

intelesis

i-Sense™

Integrated Sensor Environment

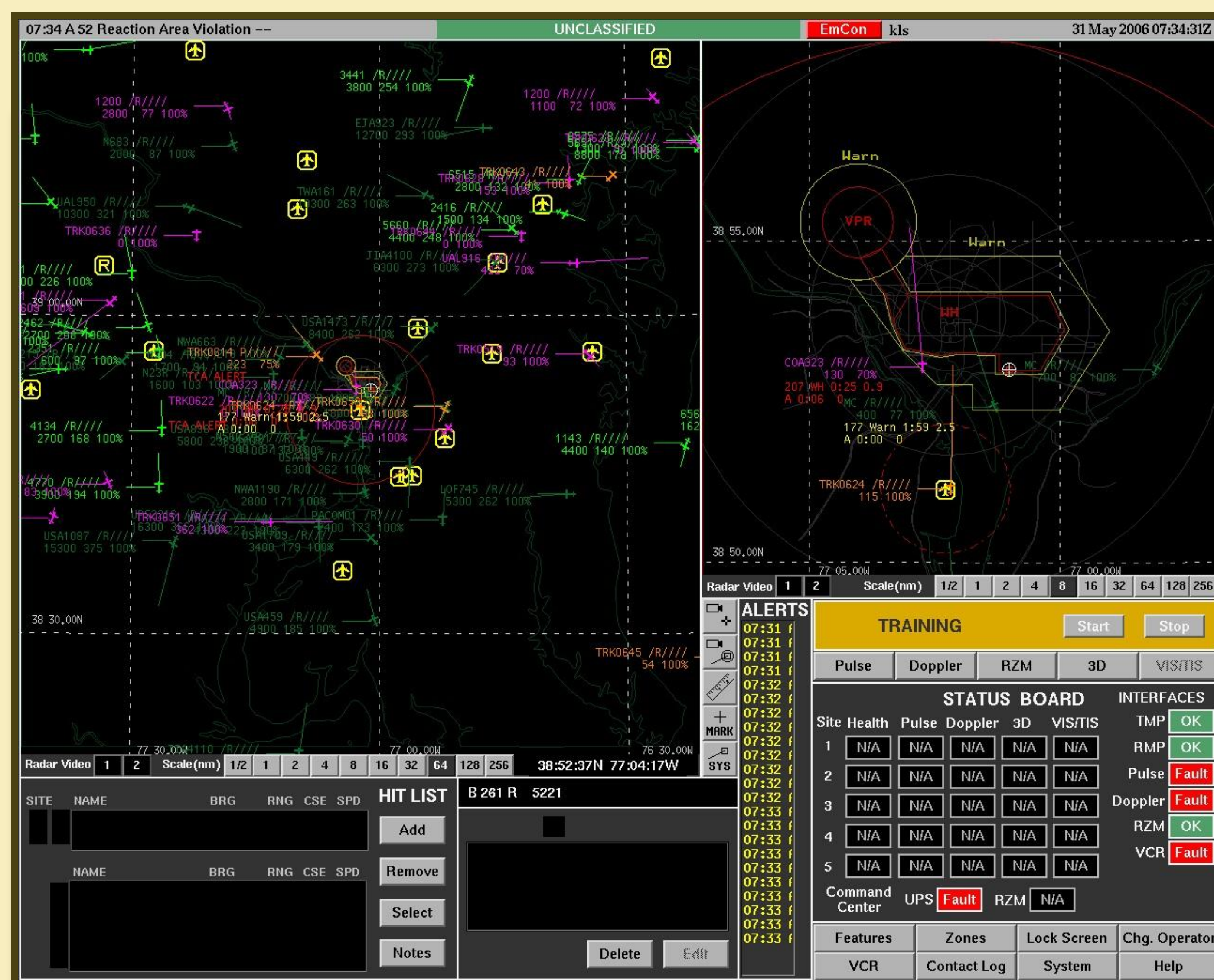


What is i-Sense™?

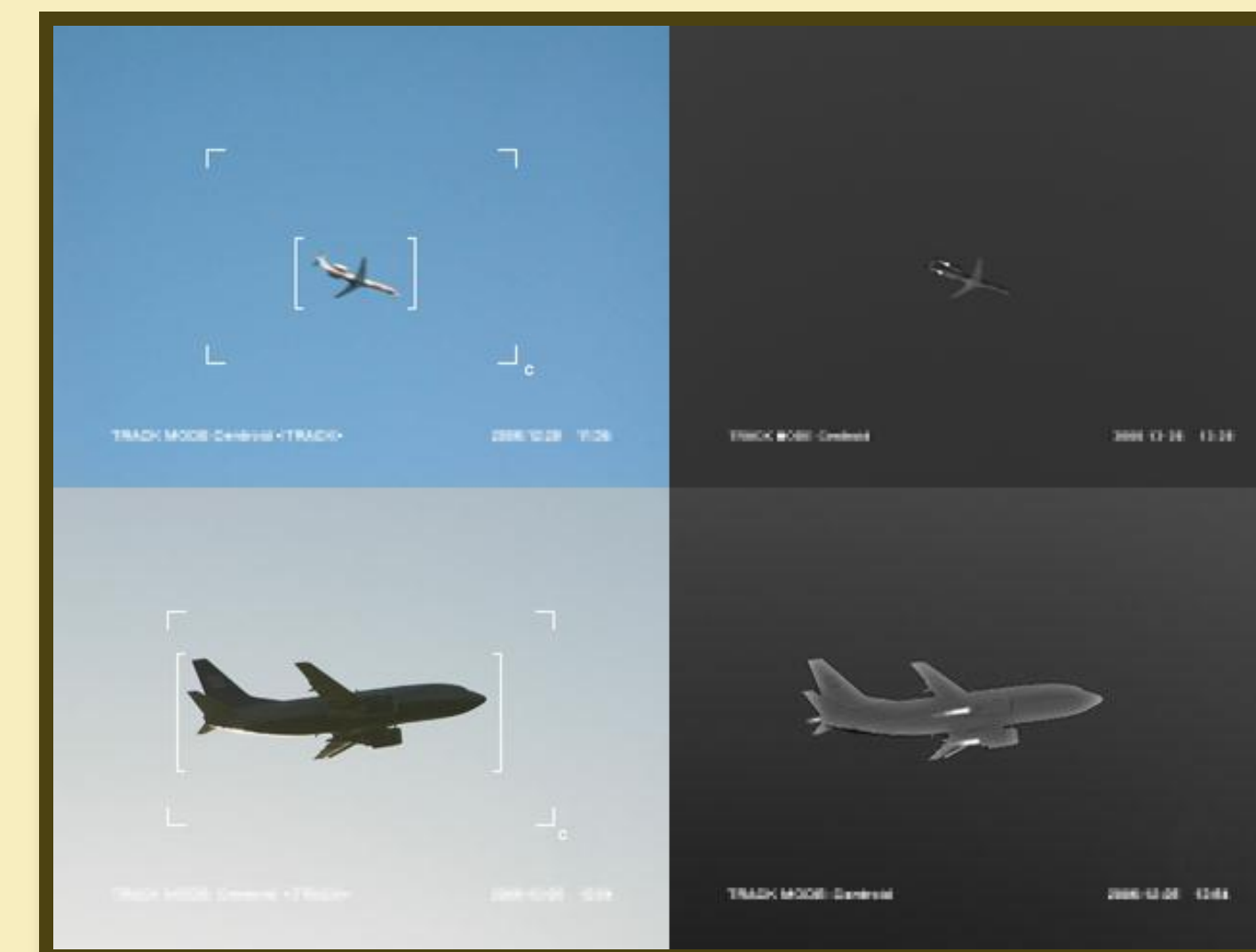
The Integrated Sensor Environment is a real-time, Unix-based command and control software application for monitoring restricted spaces. It enables merging and controlling multiple inputs into single, easily-discernable air, surface, and sub-surface display providing:

- ✓ Zone Monitoring and Alerts
- ✓ Remote Sensor Control (radars, cameras, etc.)
- ✓ Full Data Recording (track data and video)
- ✓ Playback and Training Capability

i-Sense™ fuses inputs from multiple sources (FAA data, multiple radars) and alerts the operator if a track is on course to enter a restricted zone. Operators can select a track of interest which will direct a camera platform to “lock on” to the aircraft or vessel. *i-Sense™* requires external hardware which can be bundled into a fully-integrated, turn-key solution.



Operator Display with Dual Independent Maps



Visual and Infrared Tracking

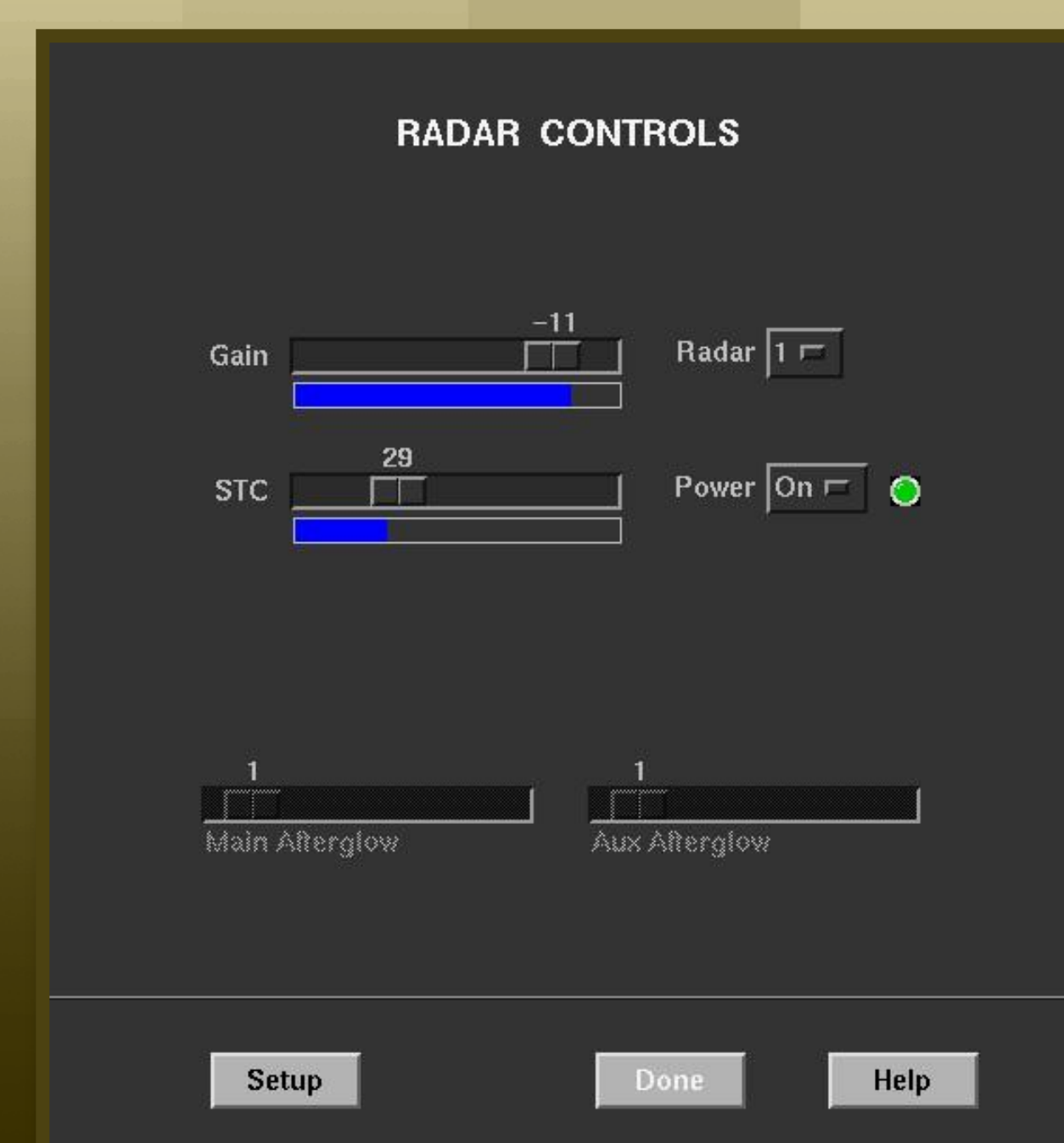


i-Sense™
Ruggedized Console

Sensor Setup and Configuration



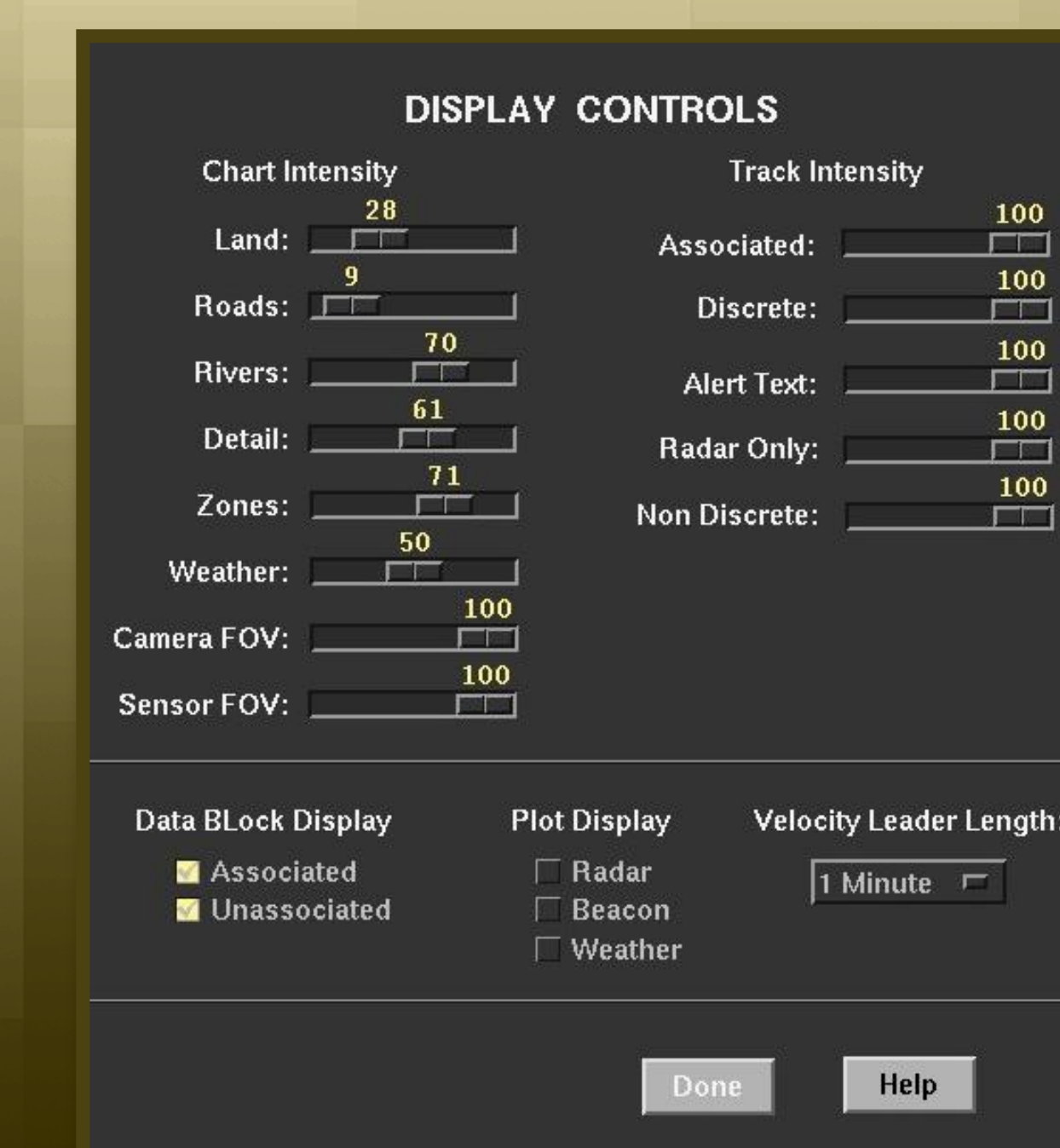
Individual Radar Controls



Archive for Playback or Training



Operator Display Controls



External Display Controls



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i-Sense[™]

Integrated Sensor Environment



Zone Monitoring

Zones may be categorized as restricted, warning or exempt zones. Alerts are generated based upon the characteristics of the intruder violating the zone; i.e., radar-only air tracks may alert whereas radar-reinforced transponder tracks with approved flight plans would not alert. The zone geometry includes circles, rectangles and polygons. Alerts may also be generated based upon the “projected” track of the intruder intersecting a restricted zone in 60-second increments. Zones may also contain an “asset” that triggers an expanded track data block on the subject track containing the named asset, bearing to the track from the asset and a projected time to intercept of the asset given the target track’s continued course and speed.

Remote Sensor Control

Selecting a track from the operator workstation automatically “slaves” an available camera to the general area of the aircraft, activates the operator’s joystick for fine control of the camera pan/tilt unit, begins video recording, and enables the video tracking system. A button on the joystick “turns over” control of the pan/tilt unit to the video tracker once the operator determines that the subject aircraft has been acquired by the tracker.

Interoperability

Software Interoperability *i-Sense*[™] is interoperable with:

- ✓ Lockheed Martin’s Micro-EARTS (FAA) commercial air traffic control system
- ✓ *i-Act*[™], a software application for creating NATO-formatted rules of engagement (ROE) and, ultimately, automatic orders in the event of a threat identified by *i-Sense*[™].
- ✓ *i-Sense*[™] currently operates on Unix machines. A Linux version is envisioned.

Hardware Requirements

i-Sense[™], requires radars, camera platforms, and a minimum of two identically configured workstations. Each must be provided with duplicate data sources (e.g., FAA data and radar data) so that software that monitors the “health” of the currently active system can switch to the backup system in the event of failure.

Data Recording

Data from each of the sensors, as well as the output of the track fusion engine, are continuously logged on a rotating 48-hour basis. Analysis Replay of the hourly files can be replayed on one workstation while the “live” system is running on another. Should the need arise to save the log data, an archive process can be used on an administrative workstation to save any or all hourly files in a permanent area of the data logging disk. In extreme cases where law enforcement officials want to preserve the log data as evidence, the data disk may be removed from the “running” live workstation and a new disk inserted in its place with NO LOSS of data. Logged sensor data may also be archived for training purposes.

Training

i-Sense[™] incorporates a training capability that is built in to the system. All functionality except for camera slaving and radar parameter modifications are available for training. The backup administrator and operator workstations can be utilized for training without affecting the performance of the live system, and in fact, if the active administrator workstation were to have a failure while the training system is up, the training scenario would be preempted and control of the administrator workstation would be given to the “live” system.

Security

Access to the system is via username and password with three levels of system control: Operator, Supervisor and Administrator. Operators are limited to the basic functions of the system: map controls (pan, zone, re-center), map features and camera slaving. Supervisors have additional capabilities including Archive/Restore and Analysis Replay. Administrators may modify radar parameters, create zones, and administer passwords to name a few of the enhanced capabilities.

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