Harrison
Machine Control Systems

CB Electronics have designed four different systems for use with Harrison Consoles which can be combined with custom designed control surfaces to suit the different Harrison consoles. CB Systems provide a direct serial connection with the IKIS automation to provide the timecode reader and with the Harrison track arming.

The four basic systems are as follows.

- Harrison-4: 4 port system: SR-4HD with custom control surface built into console.
- Harrison-6: 6 port system: SR-6HD with custom control surface built into console with optional CBServer Windows/Mac/Linux GUI.
- Harrison-7: 7 port system: RM-6HD in the machine room with CBServer Windows GUI and UR-422 Motion Remote in the console.
- Harrisson-8: 8 port system: Custom control surface with RS-422 Hub in console, RM-6HD in machine room with optional CBServer Windows/Mac/Linux GUI.

LCD Display

All Remotes include a LCD Display, where possible they are built into the console surface. When this is not possible the display is housed in a low profile box that sits on the top of the display. The display unit has either two lines of 40 Characters or 4 Lines of 40 Characters and is supplied with 5 or 8mm high characters depending the space available. When used with CBServer it is also possible to run the system without a LCD Display.

Harrison MPC Remote Panel

Harrison 12K Remote Panel
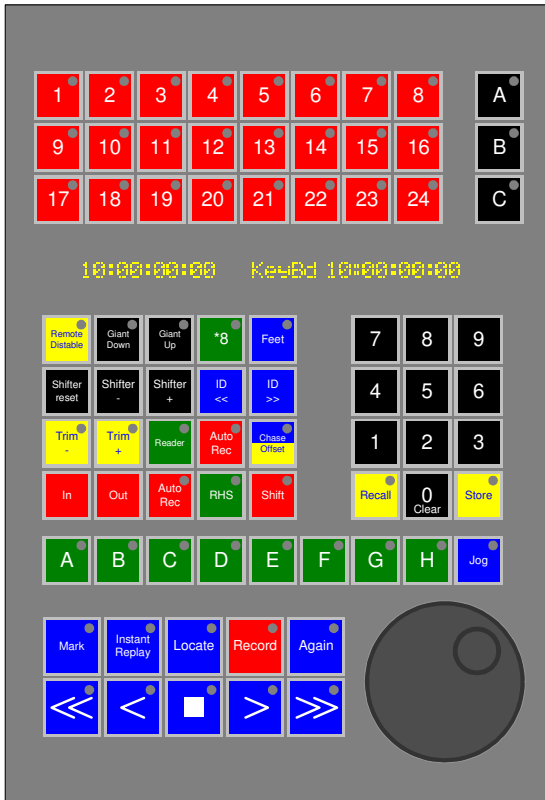
HARRISSON SERIES 12 PANEL

Harrison Trion Remote Panel

Future product

UR422 Remote

CBServer

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

CBServer2

Mac/Windows/Linux 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 Mounted in MPC

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.

Twickenham Film Studios

The Block diagram on the below is of an 8 port system installed in the main studio at Twickenham Film Studios, UK. This system was originally supplied for their analogue MPC with NuBus Automation, it was updated when digital replaced analogue. The system includes a custom motion control panel in the centre section and two S29 Motion Remotes. The CB system is used to link the Harrison paddles to a single multitrack machine or multiple 8 track machines and provide the timecode information for the Ikis automation.

In a recent studio upgrade an Icon console was inserted into the console surface, the motion control output of the Icon is connected to the hub for timecode and motion control. CBServer is run on a separate Windows computer.

Harrison 8 Port MPC System
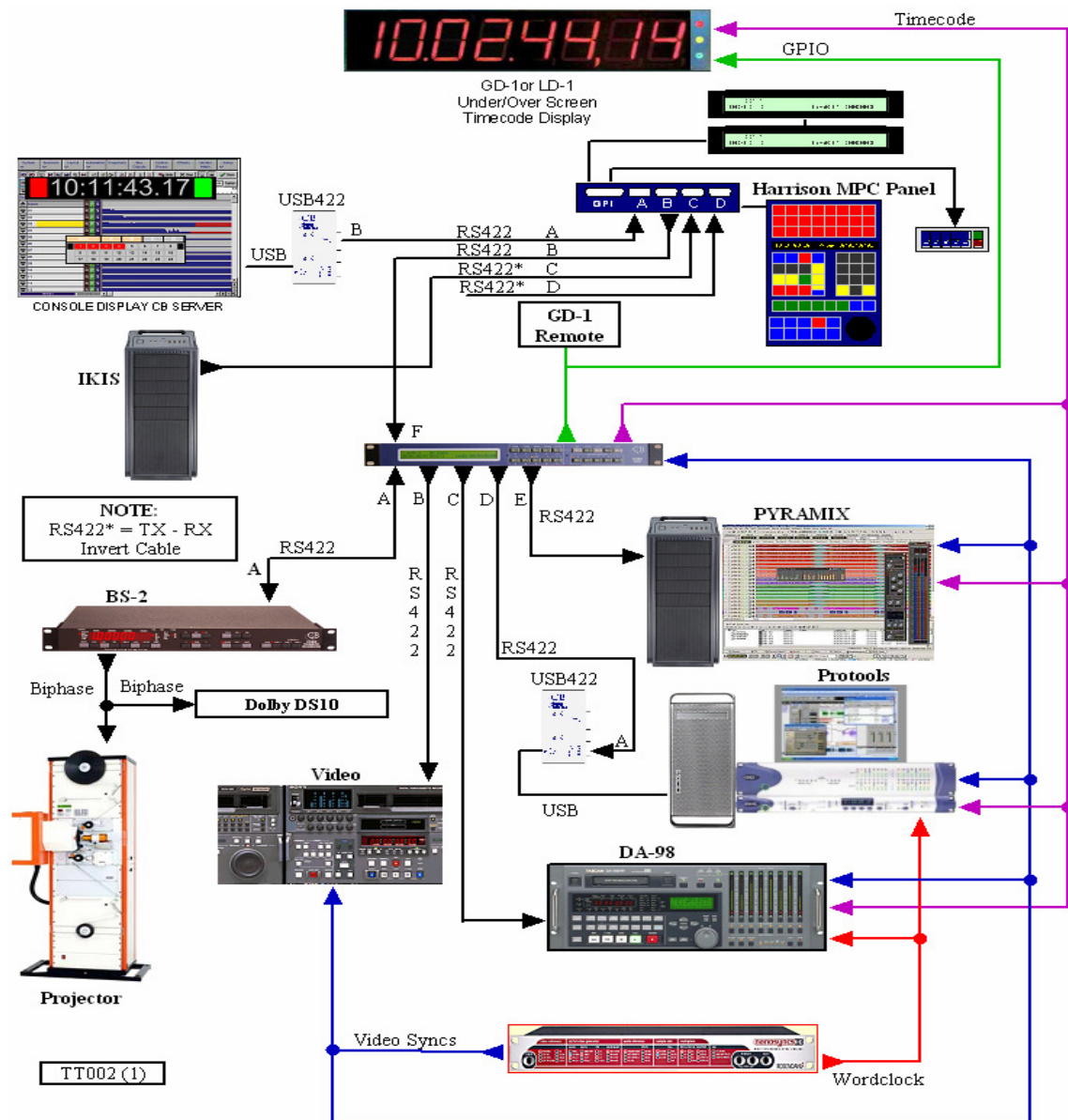
Harrison 4: 4 port System

A SR-4 with custom remote panel is built into the console. Serial, Timecode, Video and GPIO are connected to the remote in the console. Port A is connected to the Ikis Machine control port using a standard 9 pin cable. Ports B, C & D are available for machine control. The GP Outputs are used to drive the Record and Lock indicators in the Giant Display. Optional S29 Motion control panels may be connected to the GPIO Port.
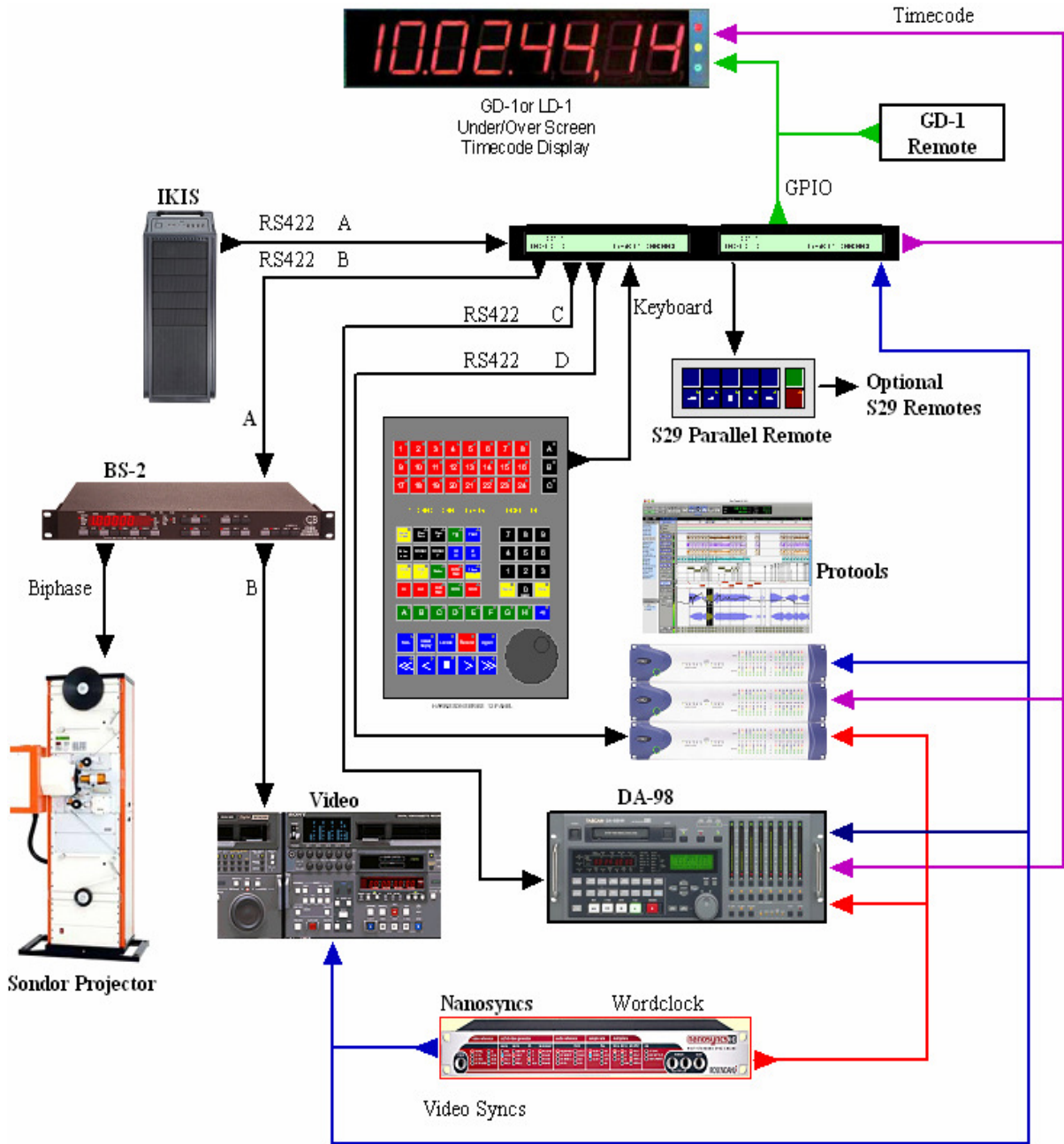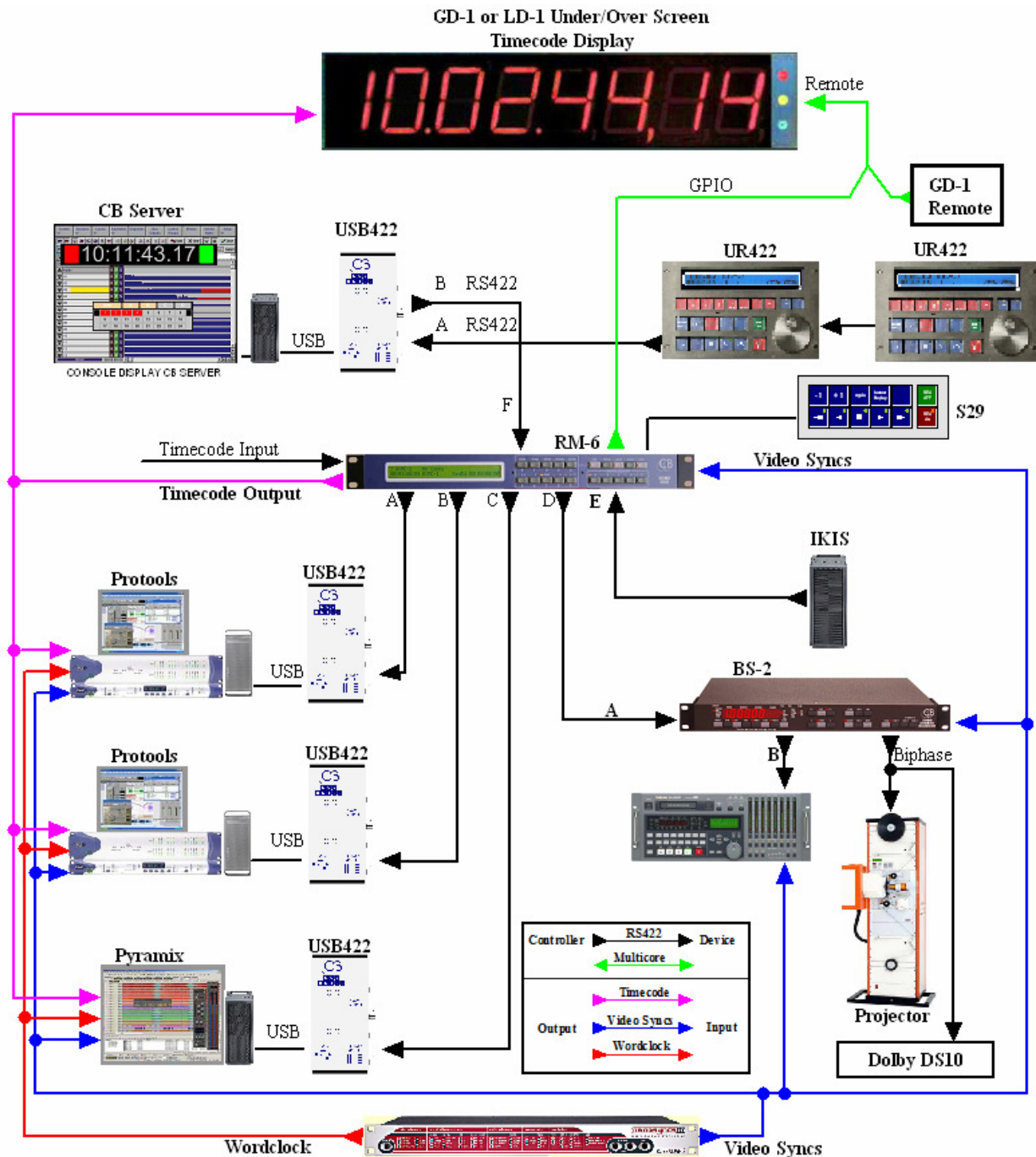
Harrison-6: Six Port System

A SR-6 with custom remote panel is built into the console. Serial, Timecode, Video and GPIO are connected to the remote in the console. The IKIS RS422 Port is connected to port E or F. The block diagram below shows CBServer connected to Port Port F, Ikis connaected to port E with ports A, B, C & D available for machine control. The GP Outputs are used to drive the Record and Lock indicators in the Giant Display. Optional S29 Motion control panels may be connected to the GPIO Port.
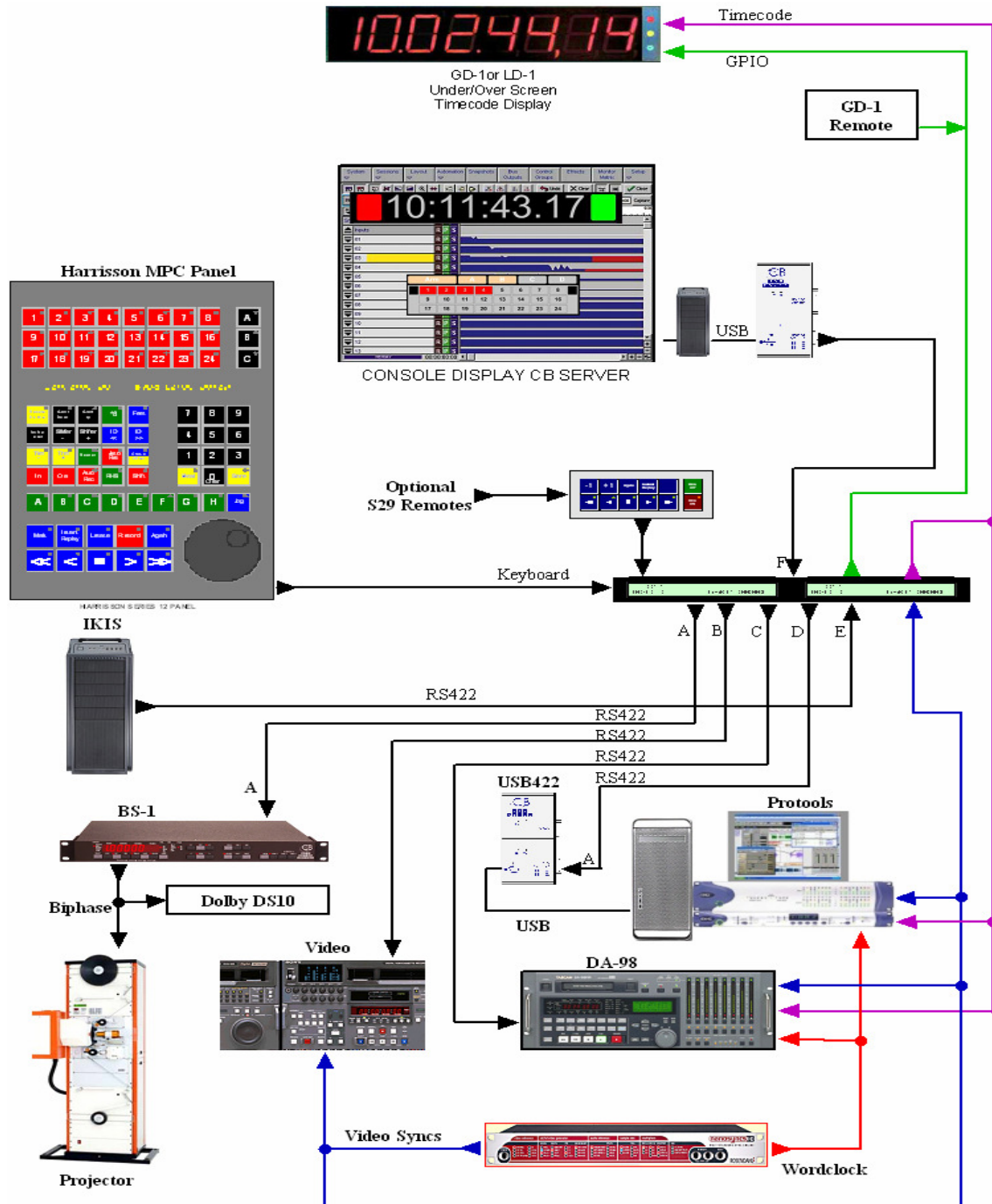
Harrison-7: Seven Port System

RM-6 in the machine room with a UR-422 Remote on or in the console. The IKIS RS422 Port is connected to port E or F. One the system below Port F on the RM-6 is connected to CBServer. Port E is connected to IKIS. The UR-422 is connected to CBServer; a second UR-422 may be connected in daisy chain. Ports A, B, C, D & E are available for machine control.

The GP Outputs on the RM-6 are used to drive the Record and Lock indicators in the Giant Display. Optional S29 Motion control panels may be connected to the S29 port on the RM-6.

Harrison-8: Eight Port System

Using a RM-6 in the machine room with a remote control panel in the console simplifies the connections to the desk and expands the number of ports available (3 input ports and 5 output ports). In the diagram below port D on the hub is used to interface with the Harrison IKIS automation, port A on the hub is connected CBServer, the third input may be used to connect with a DAW.

8 port System for Harrison Consoles
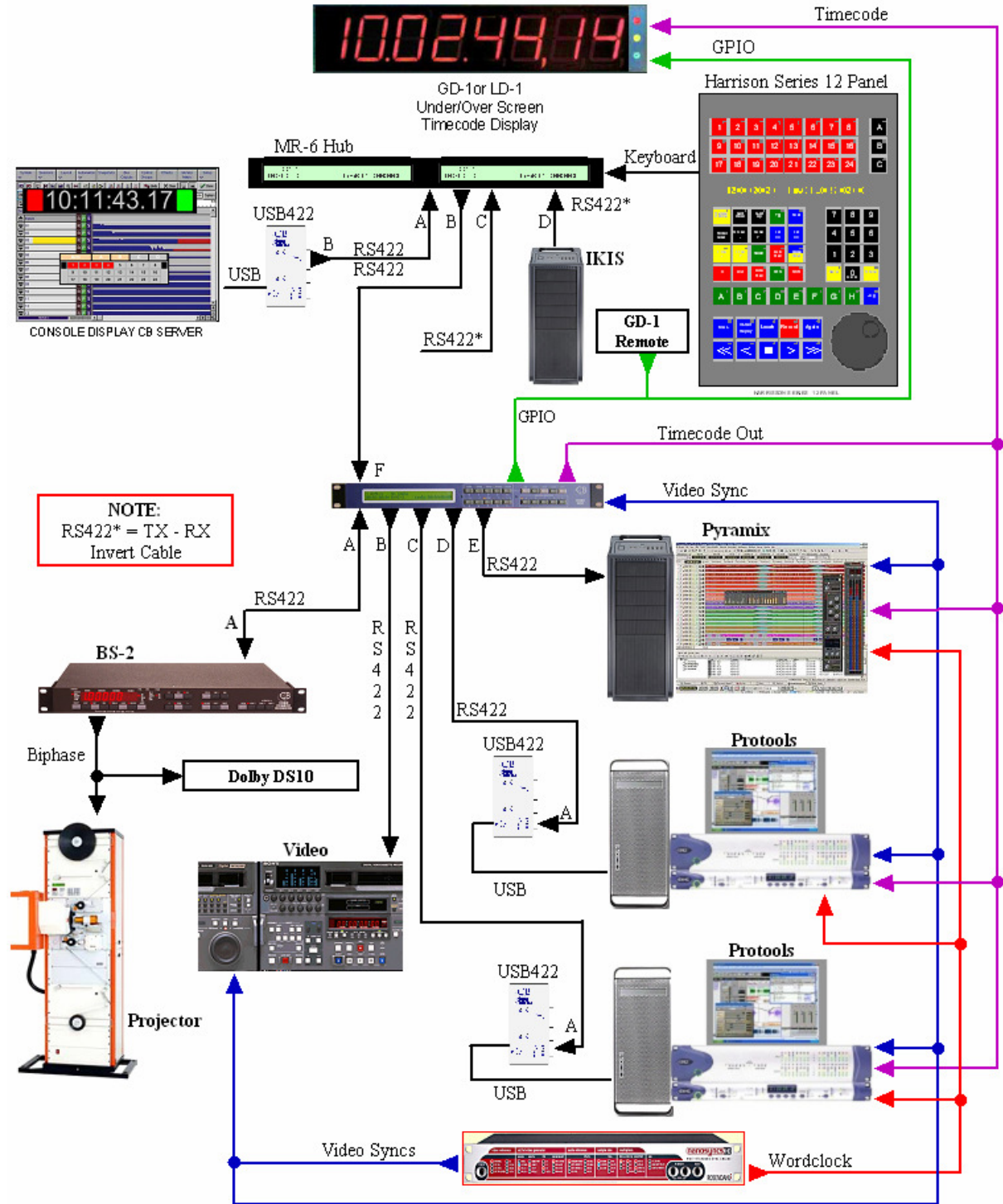
Harrison-4:- Harrison Panel in console, Dual LCD SR-4 Hub			
Dual LCD Hub	A: Input	IKIS RS422 Port	1:1 (Links)
	B,C,D: Outputs	Machine Control	1:1
	GPIO	S29 Remote Timecode Display - Lock and Record	

Harrison-6:- Harrison Panel in console, Dual LCD SR-6 Hub			
Dual LCD Hub	F: Input	CBServer USB-422 port B	1:1
	E: Input	IKIS RS422 Port	1:1 (Links)
	A: Output	Machine Control	1:1 (Links)
	B,C,D: Outputs	Machine Control	1:1
	GPIO	S29 Remote Timecode Display - Lock and Record	
CBServer	A: Input	Serial Remote Control Input	1:1 (Links)
USB-422(V)	B: Output	RM-6 Port F	1:1
	GP Output	Timecode Display Remote Control USB-422V has GP Output	

Harrison-7:- RM-6 in machine room, CBServer, UR-422 Remote in Console			
UR-422	A: Input	Connect to 2nd UR422 port B	Tx-Rx Invert
	B: Output	CBServer USB-422 port A	1:1
RM-6	F: Input	CBServer USB-422 port B	1:1
	E: Input	IKIS RS422 Port	1:1 (Links)
	A,B,C,D,E: Outputs	Machine Control	1:1
	S29	S29 Parallel Remote	
	GPIO	Timecode Display – Lock and Record	
CBServer	A: Input	UR-422 port B	1:1 (Links)
USB-422(V)	B: Output	RM-6 Port F	1:1
	GP Output	Timecode Display Remote Control USB-422V has GP Output	

Harrison-8:- RM-6 in machine room, Dual LCD Hub and custom keyboard in console			
Dual LCD Hub	A: Input	CBServer USB-422V Port B.	1:1 (Links)
	B: Output	Port F on RM-6	1:1
	C: Input	IKIS RS422 Port	Tx-Rx Invert
	D: Input	From Remote Control	Tx-Rx Invert
	GPIO	S29 Parallel Remote	
RM-6	F: Input	Port B on Dual LCD Hub	1:1
	E: Output	Machine Control	1:1 (Links)
	A,B,C,D,E: Outputs	Machine Control	1:1
	GPIO	Timecode Display - Lock and Record	
	S29	S29 Parallel Remote	
CBServer	A: Input	From Remote Control	1:1(Links)
USB-422(V)	B: Output	RM-6 Port F	1:1
	GP Output	Timecode Display Remote Control USB-422V has GP Output	

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	