Sample Screenshots (Part 1)

Crestron and AMX

Please find of a collection of sample screenshots from x7 programs designed, developed and commissioned during my employment at AVMI:

Company/Client	Location	System Description	Role
1. AVMI	London	Video wall and digital signage	Management and control
2. Investment Bank	London	Multiroom VoIP	Monitoring and diagnostics
3. Private Bank	London	Private banking rooms	Audio distribution control
4. Global Advisory Firm	London	Auditorium video wall	Temperature monitor
5. Global Bank	Data Centre	Central control room video wall	Management and control

I was responsible for all aspects of GUI design, program design, development, test, commission, demonstration and handover to client. This document has been split into x2 parts so that each part is not too large and can be opened and viewed directly on github.com.

Logos

Upon leaving AVMI I was asked to remove all identifying names and logos from the screenshots hence the names above have been anonymized and all logos have been removed from the screenshots in this document.

Personal UI Principles

Simplicity	Satisfaction	Ergonomic	Convention
Organised	Intuition	Efficient	Balanced

GUI's should be simple, intuitive and provide a quick mental map to the systems organisation, functionality and flow, for full list of my principles applied to all software please review 'Software Principles.pdf' in this repository.

My Role

My role at AVMI generally consisted of the following aspects:

1. New Projects: Design, develop and commission new software as described in the typical project life cycle described below.
2. Software Updates: Evaluate, update, refactor or perform full rewrite of existing software.
3. Consultation: Provide technical advice and support to all areas within AVMI including sales, design and end users.

Typical Project Life Cycle

Design Meetings:

1. Internal: Discuss the new project with AVMI Account Manager and System Designer.
2. Client: Discuss the new project with client to produce an initial brief for the systems overall functionality.

Off-Site:

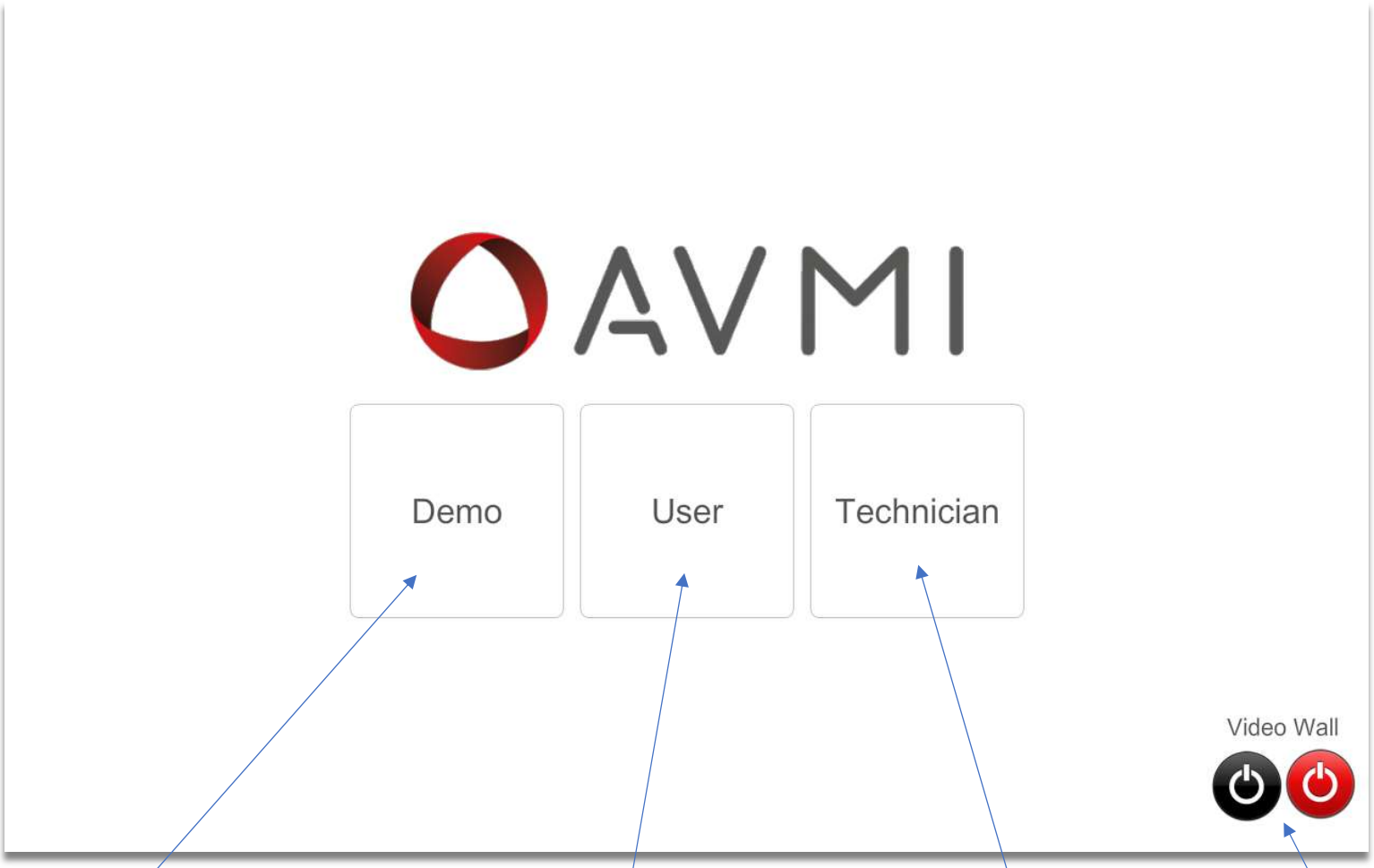
3. GUI: Design/develop GUI and submit screenshots for client feedback and sign off.
4. Program: Design/develop program to co-ordinate the overall hardware within the system which involved the following:
    - Research: Research and obtain API information of system components.
    - Develop: Develop and write program using a modular event driven language based on C^{++}.
    - Dependencies: Liaise directly with client on any external dependencies e.g. network/IP allocation.
5. Test: Fully test GUI and program using local processors to replicate and emulate onsite environment.

On-Site:

6. Commission: Upload, test and commission.
7. Handover: Demonstrate and handover to the client.

1. AVMI London

Video Wall and Digital Signage - Management and Control

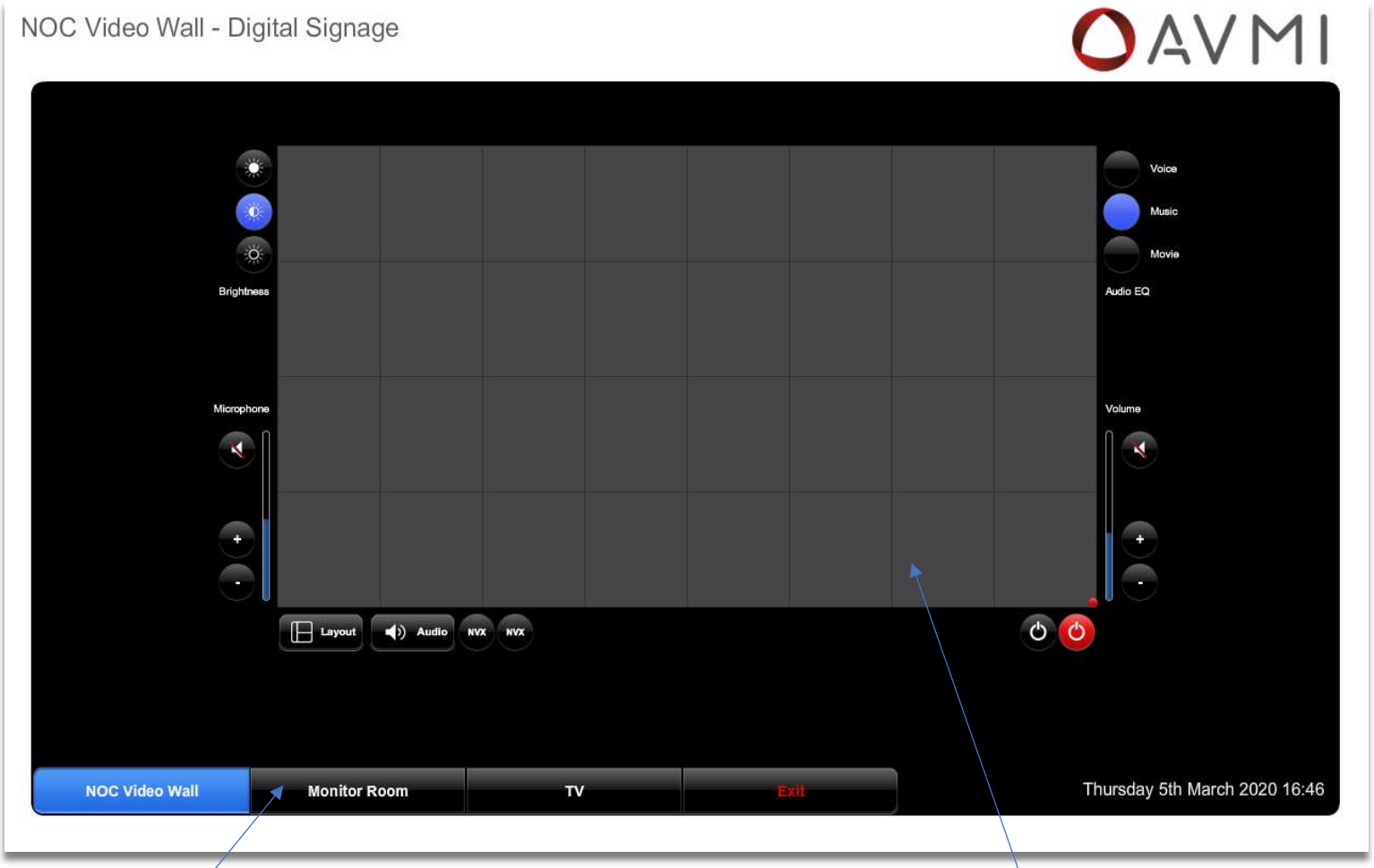


Run demo sequence on video wall for client demonstrations

Restricted user-side of UI containing simplified controls for non-technical user

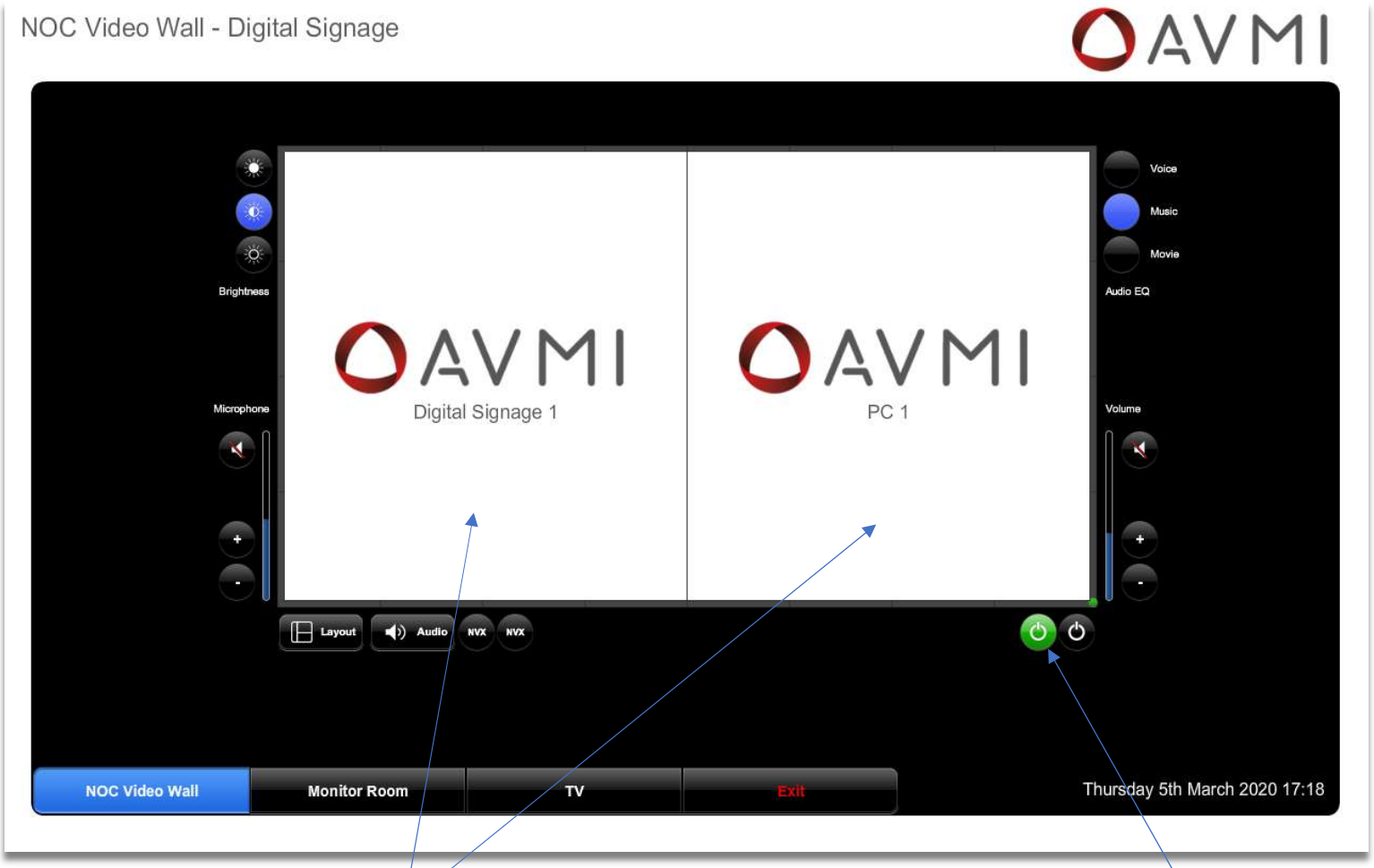
Full technician-side of UI containing all control, setup and diagnostics

Video wall power



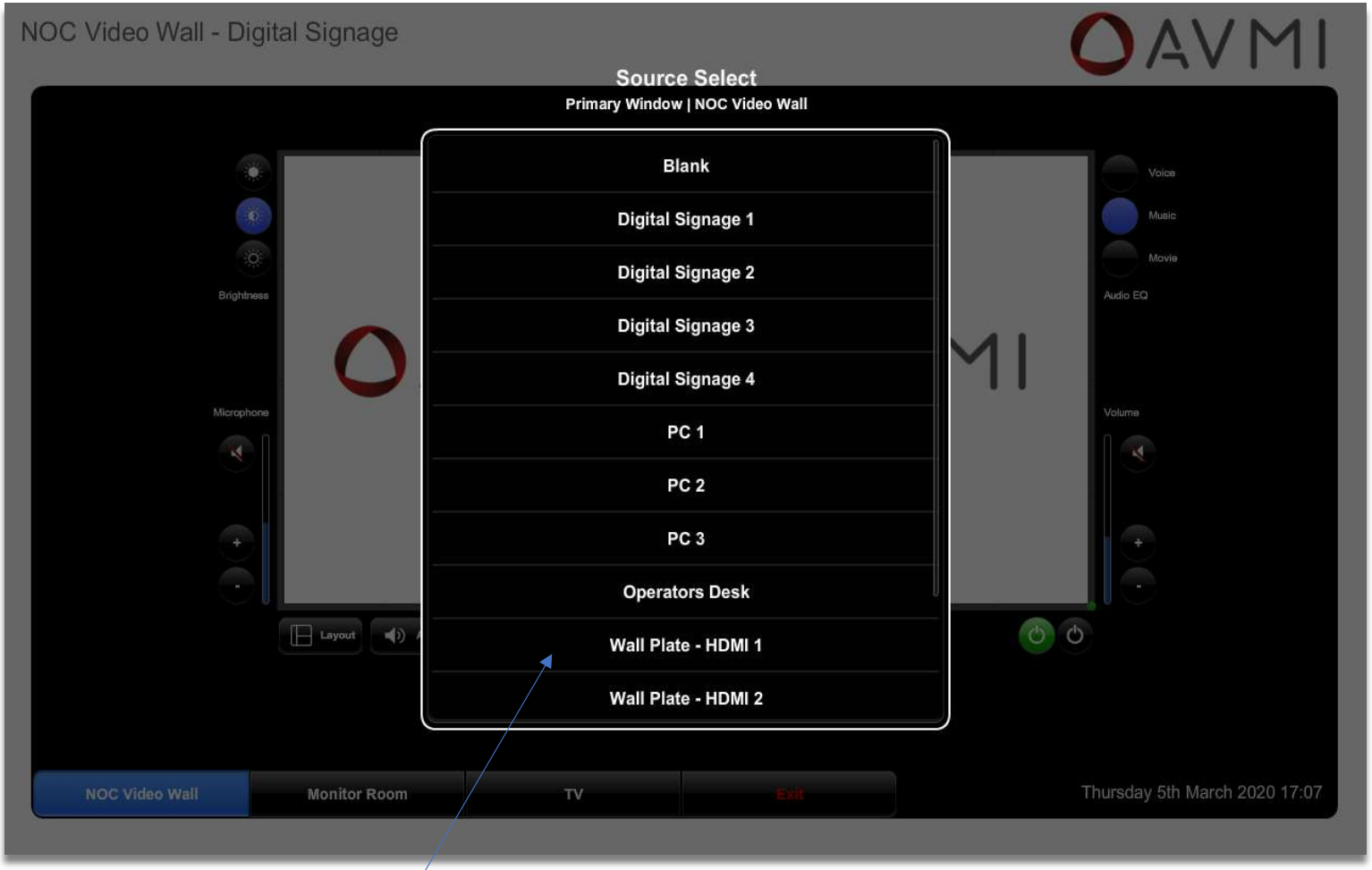
User-side of panel contains x3 pages of limited functionality

Video wall power, layout and source select with audio breakaway

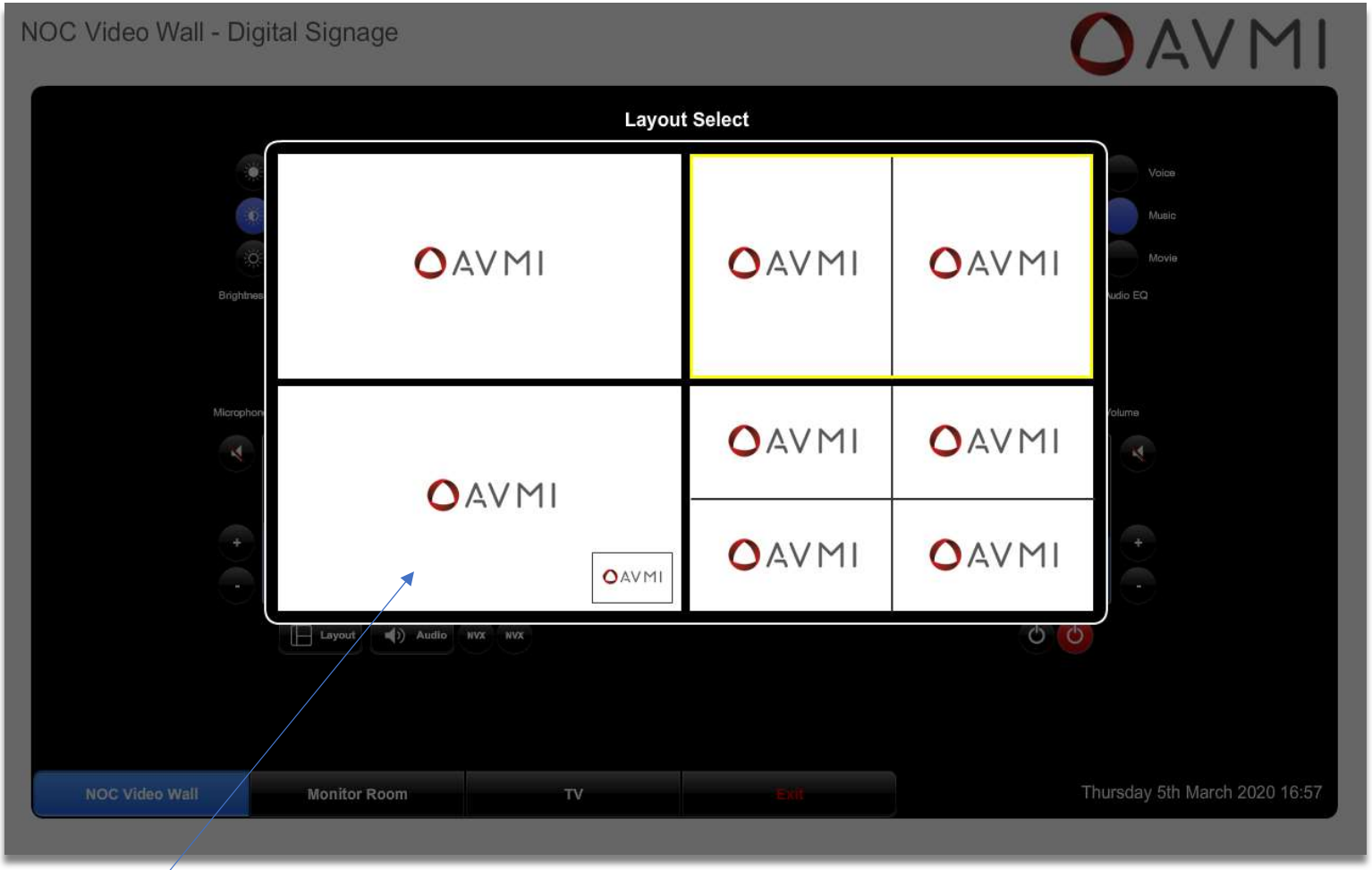


Press on video wall windows to select and send source

Turn on video wall



Scrollable list of available sources to send to individual video wall window(s)



Select video wall layout from x4 preset configurations

Each endpoint contains x5 pages of properties and functionality associated with network, video signal and source

Real-time video streaming diagnostics

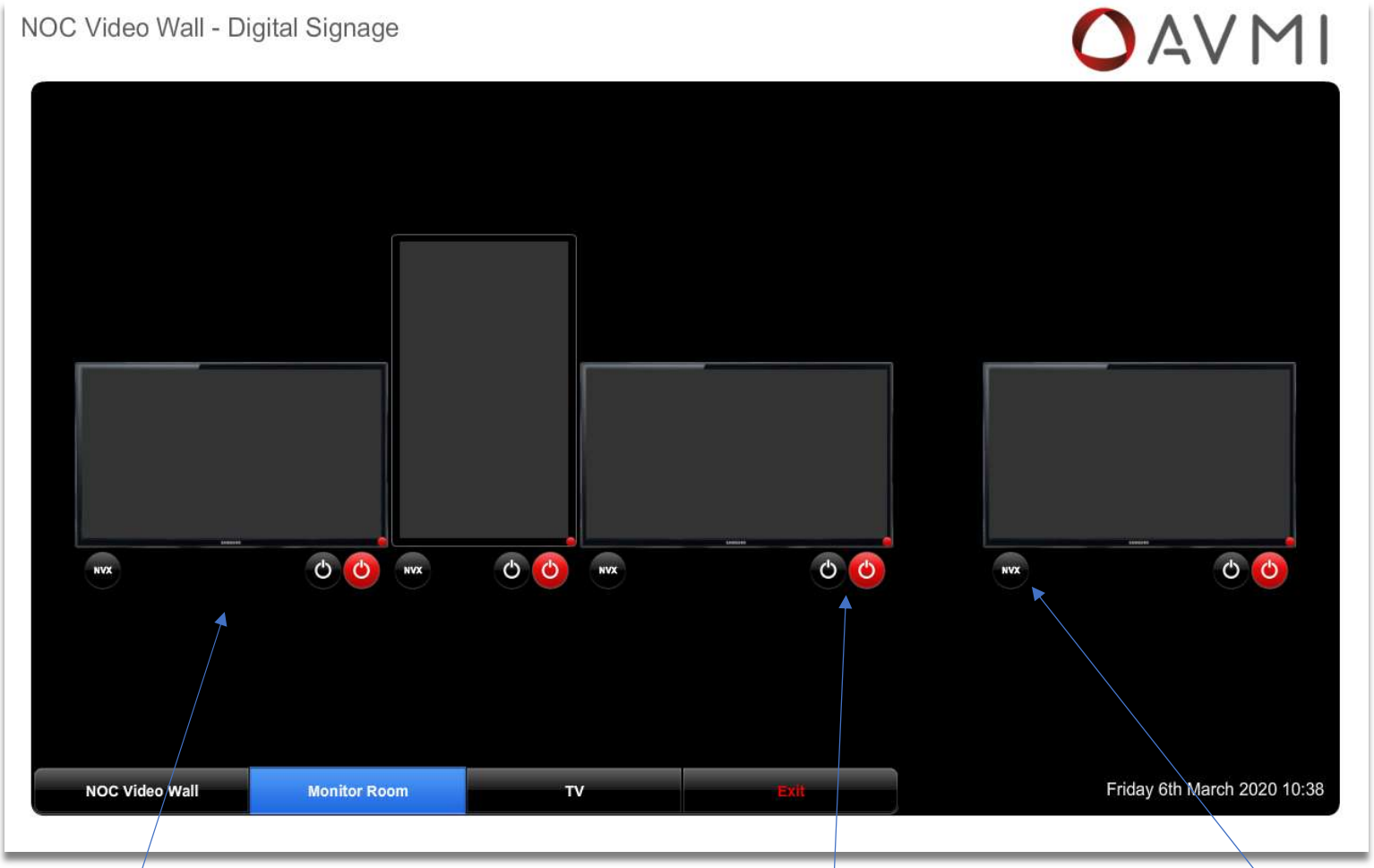
Low level IO settings of each endpoint provide maximum flexibility

Press on checkboxes to set

Network status between the source and destination endpoints

Real-time packet loss data

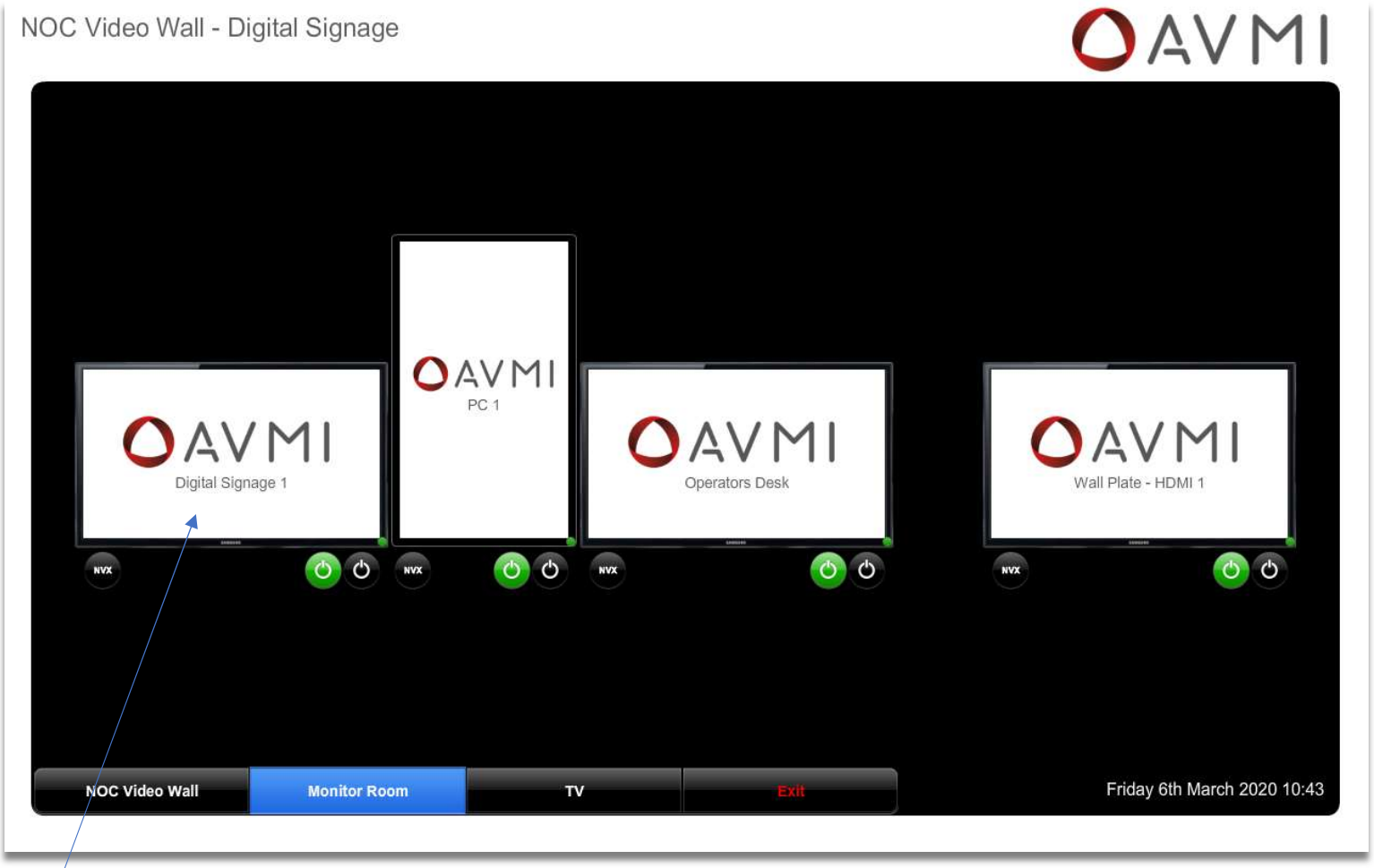
Conveniently and easily reboot any endpoint situated anywhere around the building



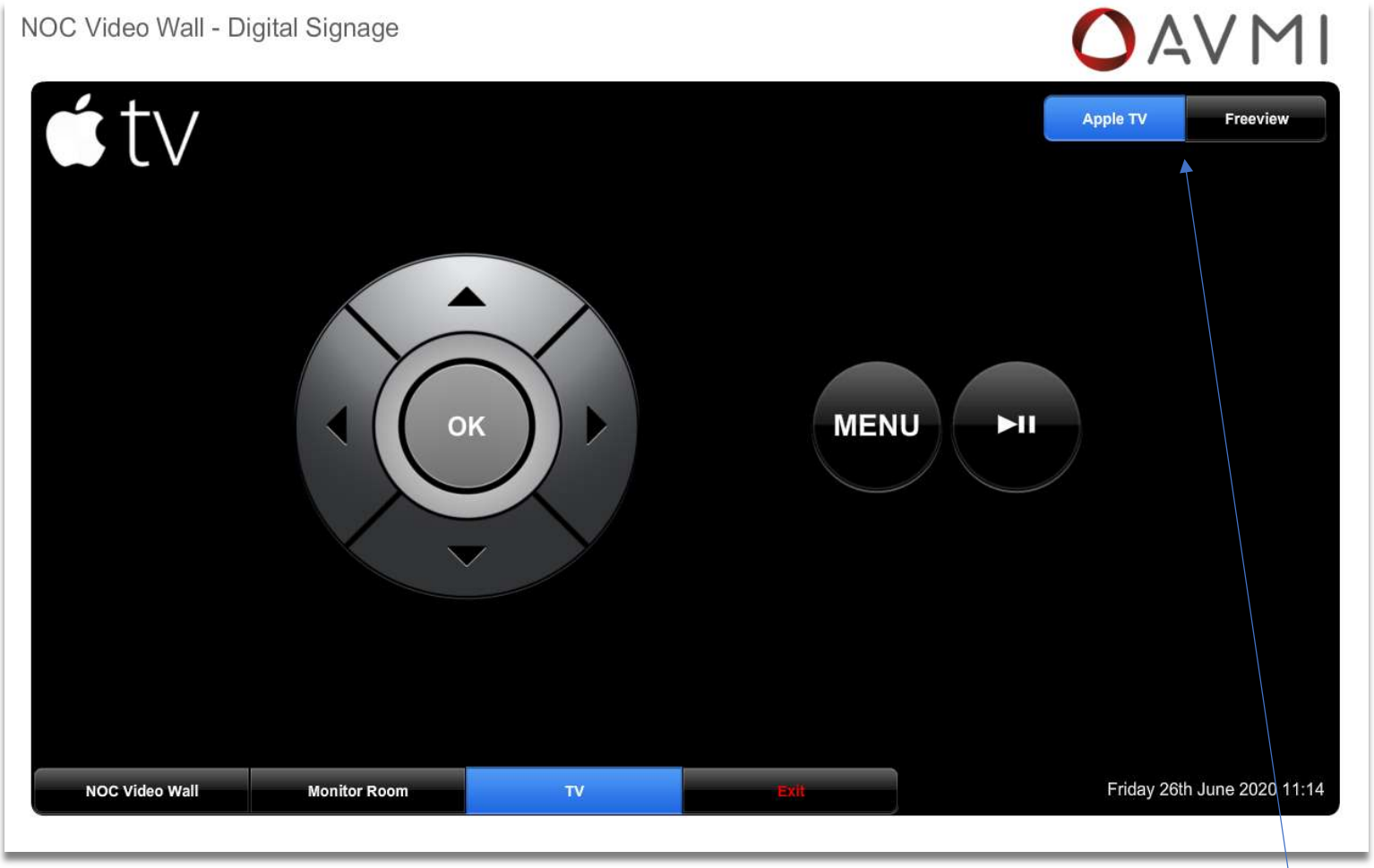
AVMI's digital signage monitoring room contains x4 monitors

Power and source select of monitor

Endpoint status



Press on monitor to select and send any available source to monitor

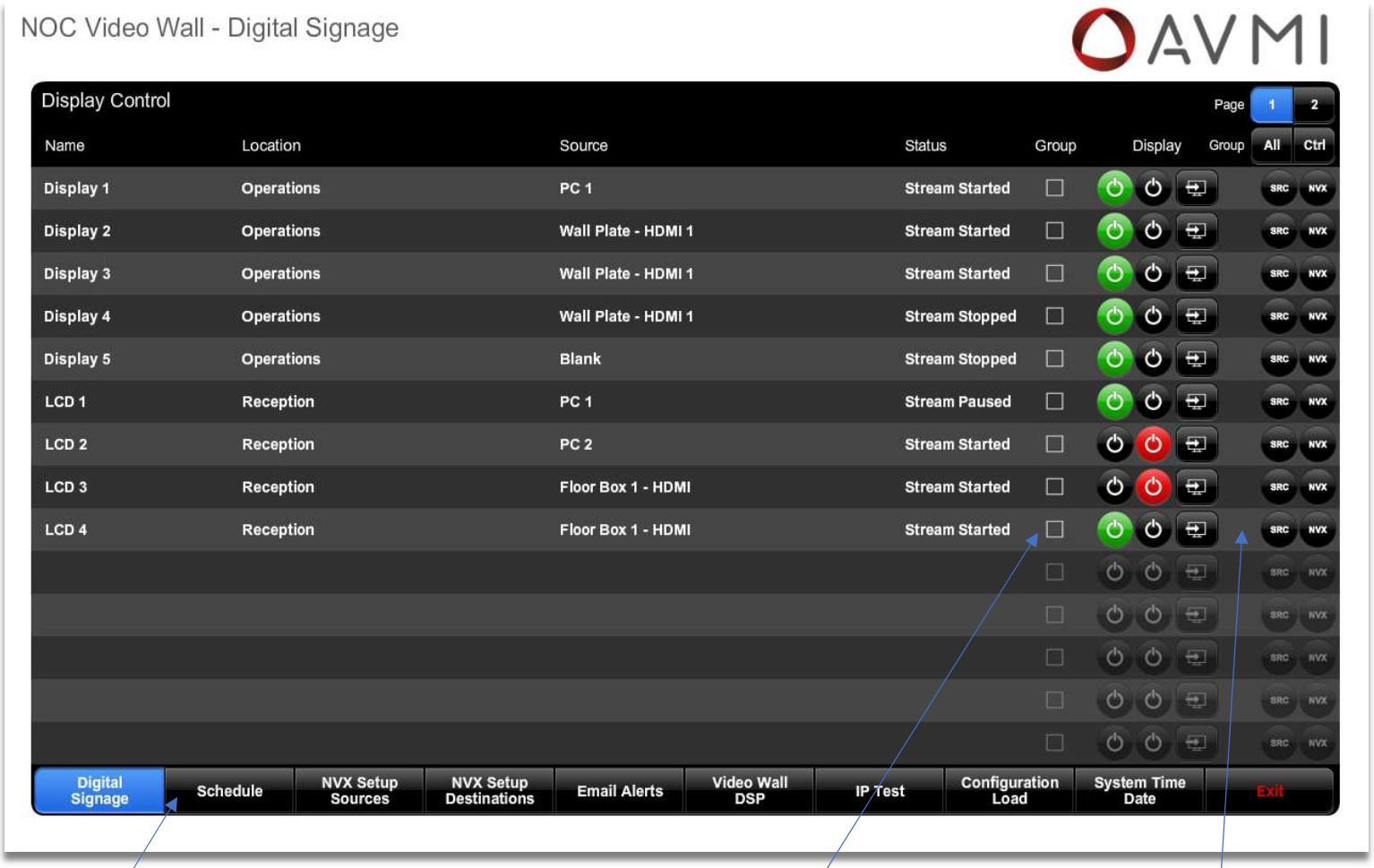


Select and control the Apple TV source

Switch between Apple TV and Freeview

Select and control Freeview TV source

On-screen navigation and channel presets emulating an IR remote

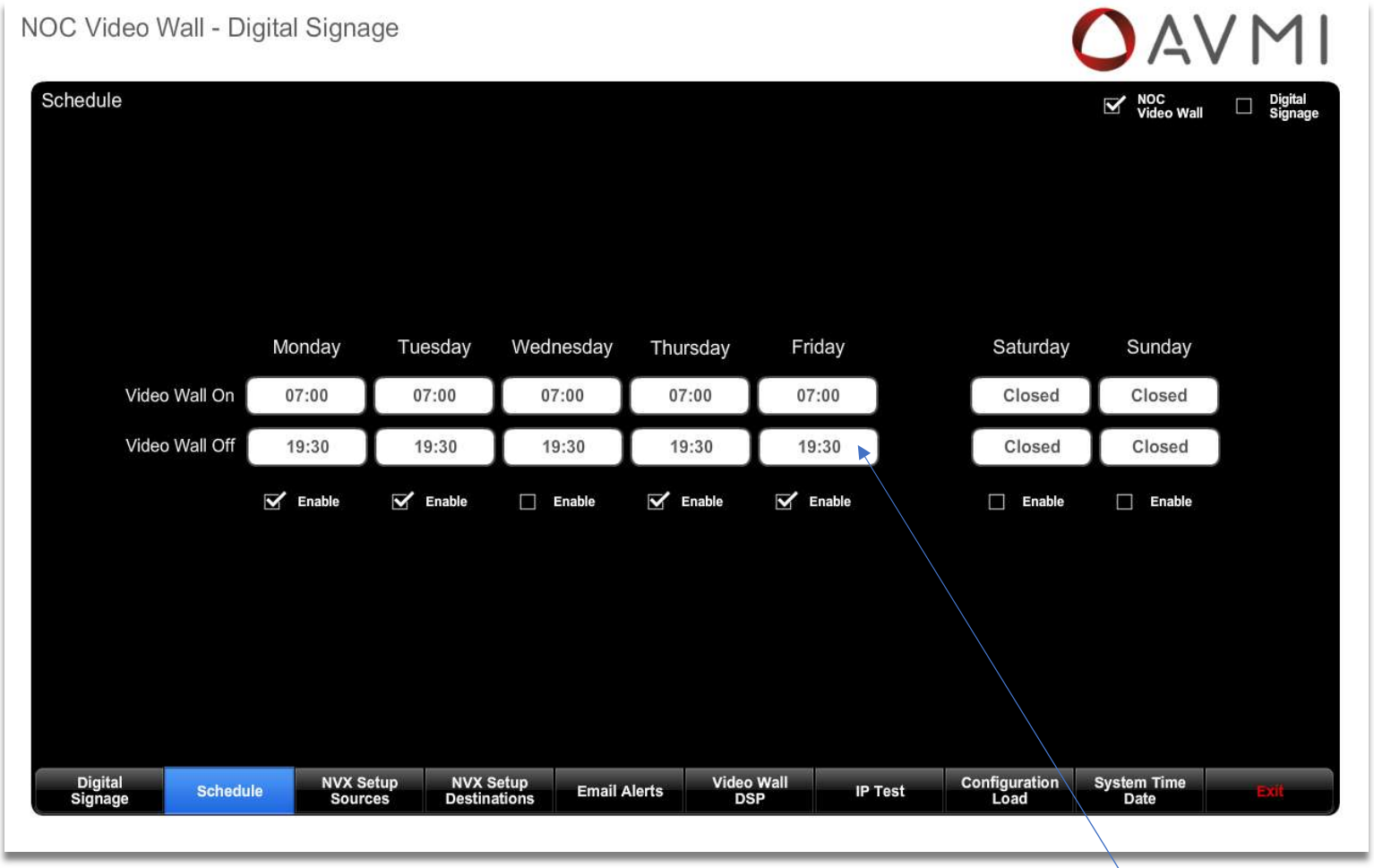


Technician-side of panel contains full system functionality

Group select multiple LCDs around building

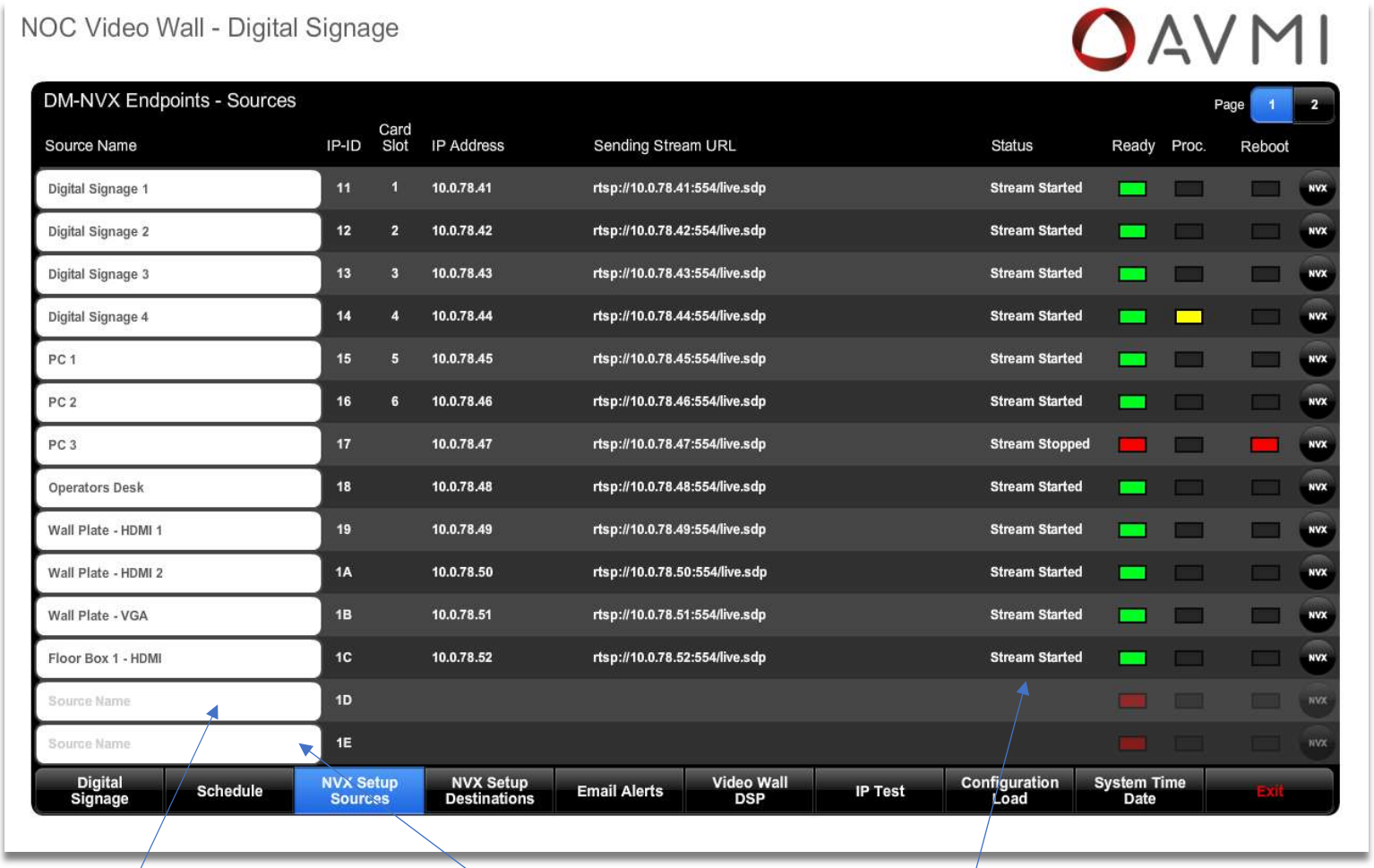
LCD power control, source select and stream status

Set LCD power, input or send a source to multiple LCDs around building



Schedule the automatic turning on/off of the video wall or LCDs around building

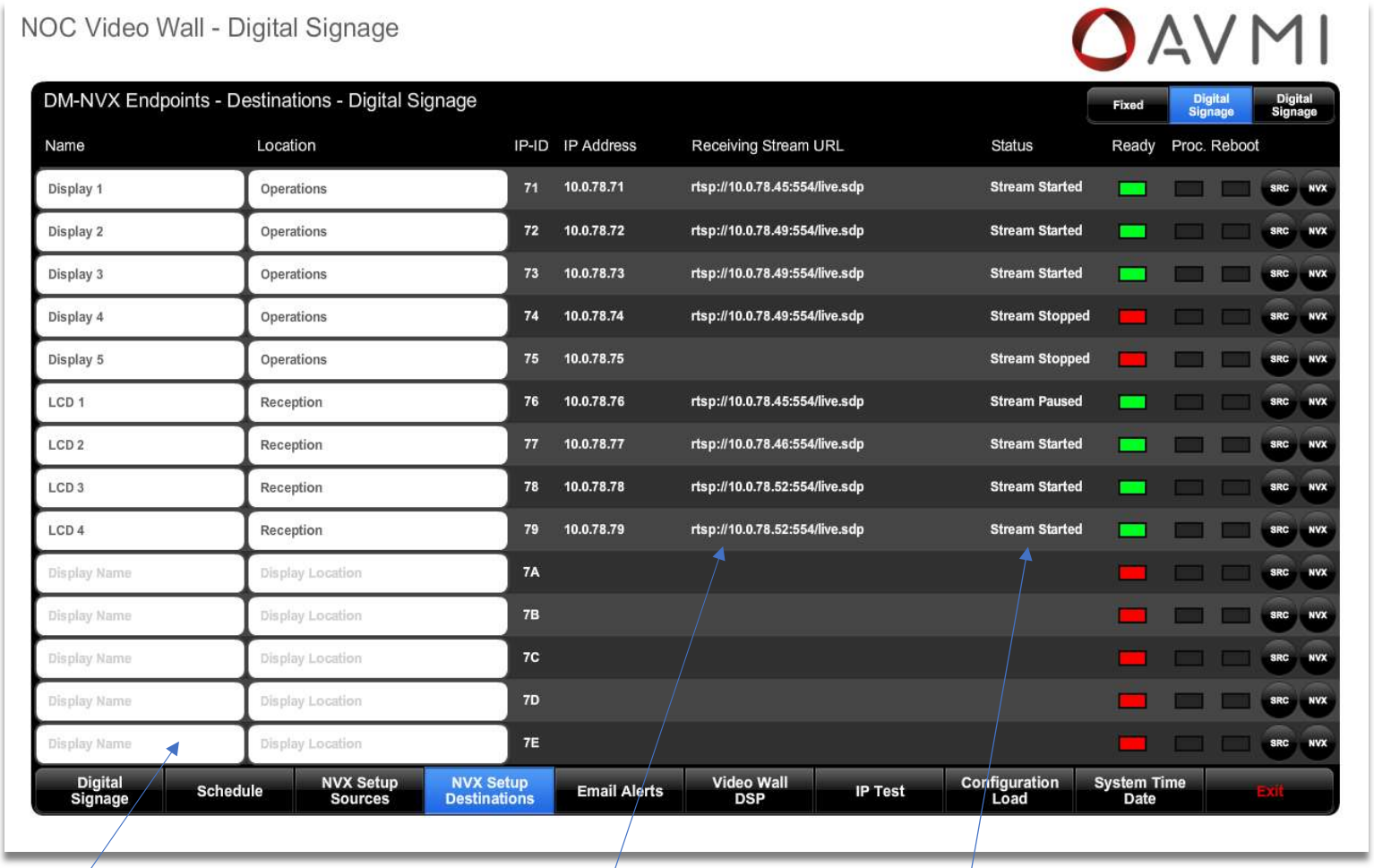
Press on time field to open keypad to set



Manually add/remove source endpoints

Press on text field to open keyboard

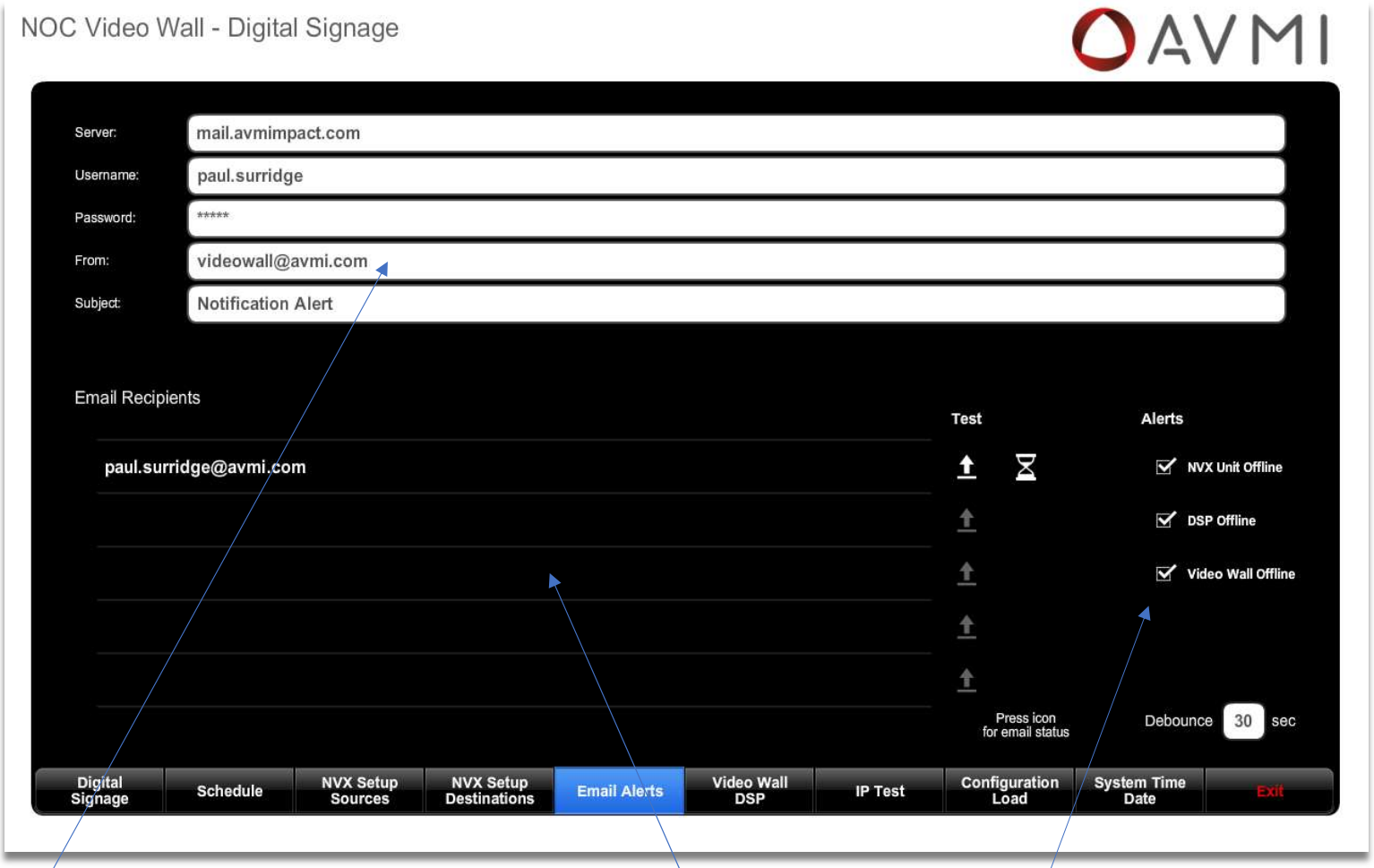
Realtime status reporting of all source endpoints around building



Manually add/remove destination endpoints

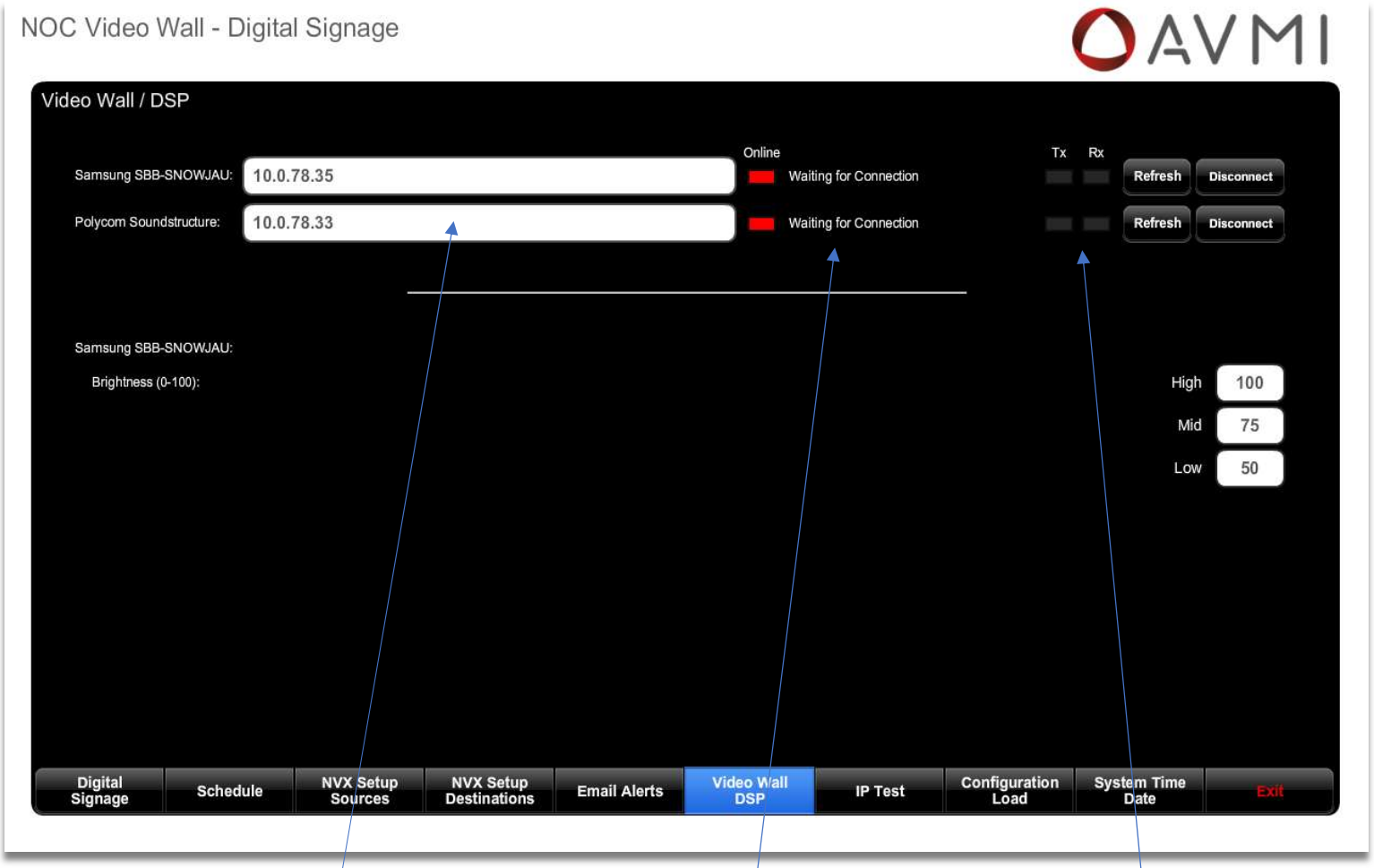
URL of the source endpoint currently being received by destination endpoint

Realtime status reporting of all destination endpoints around building



Press on any text field to open keyboard

Up to x5 email recipients can receive an email alert if any of the selected devices go offline for defined period of time



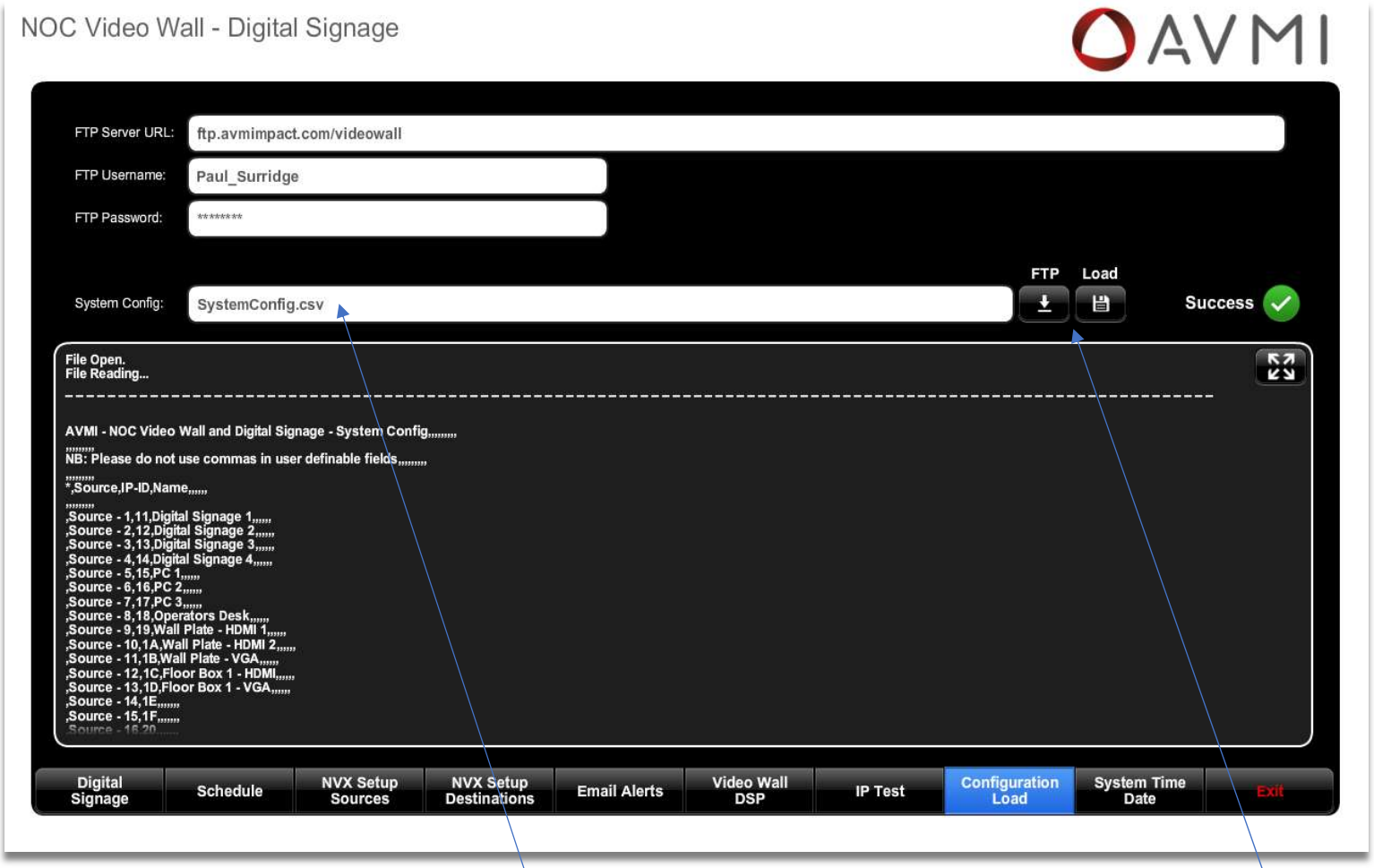
IP setup and connection status to the video wall processor and audio DSP

Realtime status information of connection to device

Indicators flash upon Tx/Rx data from device(s)

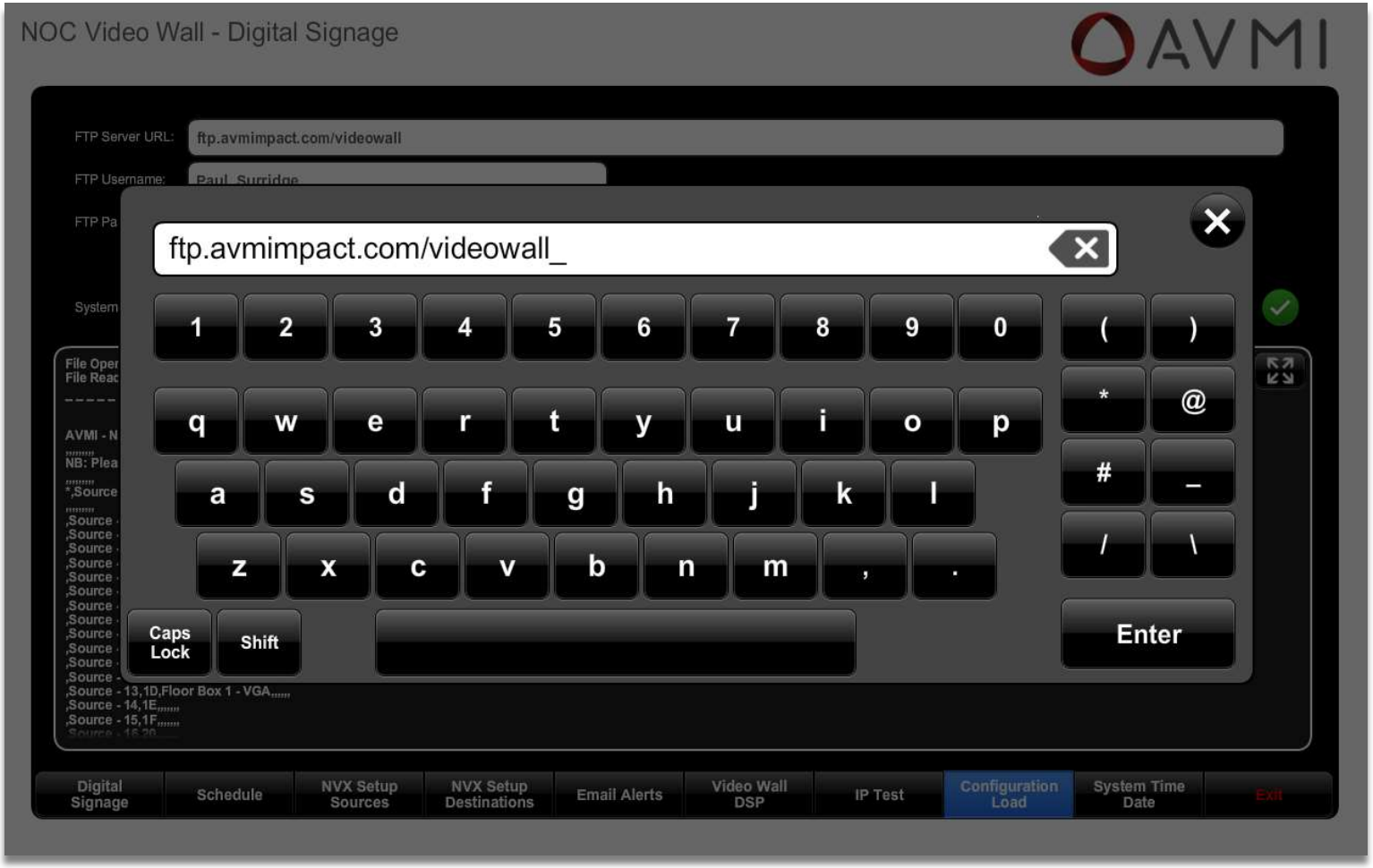
Test the IP connectivity between local processor and any IP device or endpoint on network

IP Config of local processor

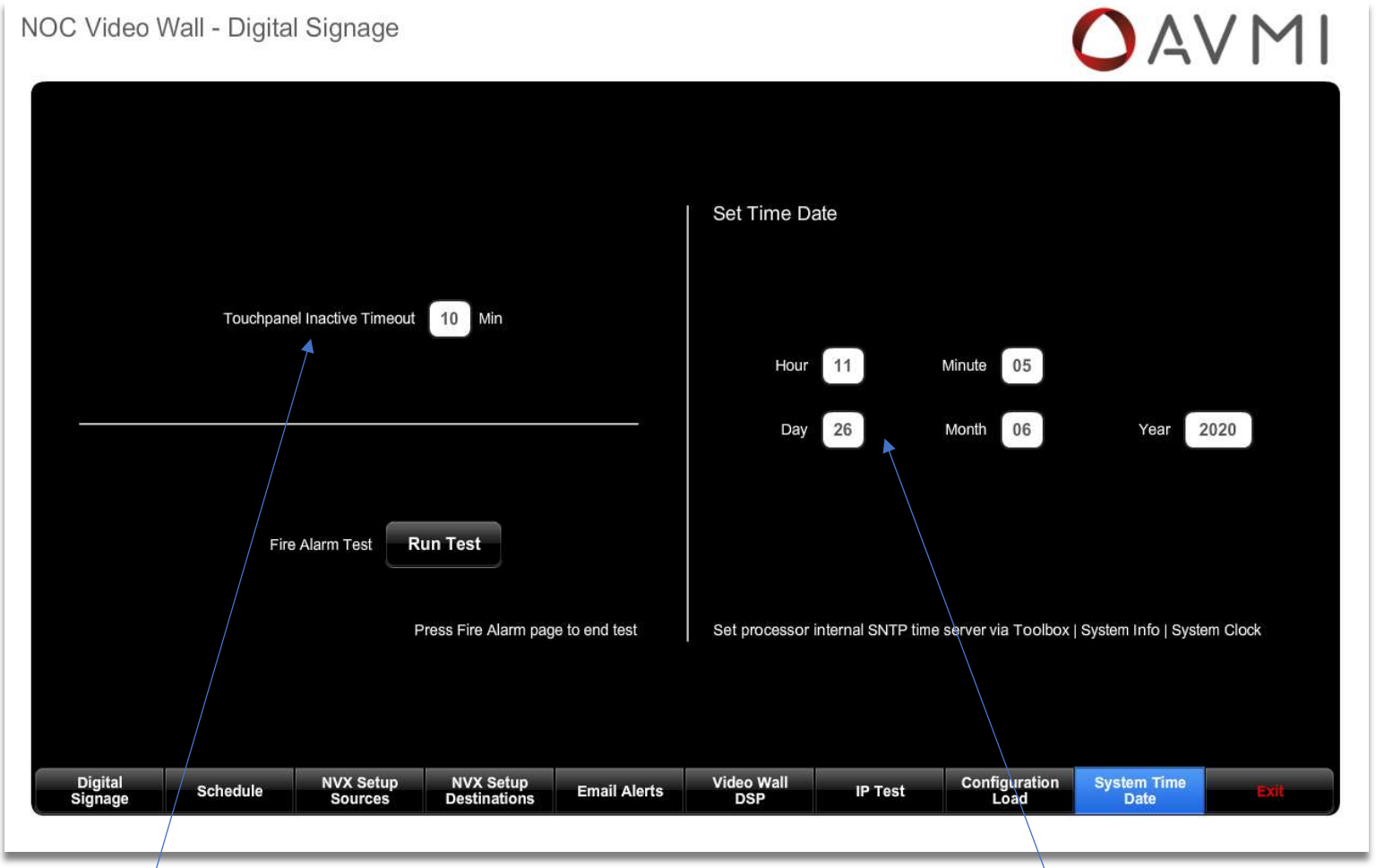


SystemConfig.csv defines all aspects of the entire system, including all endpoints name, location, IP and LCD API commands

Load SystemConfig.csv via USB or download from FTP server



Press on any text field to open keyboard to manually enter text

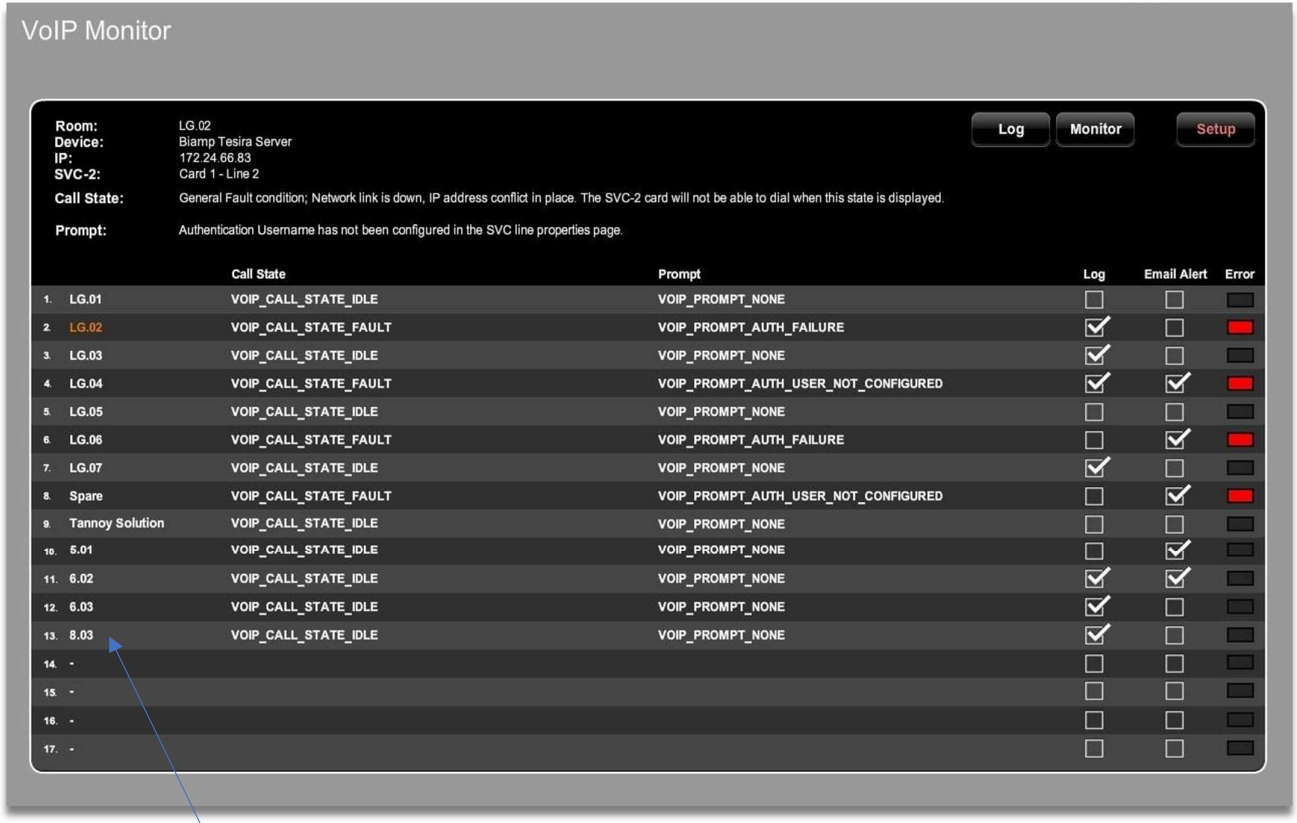


Touch panel go to sleep after period of inactivity

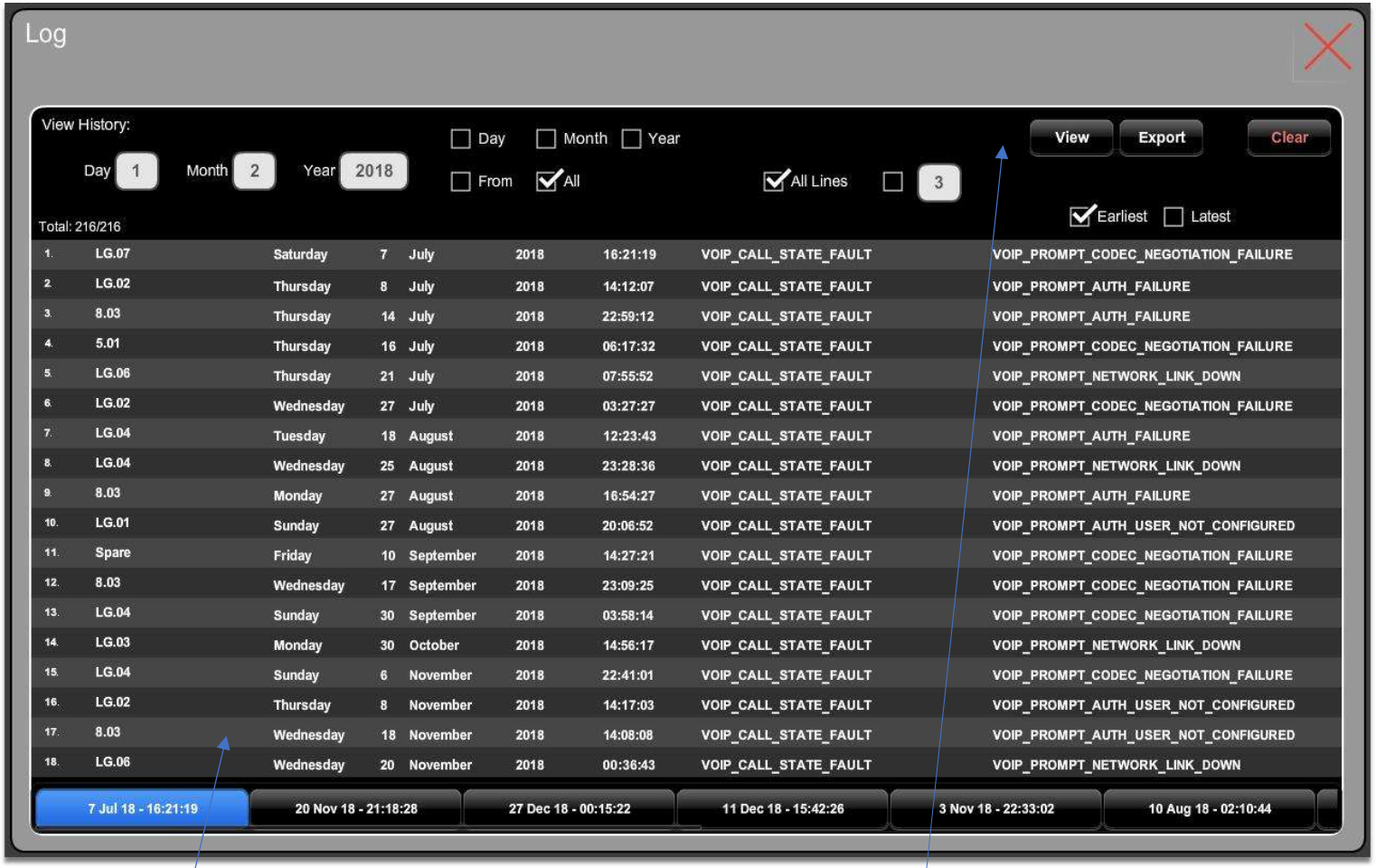
Local processor time/date to ensure accurate operation of scheduling

2. Investment Bank London

Multiroom VoIP - Monitoring and Diagnostics

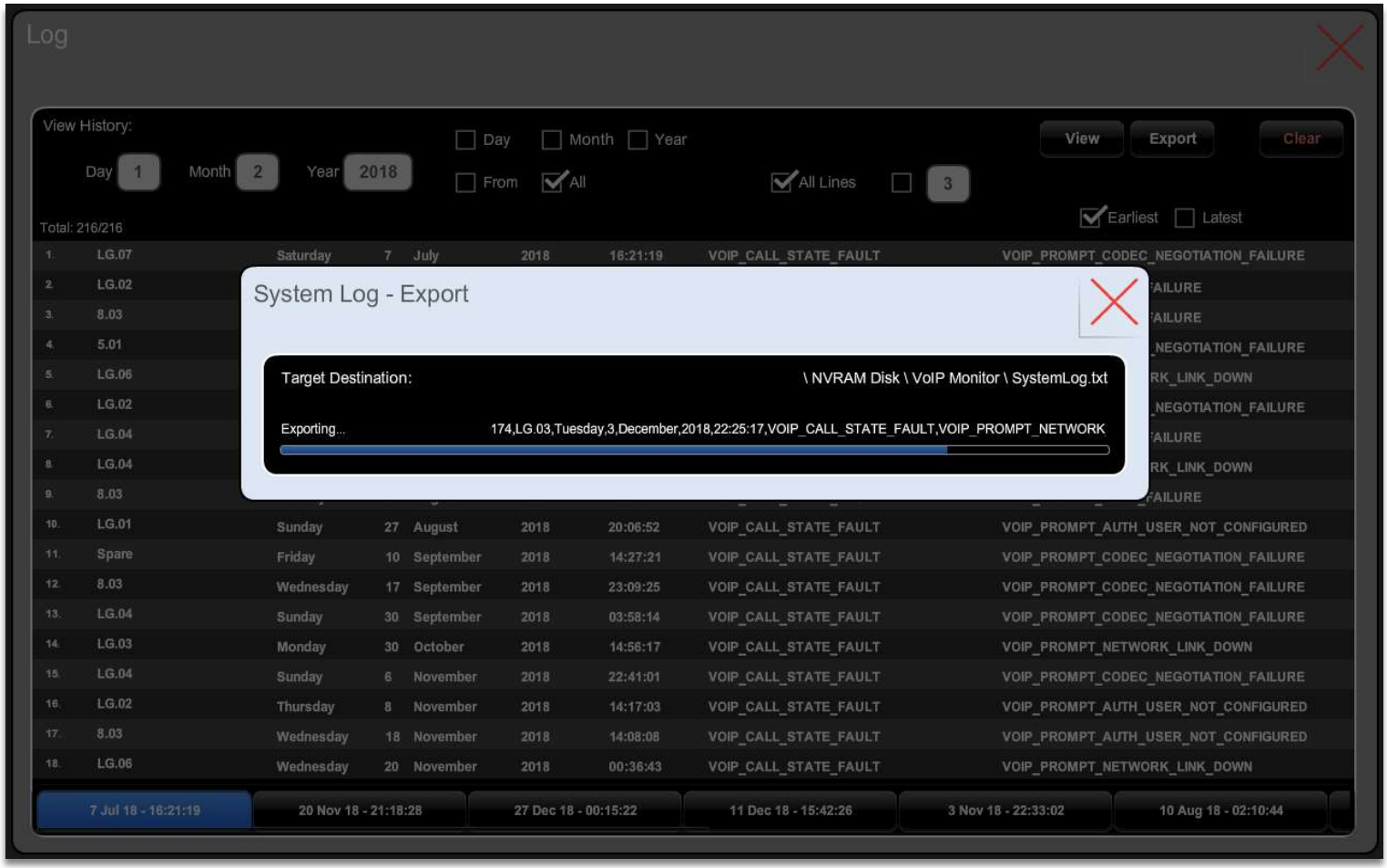


Monitor and log real time status of VoIP lines in multiple rooms



All errors are logged and available for review

Log can be exported to *.csv file for review in Excel



Export all/filtered errors to *.csv file for further review and archiving in Excel

View raw feedback from each VoIP card in real time

Make VoIP call in room and view card feedback in real-time for rapid fault finding

Setup IP/hostname for each VoIP card

Setup email address to receive an email alert after specified period

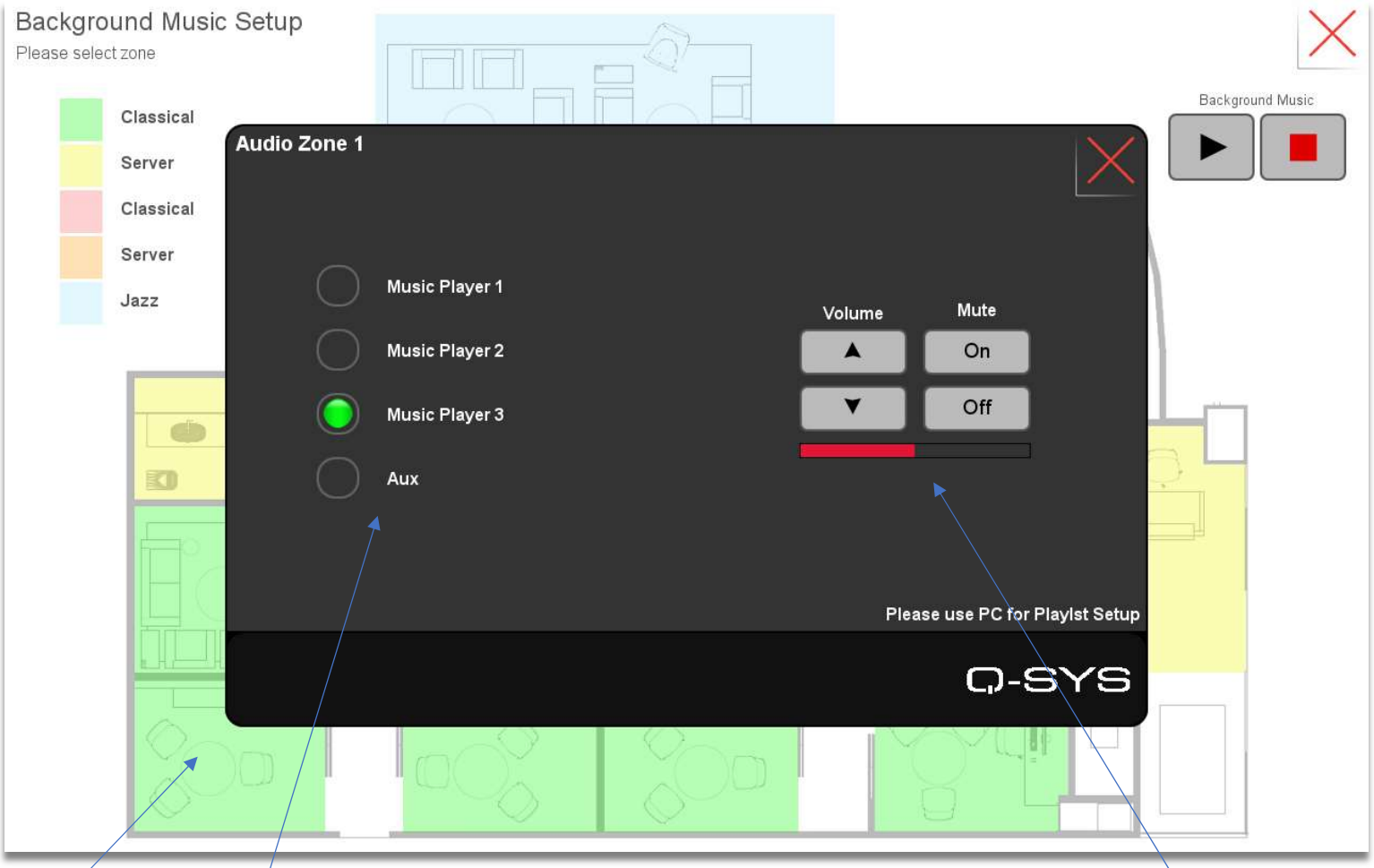
3. Private Bank London

Private Banking Rooms - Audio Distribution Control

x5 audio zones covering multiple
private banking rooms and common areas

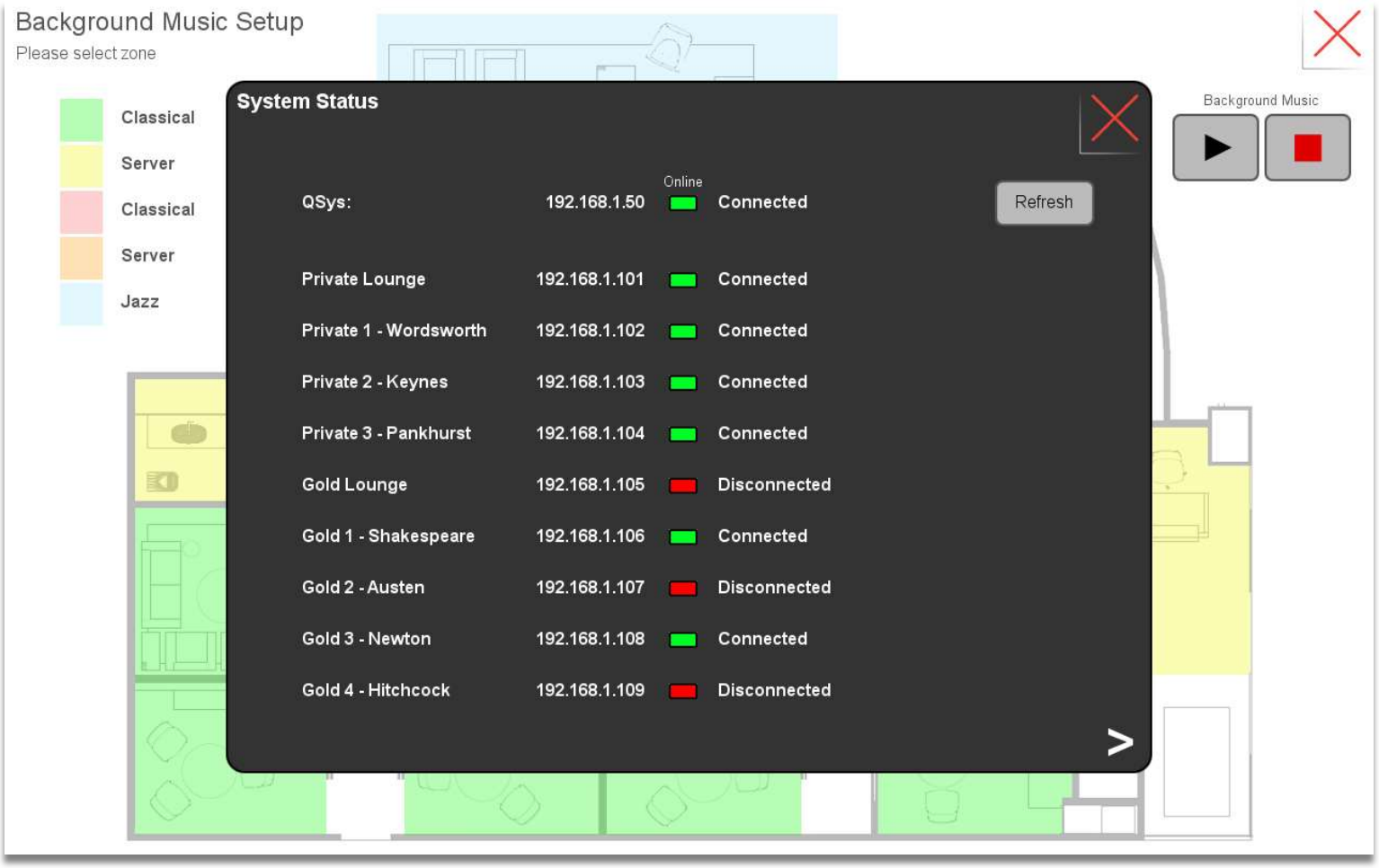
Set audio source, level and other attributes
in each audio zone

UI situated and controlled from Reception Desk



Press on audio zone to select audio source to be heard

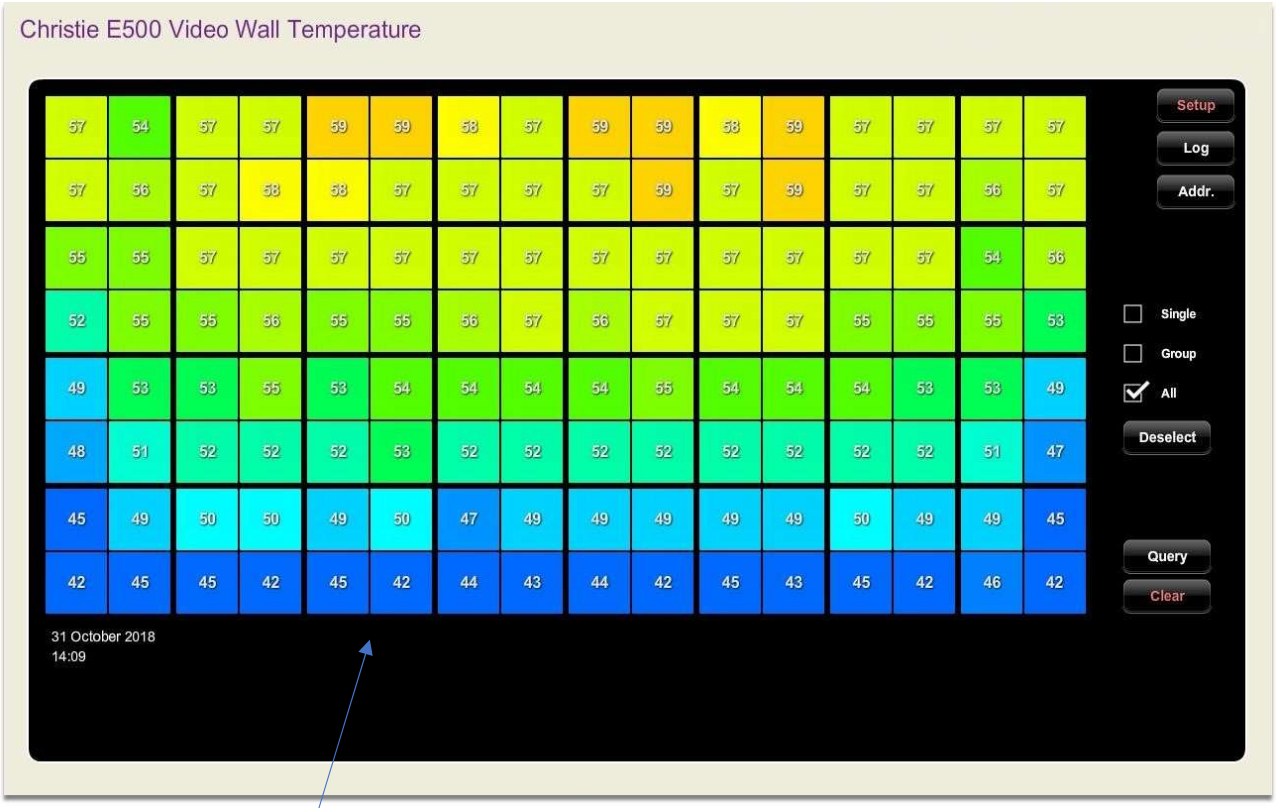
Manual control of volume/mute



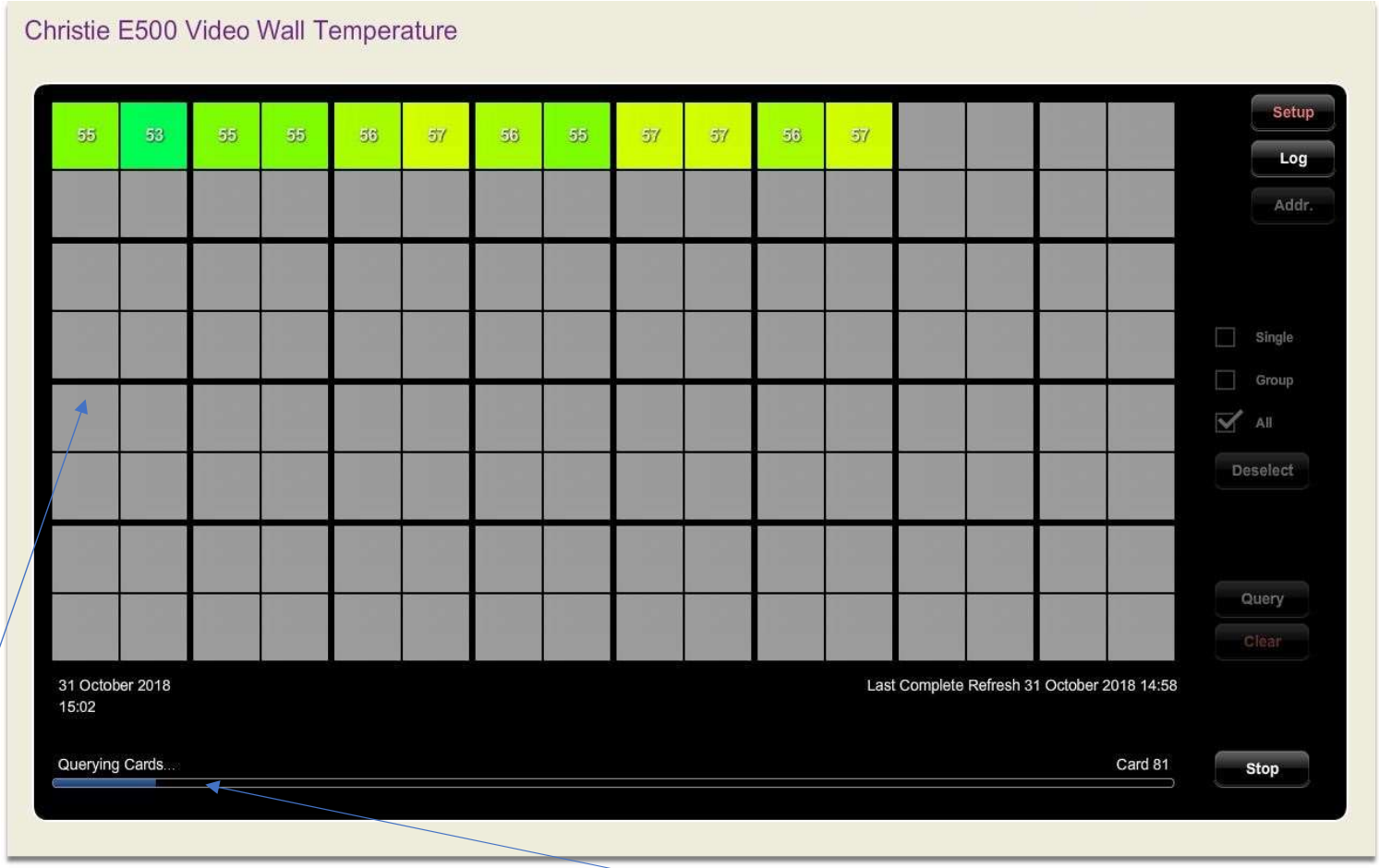
Simple real time status of IP connectivity to all audio endpoints in each private banking room

4. Global Advisory Firm London

Auditorium Video Wall - Temperature Monitor

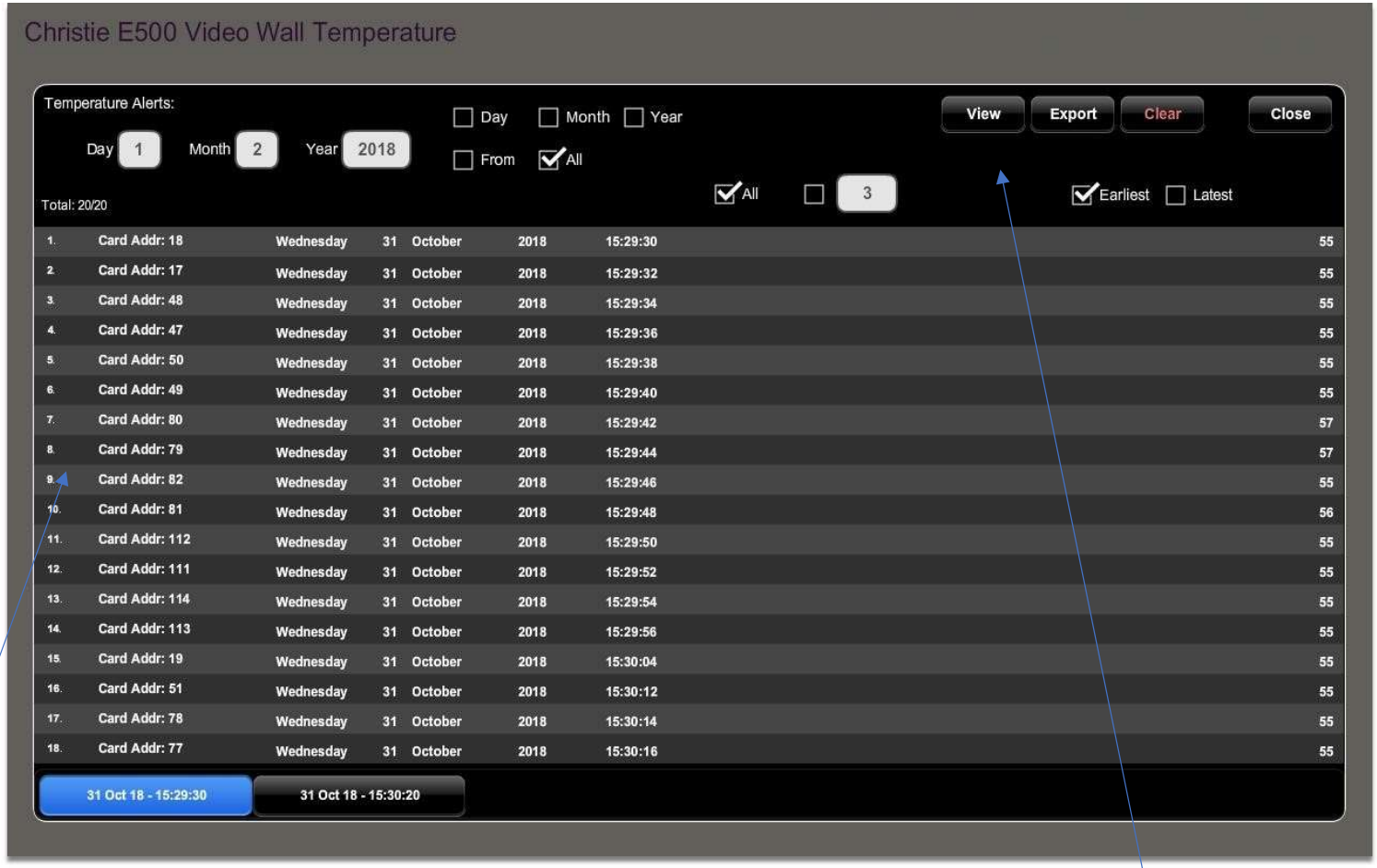


Clean and simple UI to illustrate heat distribution about the video wall



Auditorium with large multi-panel video wall

Query the temperature of each panel

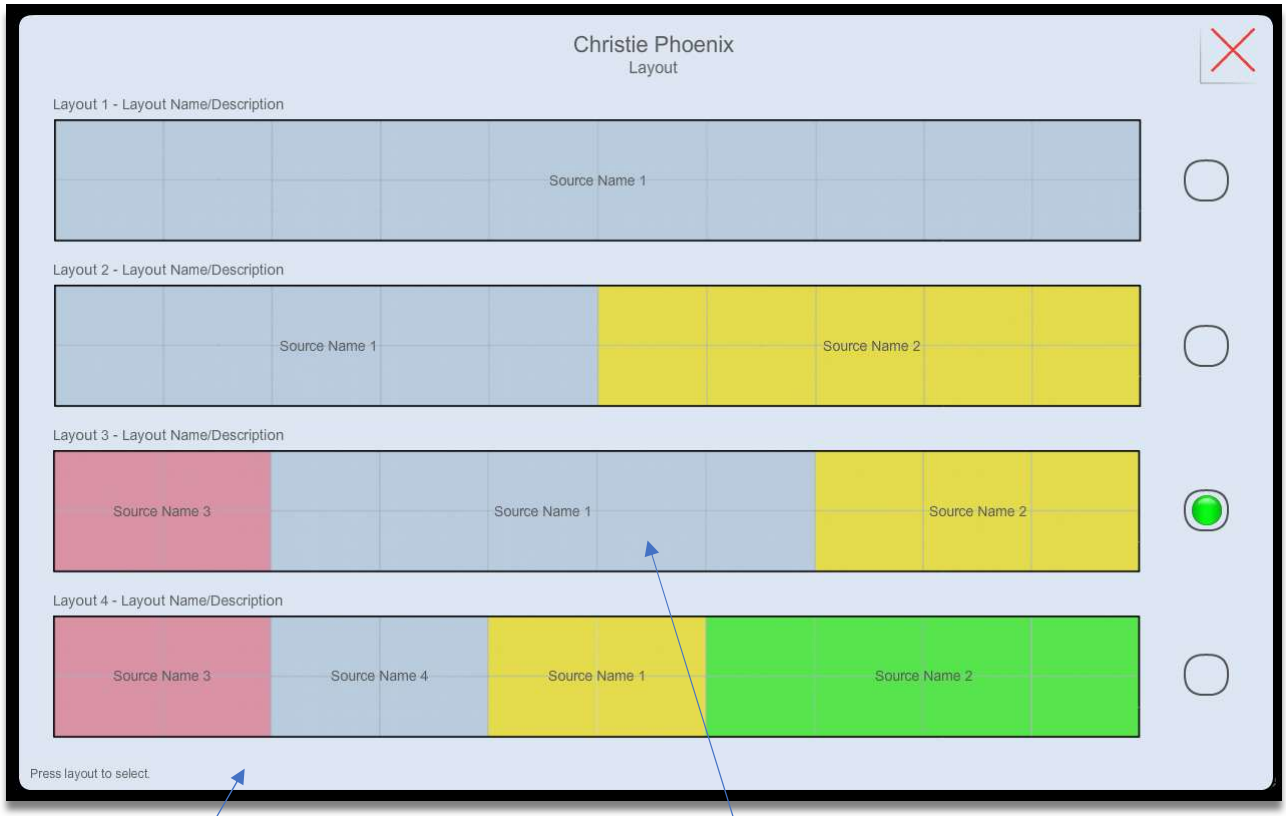


Log all panels which exceed temperature threshold using circular memory (FIFO x500) with optional email alert

Filter and export log to *.csv file for review in Excel

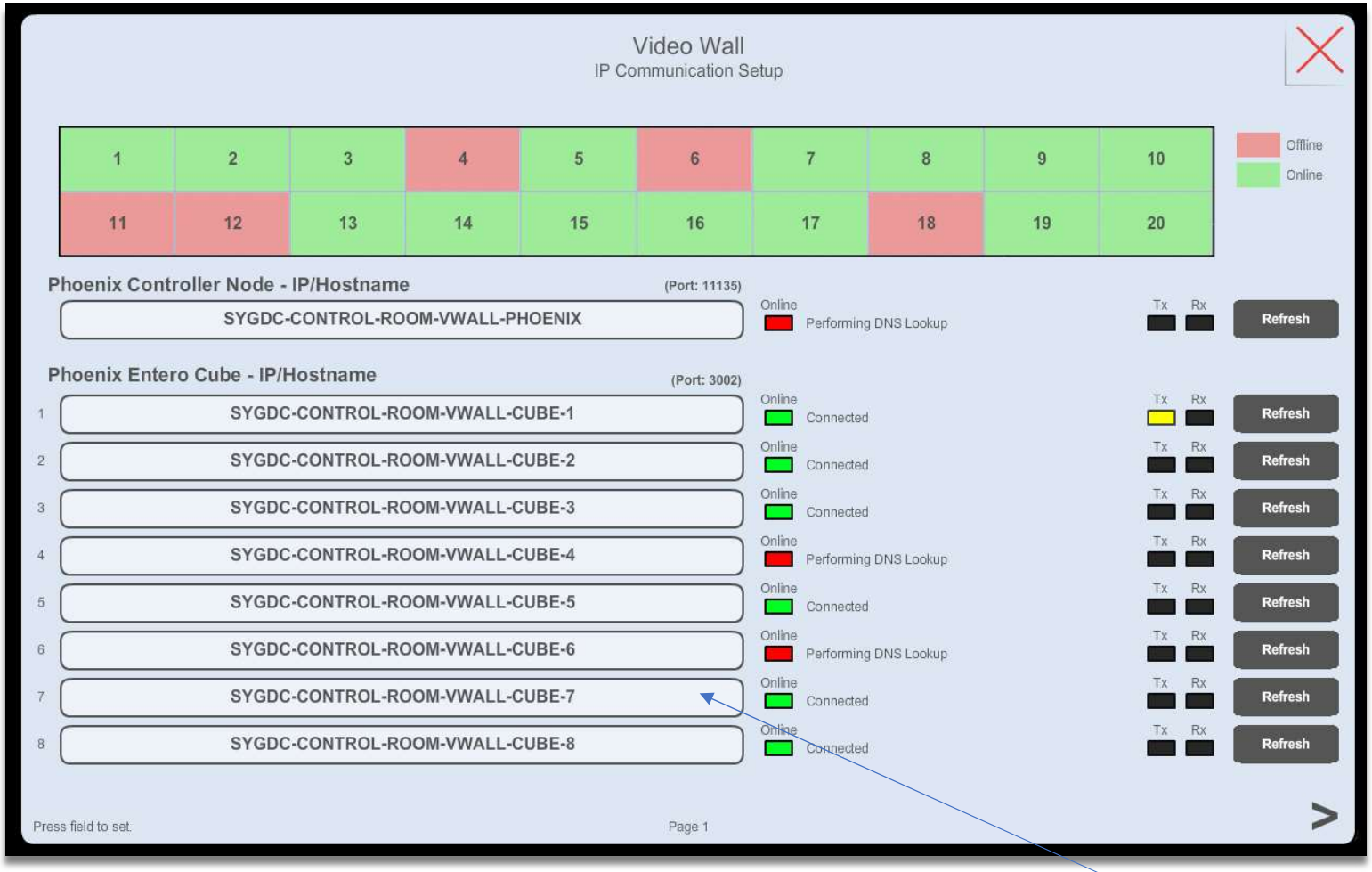
5. Global Bank Wakefield Data Centre

Central Control Room Video Wall - Management and Control



Control large videowall within control room of data centre

Select layout or press/hold to set layout/source names via popup keyboard



Realtime status of video wall cubes/panels, IP/hostname setup, connectivity and activity

Press on field to set via popup keyboard

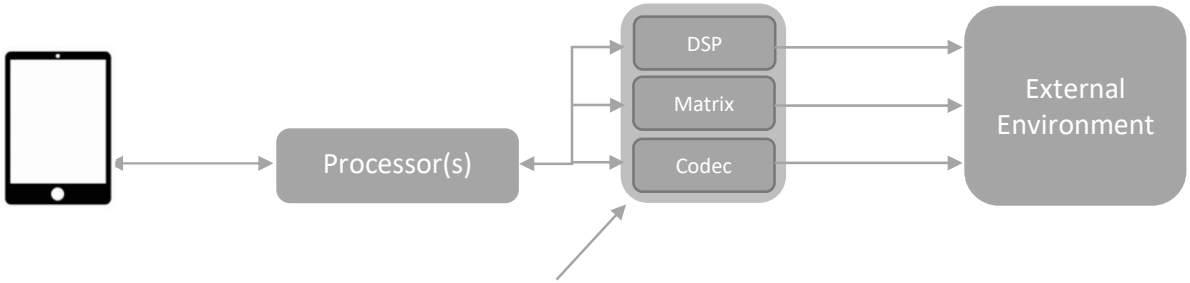
Crestron/AMX

- Crestron and AMX are versatile control systems which are deployed in a variety of environments to implement a particular functional need, including:

    - System diagnostics and monitoring.
    - Scheduling management.
    - Video conferencing, audio conferencing and audio-visual presentation.

- Crestron and AMX systems generally consist of:

    - Central processor communicating with proprietary and 3rd party external hardware.
    - Central processor runs multithreaded program(s) written in a modular event driven architecture using a language based on C++.
    - User interaction via touchpanel(s), iPad(s) or web interface(s).
    - On-premise or cloud-based.



- Crestron and AMX central processor(s) control proprietary or 3rd party hardware via their API in order to implement the required functionality within the physical external environment.

- I was responsible and completed the following:

    1. GUI: Designed, developed and commissioned the GUI that ran on the touchpanel(s), iPad(s) or web interface(s).
    2. Program: Designed, developed and commissioned the program(s) which ran on the central processor(s).
    3. Handover: Demonstration and handover of the overall system to the end user.