

# A Flexible Video Distribution System

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# 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



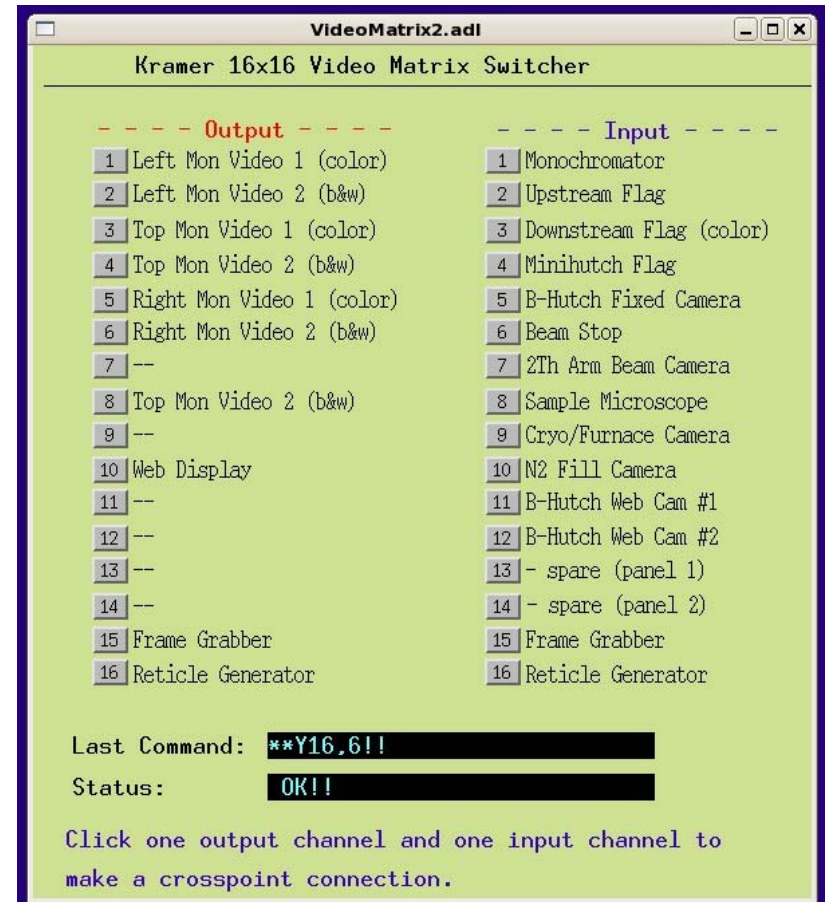
# Starting Resources

- 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





## 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)

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

Axis 247 Video Server (\$500)

CDW-G via AMOS

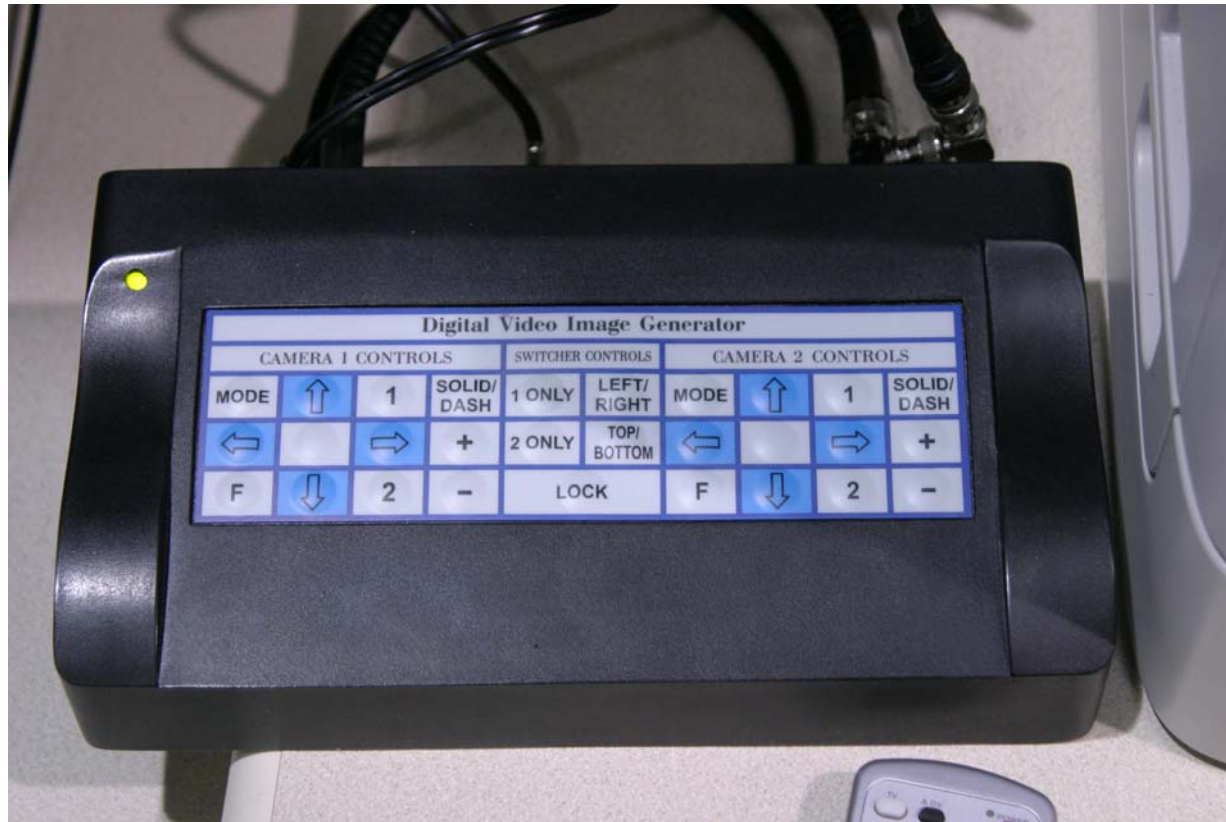
(needed Axis T8121 P.o.E. unit \$90, also from CDW-G)

Black Box 1-to-2 composite video splitter (\$150)

CDW-G



# Reticle generator



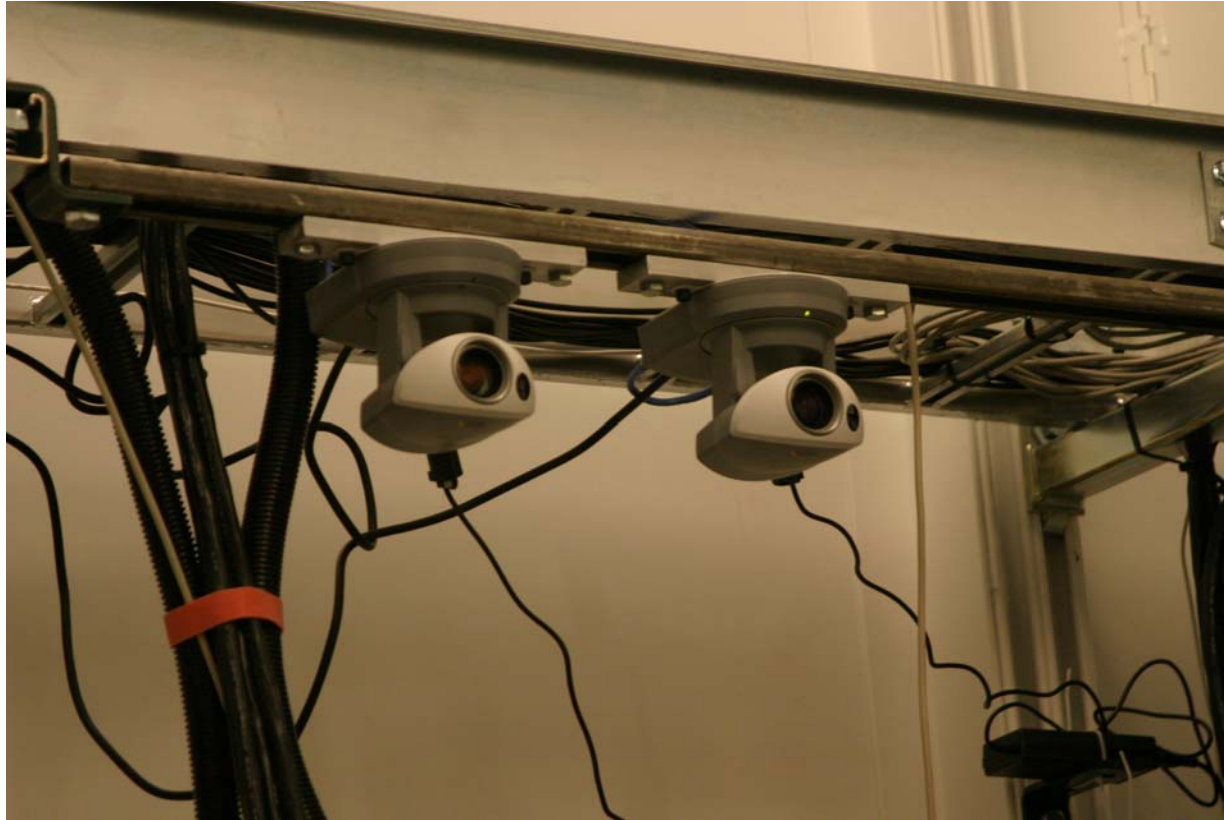
DVPG (\$1200)

[www.techniquip.com](http://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

This talk can be found at <http://11bm.xor.aps.anl.gov/downloads/videotalk.pdf>

