A Flexible Video Distribution System

L. Ribaud

January 21, 2010
Motivation

- Remote oversight by staff
- More flexibility with displays
- Many more cameras than displays
Goals

- Any monitor can display any video source
- Allow viewing of any camera over the web
- Easy change-over between set-up and operational configurations
Starting Resources

- Video microscope (with DVPG electronic reticle generator)
- ~4 video cameras (now 7)
- 1 Network camera (now 2)
- Frame grabber (with 1-in, 2-out (“1 X 2”) distribution amplifier)
- Four displays (three at operating station with P.I.P.)
Implementation (by function)

- EPICS/MEDM control of matrix style video switching
- Direct video feed available from network camera(s)
- Network access to any source via matrix

![Kramer 16x16 Video Matrix Switcher](image)
Unusual bits (hardware to make it work)

- 16 X 16 Matrix switcher
- Video-to-web converter
- Direct video signal converter for each web camera
Matrix Switch, Web converter and Distribution amp

Kramer VS-162V ($1600)  
Axis 247 Video Server ($500)  
CDW-G via AMOS  
(needed Axis T8121 P.o.E. unit $90, also from CDW-G)  
Black Box 1-to-2 composite video splitter ($150)  
CDW-G
Reticle generator

DVPG  ($1200)  www.techniquip.com
Web cameras (including video converters)

Axis 213 PTZ network camera and 213M connection module ($1600)
CDW-G via AMOS
Final comments

- Video cabling should be 75Ω (e.g. RG-6 or RG-6QS)
- Video from web cameras on video monitor better quality than web display