ATF Video Frame Grabber Subsystems

- Frequently Asked Questions
- Tips and Techniques

For ATF Staff, Operators and Visiting Users

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Part I - Working with ATF frame grabbers

(Q1) What frame grabbers are in use at ATF?

(A1) Several types of video frame grabbers are in use:

Frame grabbers 1 and 2:

The original ATF frame grabbers.

Network host name	: videofg.private.atf.net, videofg2.private.atf.net
Video type	: Analog, RS-170
Hardware manufacturer	: Imaging Technology, Inc.
Model	: IM-PCI (PCI card)
Digitization	: 8-bit (fixed)

Note: These frame grabbers will be phased out shortly.

Frame grabbers 5, 6, 7, 8:

Network host name	: fgsysa.private.atf.net
Video type	: Analog, RS-170
Hardware manufacturer	: Matrox, Inc.
Model	: Solios eA Quad
Digitization	: 8 or 10-bit (selectable; 10-bit is ATF default)

Frame grabbers 10, 11, 12:

These are technically not frame grabbers, per se.
See
Video type	: GigE Vision
Hardware manufacturer	: Basler
Model	: Scout scA1400 17gm
Digitization	: 8, 10 or 12-bit (selectable; 12-bit is default)

(Q2) Where are the frame grabbers located?

(A2) All of the frame grabbers are rack-mounted in the ATF main control room, underneath the counter top, at the side nearest the east entry door.

Frame grabbers 5 and up have USB connections on their front panels. Users can connect any external USB media to save their image data files.

(Q3) What operating system is used on the ATF frame grabbers?

(A3) All run Microsoft Windows operating systems.

(Q4) How can I tell which camera is associated with a particular frame grabber?

(A4) Analog cameras are switched through the Vicon/Altinex video matrix switchers and can be routed to frame grabbers 1, 2, 5, 6, 7 or 8. You can view the video switching page from the ATF computer control system to see the current assignments. If you are knowledgeable with the details of Vicon/Altinex switchers, you can read their respective front panels to determine the current connections.

GigE cameras are always assigned a fixed frame grabber number since the camera itself is actually the digitizer. The camera is also a stand-alone node on the ATF private network. As of this date, frame grabbers 10, 11 and 12 are associated with GigE vision cameras designated "basler1", "basler2" and "basler3", respectively.

(Q5) How are ATF frame grabbers triggered?

(A6) Analog frame grabbers are triggered via an external trigger signal connected to a BNC input on the frame grabber board itself.

GigE Vision cameras are triggered by a external trigger signal connected directly to the GigE device itself.

Both analog and GigE cameras can be triggered from ATF timing signals for:

- ATF LINAC repetition rate
- CO2 laser firing
- User's own timing signal
- Free running

ATF trigger signals are routed through the Altinex switcher located in the Main Control Room. If you are unsure how to operate the switcher, ask the duty operator to show you.