API
Machine Control Systems

CB Electronics have designed three different systems for use with API Consoles all of which include a custom designed matching control surfaces for the API Vision console, and CBServer GUI for Windows, MAC or Linux. The CB System provide a timecode output that connects with the Vison automation.

The three systems are as follows.
- API-3: 4 port system: SR-4HD with custom control surface built into console, supplied with USB-422 and CBServer Windows/Mac/Linux GUI.
- API-5: 5 port system: RM-6HD in the machine room with 2 port custom control surface built into console, supplied with CBServer Windows/Mac/Linux GUI and USB-422.
- API-7: 7 port system: RM-6HD in the machine room with 4 port custom control surface built into console, supplied with CBServer Windows GUI and USB-422. The extra two RS422 inputs may be used to control the system from DAW's
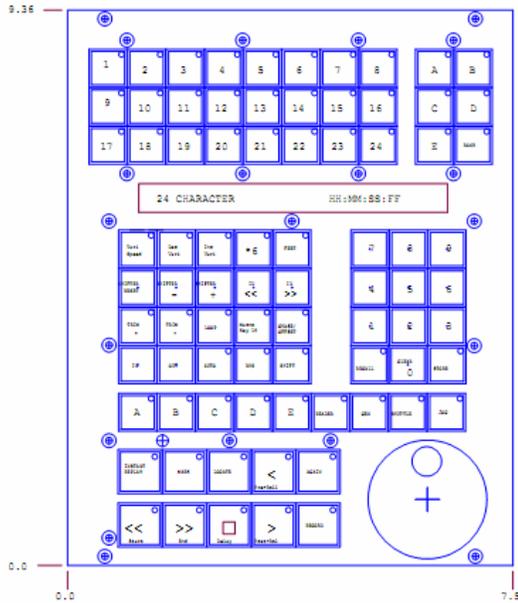
API Vision Consoles with CB Systems

University of Massachusetts Lowell

Galaxy Studios, Belgium

Custom API Control Panel

Black anodised 3mm aluminium panel to match console

CBServer

CBServer provides a Windows Graphical User Interface and online System Support using the internet.
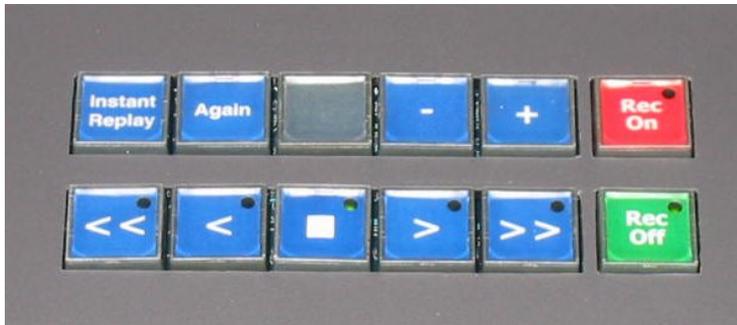
CBServer2

CBServer2 is a new version of CBServer that runs on Mac/Windows/Linux to provide Graphical User Interface and online System Support using the internet.

S29 Parallel Remote

One or more transport remotes connected in parallel may be positioned at different positions in the console.

S29 Panel

RS422 Patch Bay

Using a RJ45 or D9 patch bay to connect machines will allow connection to a selection of machines.

## Timecode, Video Sync and Word Clock Distribution

On Larger systems use distribution amplifiers, the input impedance on some machines can be as low as 50ohms and the mix of balanced and unbalanced inputs may also cause a problem.

Extra playback machines may be connected using timecode chase.

API 3: 3 port System

The API-SR (remote panel and SR-Hub) built into the console. Serial control, Timecode, Video and GPIO are connected to the SR-Hub mounted inside the console. Port A is connected via the USB-422 to the CBServer GUI. Ports B, C & D are available for machine control. The GP Outputs are used to drive the Record and Lock indicators in the GD-1 or LD-1 Timecode Display. Optional S29 Motion control panels may be connected to the GPIO Port.
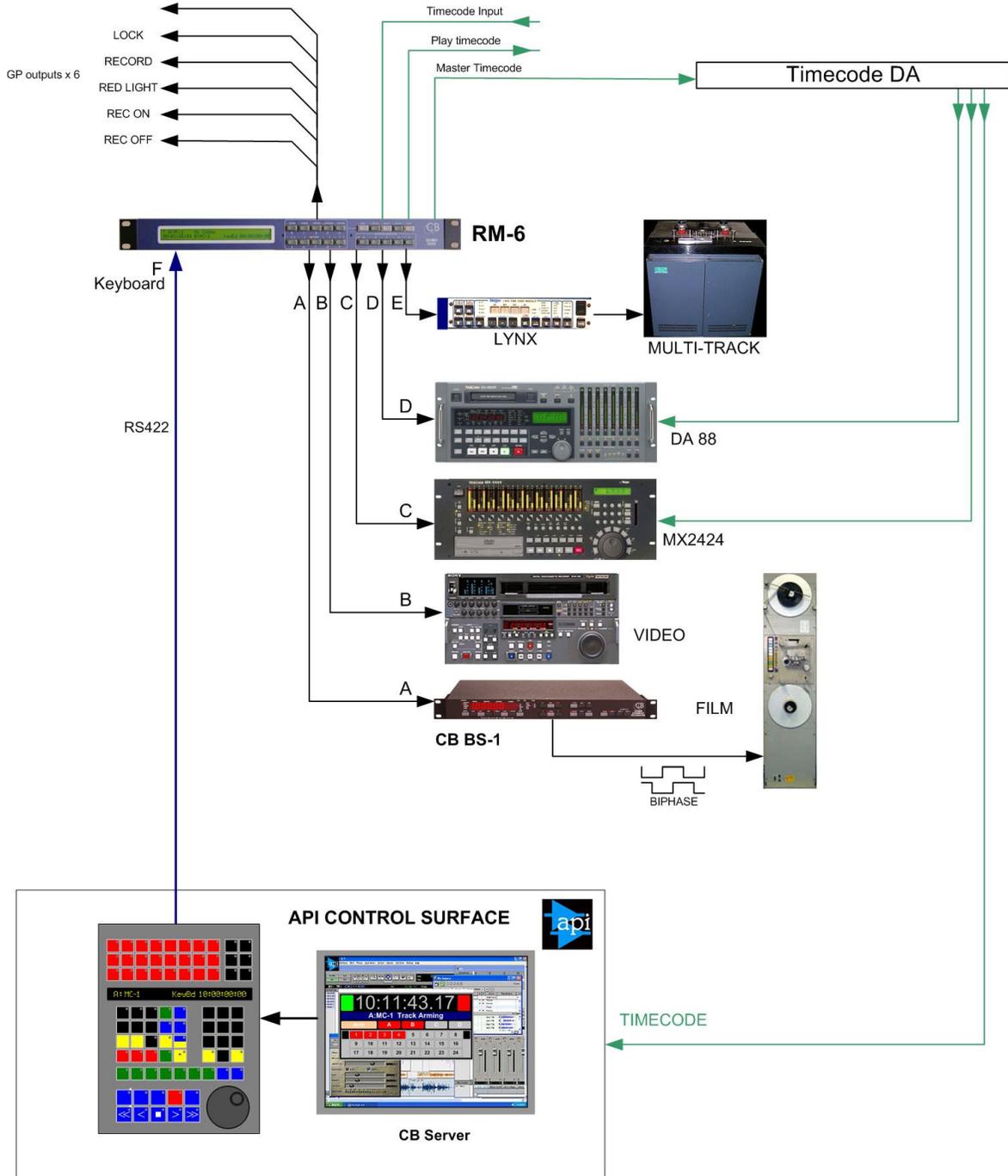
API THREE MACHINE SYSTEM
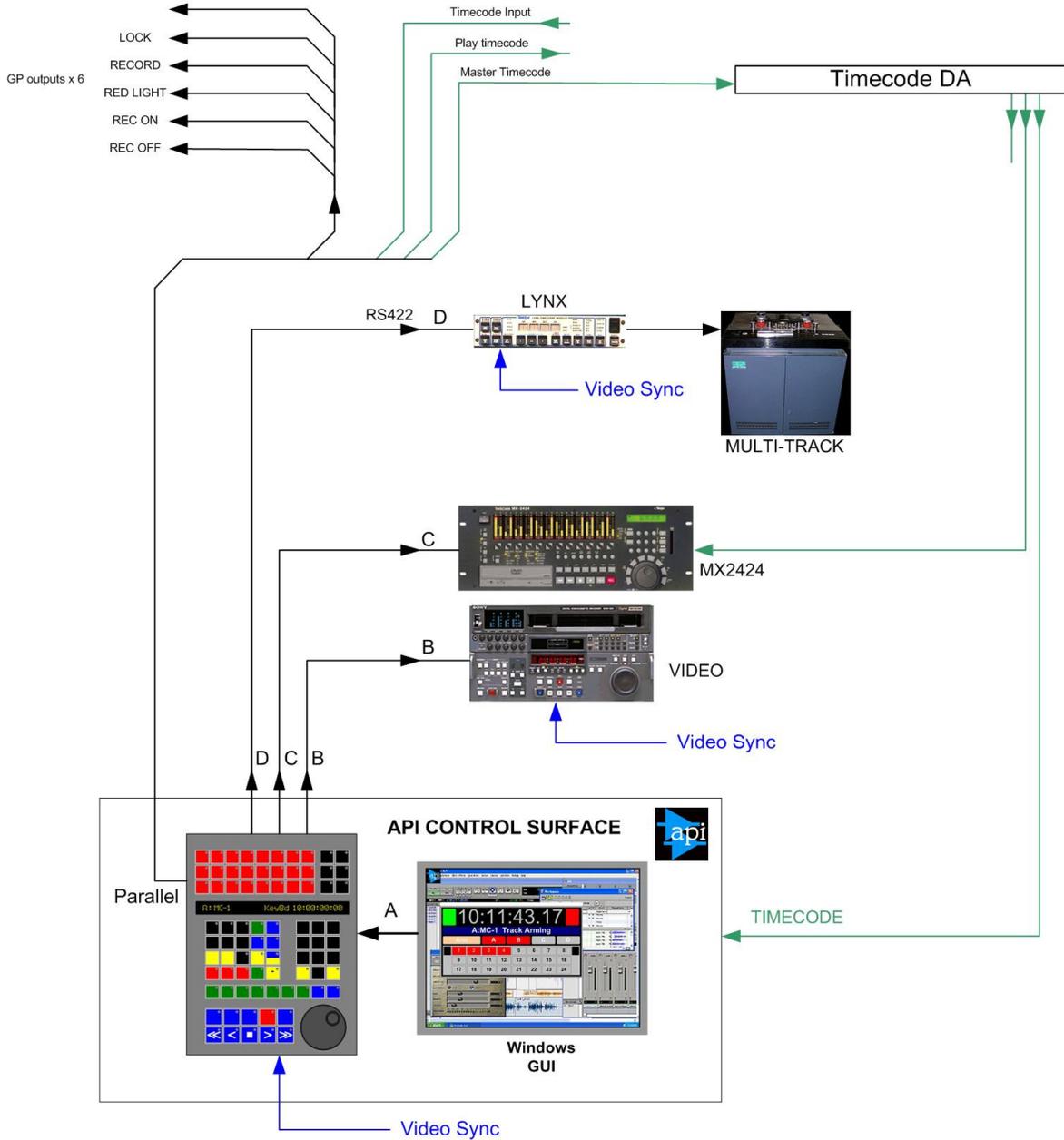
API-5: Five Port System

API-2x remote control panel and hub in the console connected to a RM-6 in the machine room simplifies the connections to the desk and expands the number of ports available. In the diagram below API-2x port A is connected via the USB-422 to the CBServer GUI. API-2x port B is connected to port F on the RM-6.

API FIVE MACHINE SYSTEM

API-7: Seven Port System

API-4x remote control panel and hub in the console connected to a RM-6 in the machine room simplifies the connections to the desk and expands the number of ports available. In the diagram below API-4x port A is connected via the USB-422 to the CBServer GUI. AP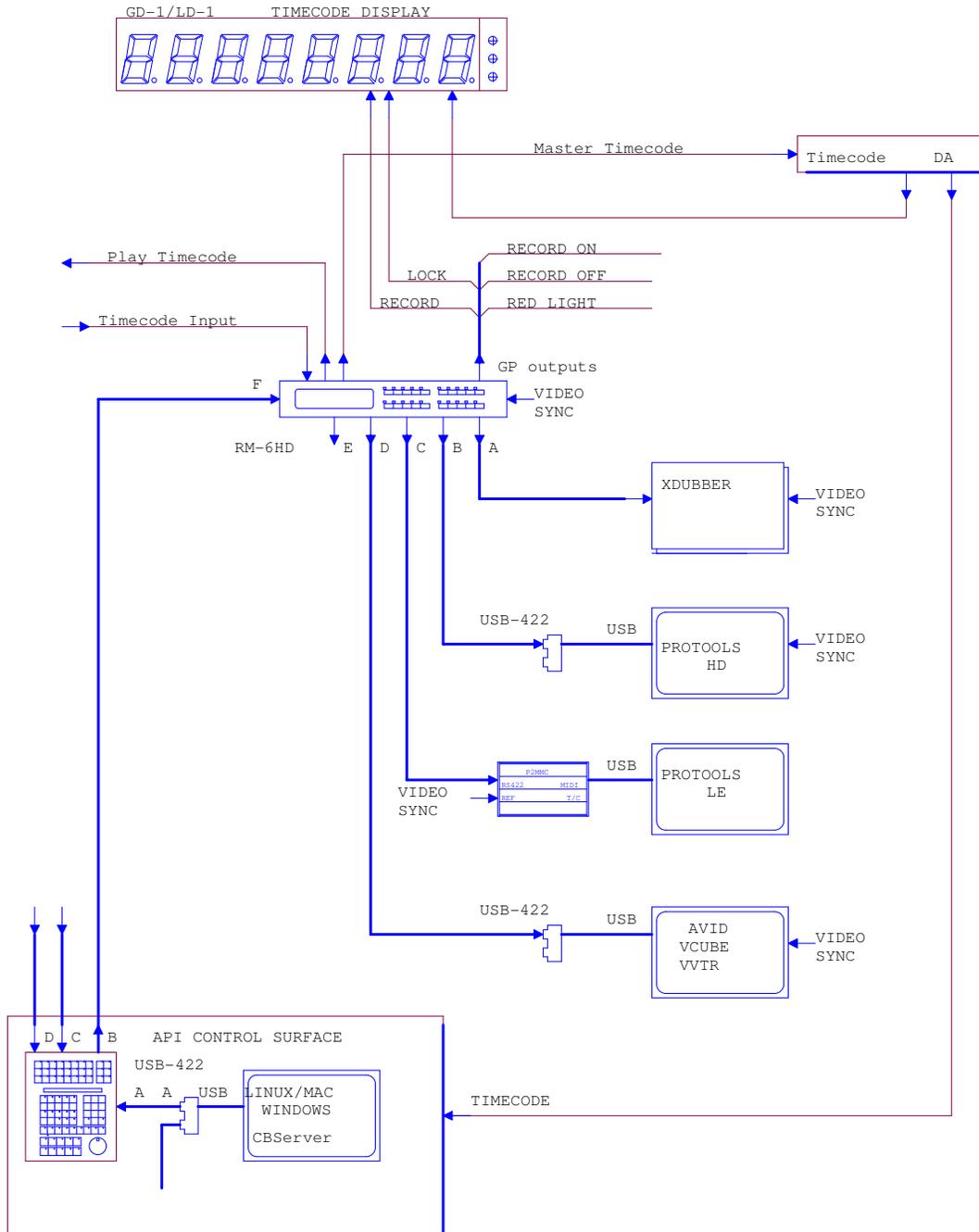I-4x port B is connected to port F on the RM-6. API-4x ports c and D may be used to connect with a DAW, or a UR422 remote control.

API SEVEN PORT SYSTEM

Connections:
API-3: API-SR (API panel with SR-3 Hub) mounted in the console
      Input Port: Serial A, pin connections determined by links on PCB behind port A, connects via the USB-422 to CBServer
      Output ports: B, C D with 1:1 cable, if used as Input must use tx-rx invert cable

API-5: API-2x (API panel with 2x Hub) mounted in the console
      RM-6 in the machine room
      API-2x Port A – connects via USB422 port A to CBServer
      API-2x Port B – connects to Port F on the RM-6
      RM-6 Port F - connect directly API Panel-Hub port B
      RM-6 Port E - Input/Output Port, pin connections determined by links on PCB behind port E.
      RM-6 Ports A,B,C,D - Output ports connect with 1:1 cable to machines (if used as Input must use tx-rx invert cable)

API-7: API-4x (API panel with 4x Hub) mounted in the console
      RM-6 in the machine room
      API-4x Port A – connects via USB422 port A to CBServer
      API-4x Port B – connects to Port F on the RM-6
      API-4x Port C – via Tx-Rx Invert – Control from DAW or UR-422
      API-4x Port D – via Tx-Rx Invert – Control from DAW or UR-422
      RM-6 Port F - connect directly API Panel-Hub port B
      RM-6 Port E - Input/Output: pin connections determined by links on PCB behind port E.
      RM-6 Ports A,B,C,D Output ports connect with 1:1 cable to machines (if used as Input must use tx-rx invert cable)

T5.03 RS422 (Sony 9 pin) CABLE Use on SR-4/SR-24 Ports A, B, C, D as outputs SR-24 ports E & F as inputs			
Function SR-4 (Controller)	9 pin 'D' Male on cable (Both Ends)	Cable Colour	Function (Controlled Device)
	1		
Rx-	2	Red	Tx-
Tx+	3	Yellow	Rx+
Ground	4	Screen	Ground
	5		
	6		
Rx+	7	Blue	Tx+
Tx-	8	White	Rx-
	9		

T5.04 Tx-Rx Invert Sony 9 pin CABLE Use On SR-24 port E when connected as an output to a machine,			
Function SR-24 port E	9 pin 'D' Male on Cable	9 pin 'D' Male on cable	Cable Colour
	1	1	
Tx-	2	8	Red
Rx+	3	7	Yellow
Ground	4	4	Screen
	5	5	
	6	6	
Tx+	7	3	Blue
Rx-	8	2	White
	9	9	