Setup
- Ready Crew - rehearse
- Ready Set - frame shots
- Roll & Record Tape
- Take Test - color bars/slate
- Prepare Start
- Give Ready Cues
- Start - fade up from black

**Director Dialog**

- Ready Cues

- Take Cues

- Adjustment Cues

- Time Cues

**Directing Commands**

**R & R Tapes** Roll & Record Tapes

- Camera One

**Z-I** Zoom in

**Z-O** Zoom out

**LS** Long Shot

**MS** Medium Shot

**CU** Close-up

**2S** 2 shot

**M** Mike

**Q** Que

**S/U** Sound under

**S/F** Sound full

**W/S** With sound

**FS** Fade sound

**D** Dissolve

**C** Cut to

**ST** Stop Tape

**DI** Dolly in

**DO** Dolly out

**PR** Pan Right

**PL** Pan Left

**TU** Tilt up

**TD** Tilt down

**CG** Computer graphic
Critical Zones

- Open
- Transition to Tape
- Close

TV Production Crew Review

- Director
- Technical Director
- Floor Director
- Audio Director
- Camera Operators (1,2,3)
- CG Operator
- Talent