ELECTRONIC SCOREBOARDS

AUSTRALIA

SVI -R9

Scoreboard to Video Interface

::> NBL - FIBA Level 1 and Level 2 + STATS

:> Scoreboard- Basketball, Netball, Volleyball

:> Football,Cricket,Rugby

> Library Layouts

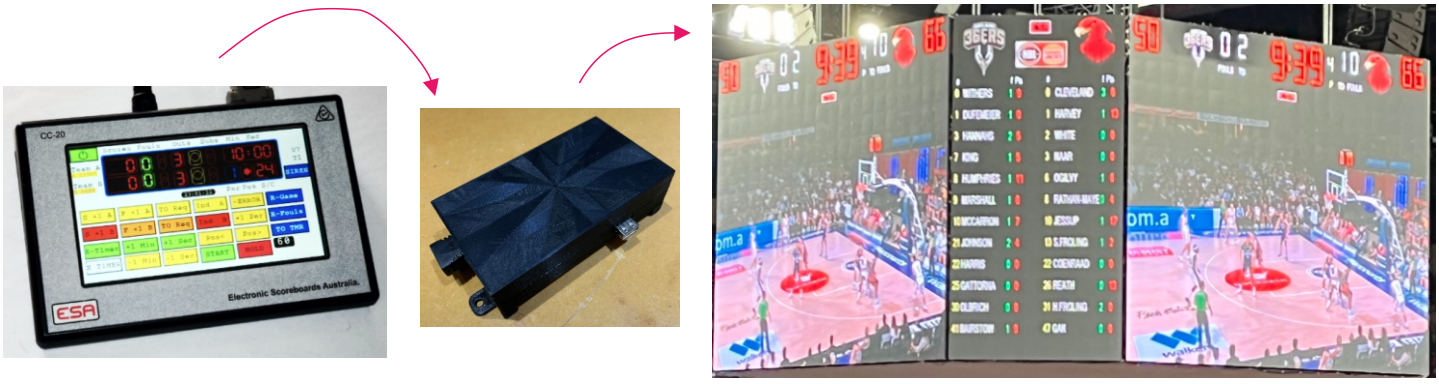
About the SVI (Scoreboard to Video Interface)

The SVI device is an INTEL computer stick with an external controller (MPU-SVI).

The Controller monitors the serial information from the radio receiver, (Xbee-900mhz), and receives instructions from a CC-20 Control Console and communicates back to the CC-20 relevant information.
This controller will feed the INTEL stick with the information it requires and well as POWER switching of the INTEL stick.
The controller is programmed with a timer (in minutes) to automatically power down the INTEL stick when there has not been any communications for the set time. (Max 255 Minutes (approx 4 hours),. if it is enabled to do so.

The INTEL stick is a windows 10 computer, Its basic function is to draw graphics on the screen containing relevant scoreboard information, Time, Scores. Fouls ETC, and then display them on a video screen via the hi-resolution HDMI interface.

Each of the 162 Graphic User Interfaces (GUI's) can be modified to suit the layout required to display the information sent to it from a CC-20.



The SVI has an external accessible USB connecter. This is to enable the update of the images to be displayed. Team Logo's, Advertising frames ETC.

The USB interface also enables future firmware updates. When the INTEL stick is first powered ON it will look for a USB thumb drive containing an updated firmware then automatically install it.

NB: This INTEL computer dose NOT connect to the internet, there will be no forced updates of the windows 10 operating system, nor dose it require a PIN when booting.

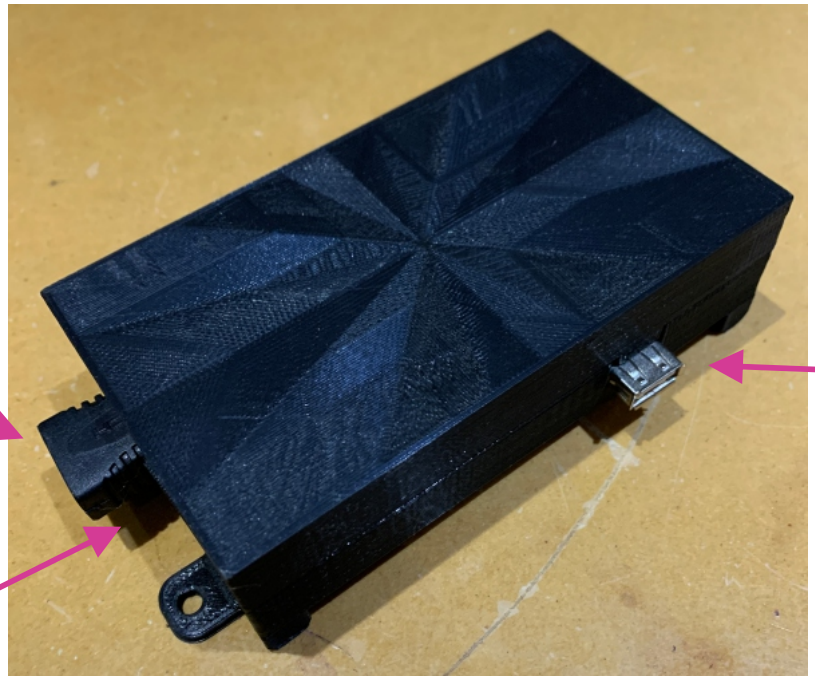
2K or 4K screens. >> The Windows 10 computer (Intel Stick) will always sync to the monitor connected to it, therefore the scale is fixed to 100% to allow for a 2K screen. (1080 x 1925). Each layout is saved (in the library of layouts), for 2k only. Using the SCALE factor the layouts can be expanded to 200% for a 4k screen or reduced for a lesser screen. eg 65%,

CC-20 to SVI

SetUp:-

The ESA-SVI unit is preset with the game screens built in.
Basketball
Netball
Volleyball
Futsall
Football
Cricket.
NBL and FIBA pages
STATS

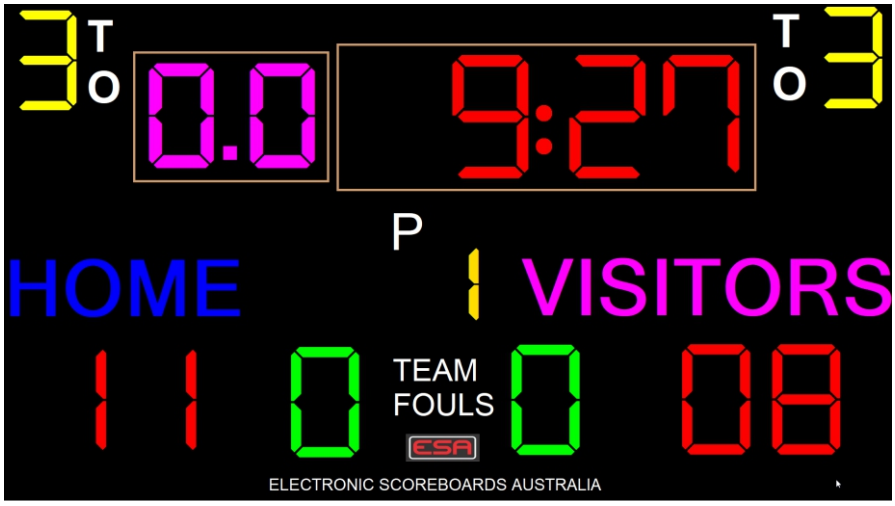
Any page will differ depending on the screen type used. (TV Set or Stadium Screen)
NB:- Any of the 10 screens can be loaded with any of the library screen layouts.



When the SVI module is first plugged into the power, using the supplies 5V Plug Pack, it will turn on automatically, thereafter power switching is remote via the cc-20's Power command or from the controller App.

Set Up and Displaying GUI's on a TV Screen form a CC-20

All GUI's (162) can be positioned x,y and sized h,w, and given a foreground, and background colour, font type and size. To access the setup driver, enable a CC-20 SVI_SETUP. from the menu find and select SVI_Setup .



Pressing to POWER on button will power on the SVI device. Wait for the SVI to boot. The SVI will boot into the layout that was being displayed at last power down.

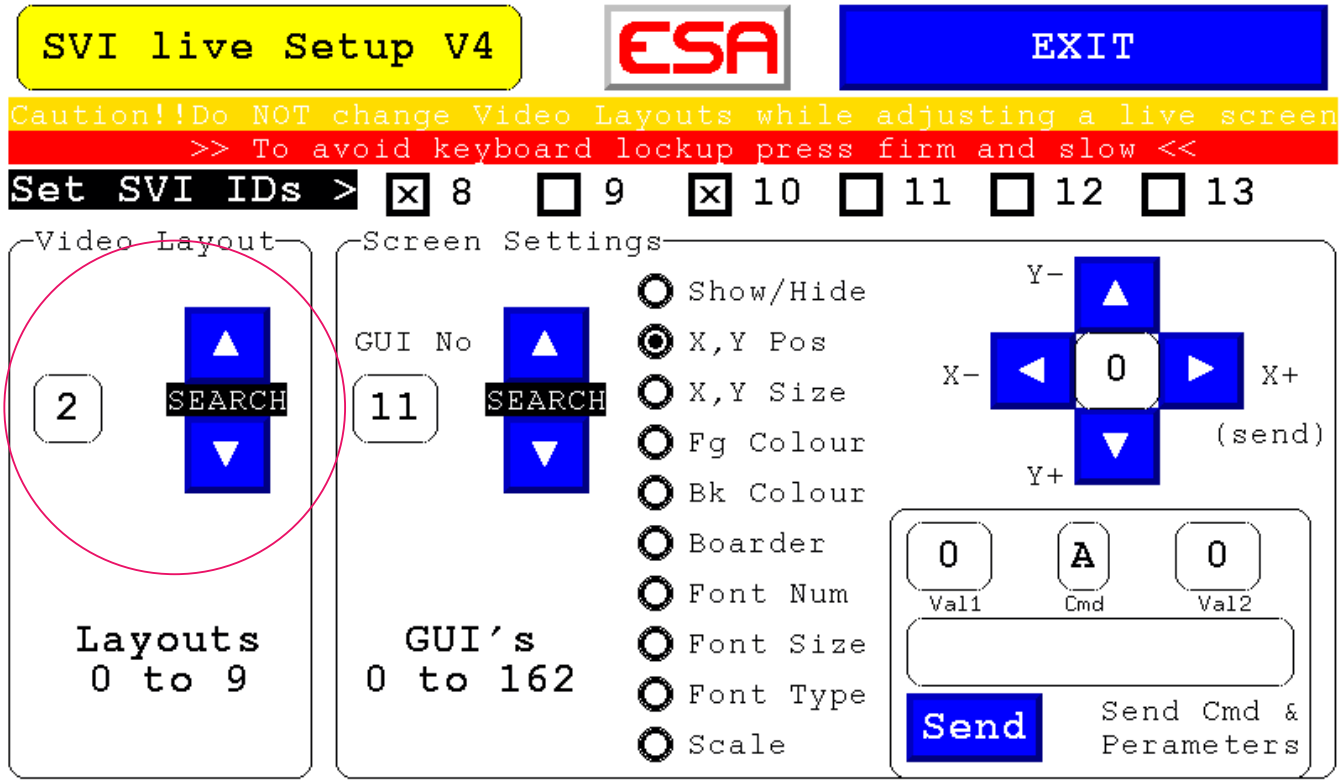
From SVI controller

From MASTER Menu

SB & SVI OFF SB & SVI ON

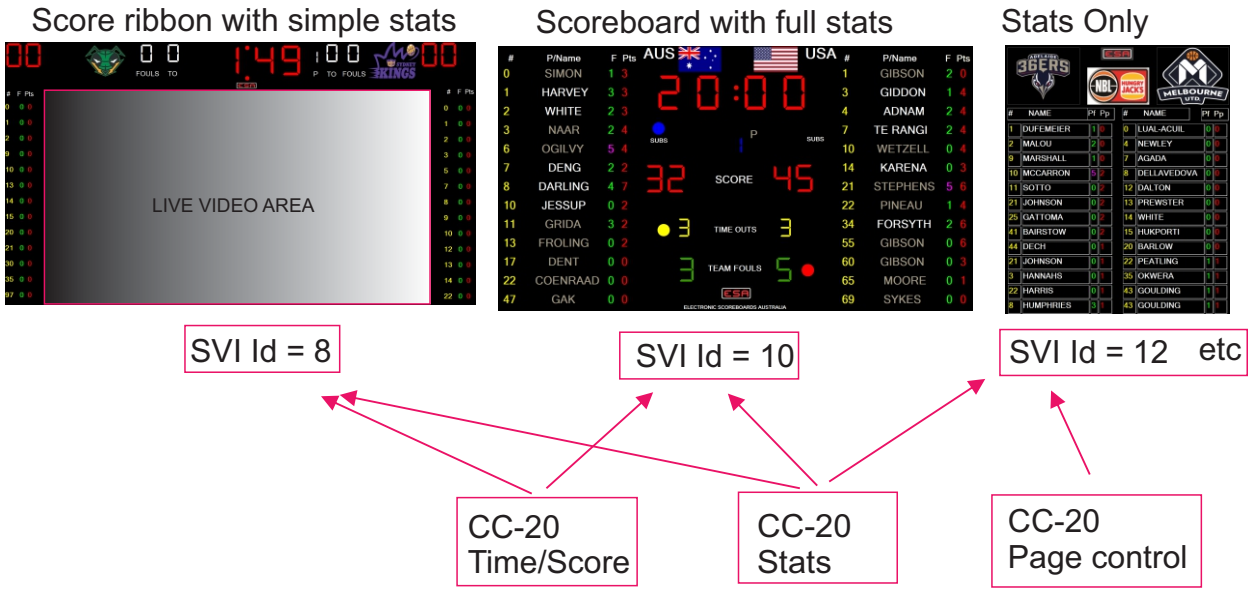
NB This APP will NOT automatically send power on/off instructions, It can be used while the SVI is in use to adjust a GUI if required.
Select the SVI ID to EDIT (8-13) NB Default ID = 8 for single SVI instulations.

There are 10 screen of layouts that can be programmed and displayed. Caution!! Only Select the "LAYOUT" no 0 to 9. to display if this is NOT a live game.

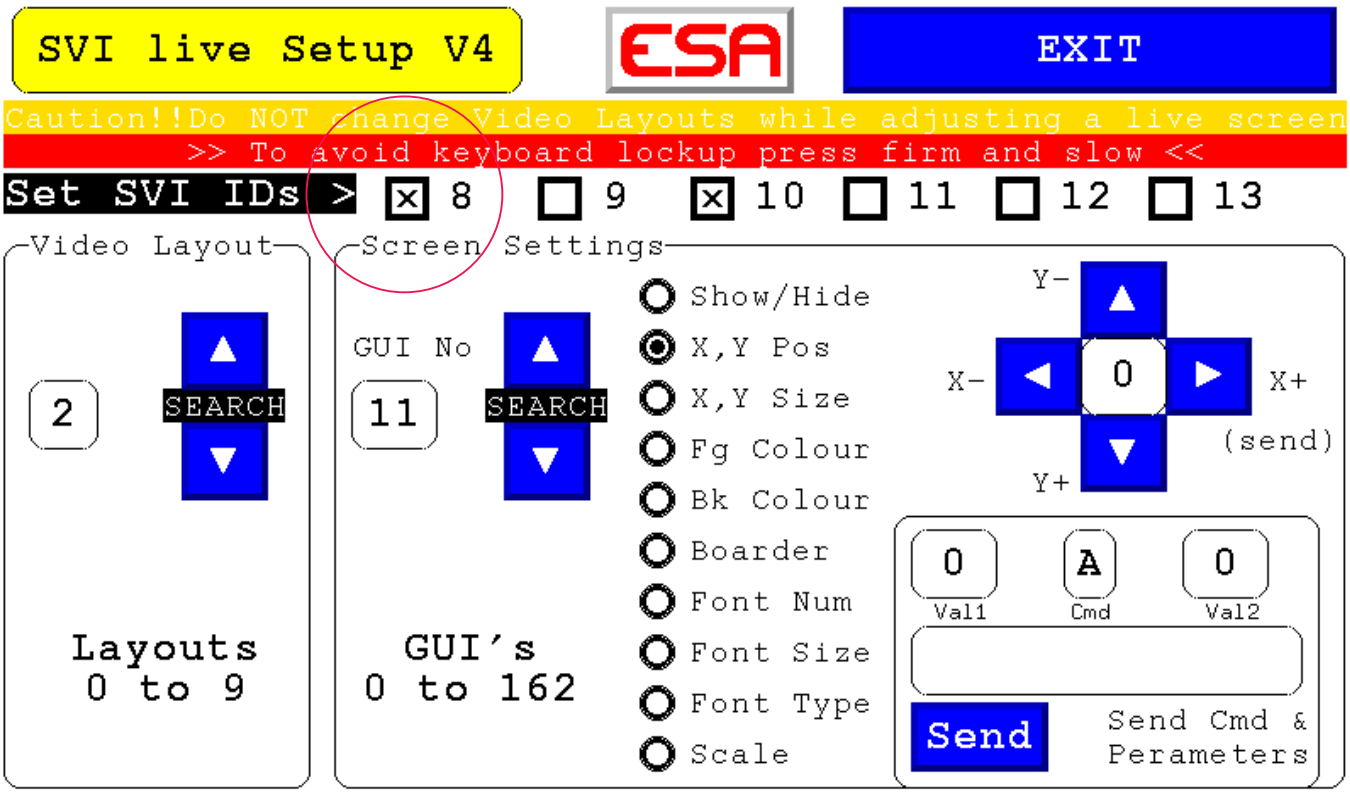


Multiple SVI Units.

This SVI system can drive as many SVI modules as required for an installation (255 max). The supplied SVI Setup app is setup to control up to 6 SVI modules. Each SVI can be setup using its unique ID, and can display information from common or separate sauces.



The CC-20's are used to tell the SVI the display page number to use (0-9) and can control all the connected SVI's simultaneously, However when using the CC-20's app to setup an SVI, it must only act on the SVI(s) that matches the ID. The SVI's will be supplied with a pre-programmed ID, but can be changed if required with a special APP



NB:- Multiple SVI's can be enabled together.

All GUI's are shown on the default layout page . (for GUI reference only) The GUI numbers are fixed for their specific functions. Time, Scores, Fouls, Stats etc. Some GUI's are for general purpose use and can be used for anything required. See GUI usage pages.

GUI No to EDIT :-

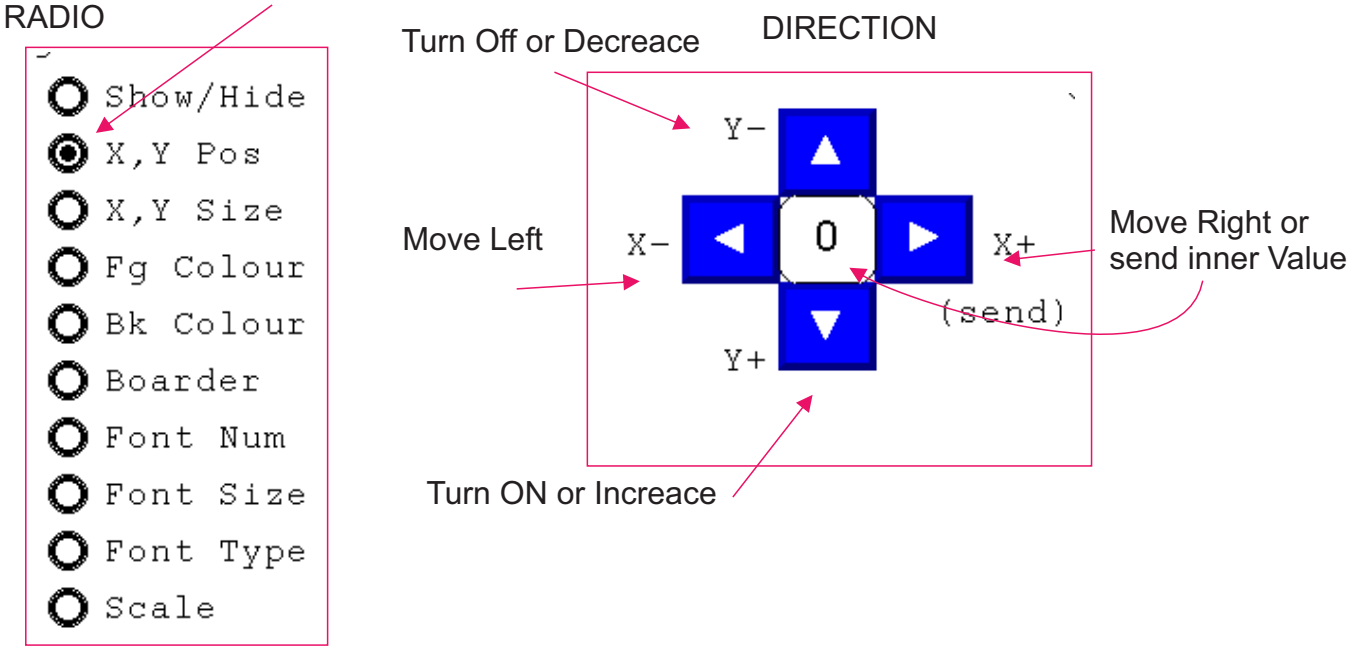
Enter the GUI number to edit or use the search buttons to go to the next or previous GUI.

This will set the commands from the RADIO selection to only act on the GUI number selected.

RADIO Buttons and DIRECTION :-

When a GUI number is entered, it can be edited using the Radio buttons and then useing the direction buttons to move,size and adjust that GUI.

Hi-light the radio button to adjust a GUI



Show/Hide the GUI. pressing the UP button will HIDE, and DOWN button will SHOW.

X,Y Position, Shift the GUI (Upper left hand corner as referance)

X,Y Size, X+ makes the GUI wider, Y+ makes it higher. use Up/Down, Left/Right buttons

Fg and Bk Colour Sets the Foreground or Background colour of the GUI.

Border. Turns the border of the GUI on or off. Turn it on to position and size the GUI then normally it is turned off.

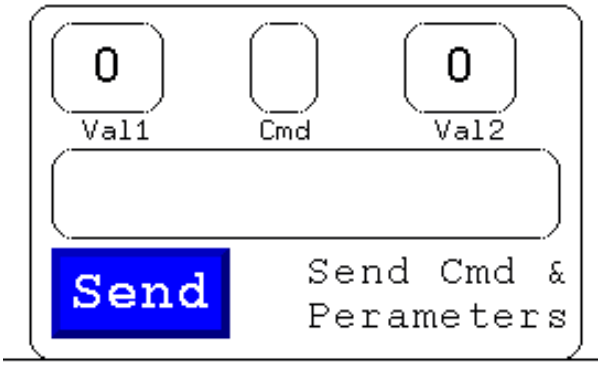
Font Number, See the page on installed fonts. eg Font 1 is "Arial"

Font Size, Makes the font the size to fit the GUI frame

Font Type, Standard, Bold, Italic ETC

SCALE :- This acts on the whole SVI device and layout, every GUI is rescaled to fit the resolution of the video screen. NB:- The SVI will automatically lock itself to the resolution of the HDMI video device it connects to.

Commands



The SVI unit will respond to commands sent from this window to directly control the specific functions of the GUI's

Each command can have 3 variables, Val1, Val2, and some text.
The command is the Cmd value, the commands are 0-9 and A to Z.

These commands will act on the Current GUI, or Current Layout, or Globally on the entire system.

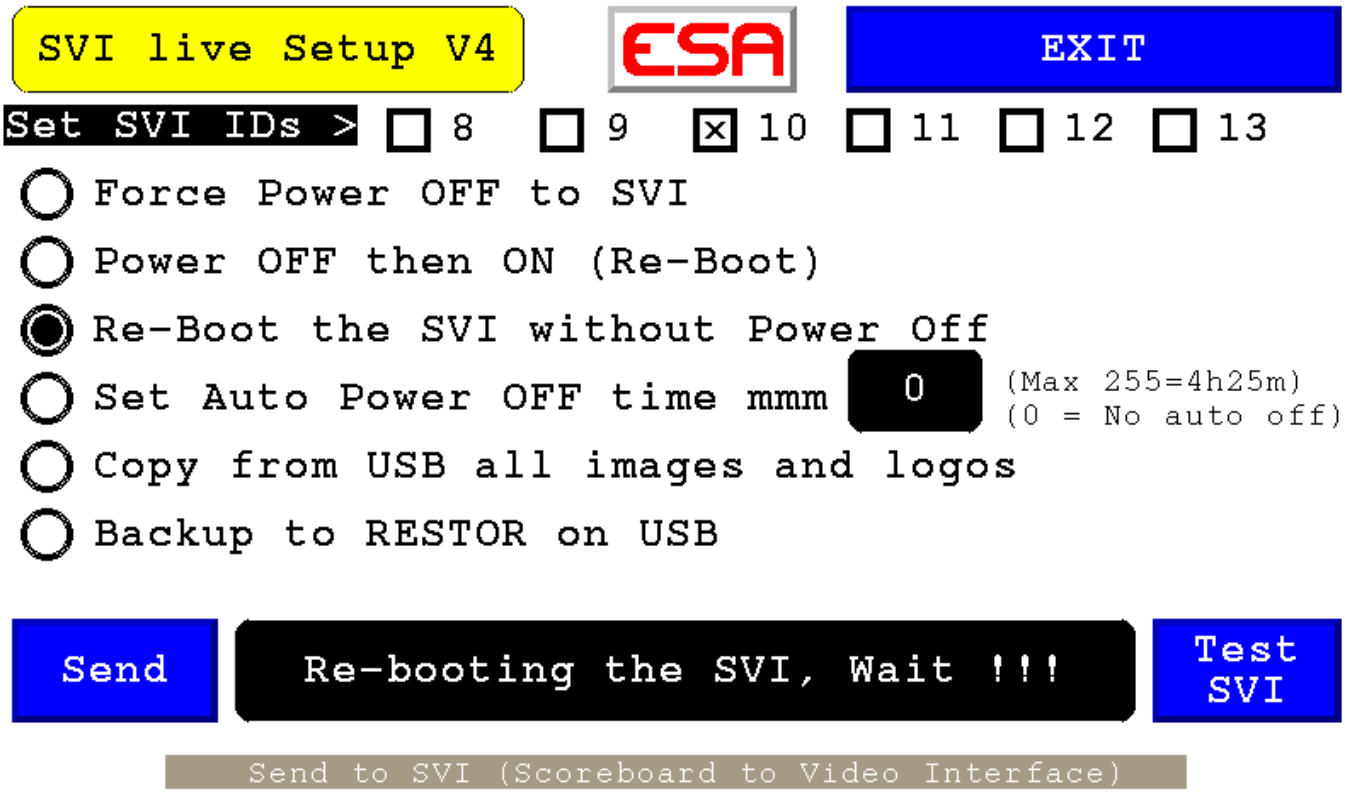
Command "A" is a special Command. It tells the SVI to perform special instructions for the current displayed layout screen only.

!! important !! Set the ID of the SVI that is to be controlled. (8 - 13)

Enter all four values (Up to 4) and press the SEND button..

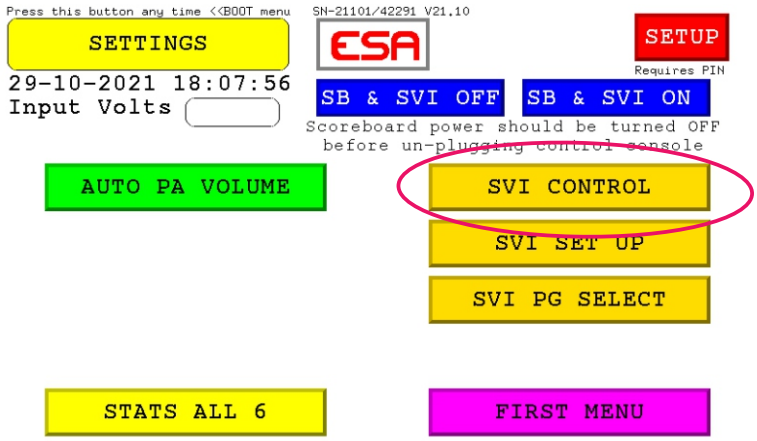
All of the COMMANDS are listed and all the COMMANDS for "A" are listed separately with a detailed description and action of each.

A few of the commands are also controlled via the SVI Control App.



SVI Control

This App can be accessed from any of the CC-20s that have a RADIO, however the app is found on the same menu page as the Auto PA Volume control, so that CC-20 can be used. (It normally resides next to the SVI unit and the sound System,)



Hi-Light the RADIO button for the action to take, then press SEND.

Shut Down the SVI :-

Tell the Intel Stick to end the application.
This will NOT turn the power off to the Intel Stick. so after it has shutdown do a force power off, or just go to force power off

Force Power OFF to SVI :-

This will remove the power from the Intal Stick, wether the application is still running or not.

Power OFF then ON :- Re-Boot.:-

The Intel Stick is a windows 10 PC, So sometimes a power down or power up sequence can be corrupted, so the Intel Stick may require a Re-boot.

Re-boot the SVI without Power Off:-

If there is a Firmware update, Images To update, or Re-boot to clear an error, the Re-booting without power down is an option.

Set Auto Power Off time in Minutes:-

Set this time so the Intel Stick will power down automatically. Setting to 0 will stop the auto Power down, other wise it will power down after the set time when communications finish.

Copy from USB all JPG's and logos :-

Sending this command any time will fetch all the images off the USB stick in folders 0 to 6 and place them into the Intel Stick in folders 0 to 6.
When this is done the images that are currently being displayed will be deleted while the transfer is in progress, then the new images will re-appear.

Please keep the images on the USB stick to a minimal to save transfer time by only placing the new images into the folders required for transfer. The existing images will be replaced with the new ones and other images will remain on the Intel Stick.

All images are kept both on the USB stick under "Image Library" and in the appropriate folders on the Intel Stick.

USB Stick and Firmware Update

The USB Stick contains all images and Firmware for the Intel Stick.

.Folders 0 to 6 are the image folders for transfer to the Intel Stick.

“Image Library” :- Where all the images are stored.

“Layouts” :- A library containing the saved screen layouts.

“FindUSB” :- Is a system folder for the Intel Stick. (Please do NOT remove).

”Update” :- This folder containing the latest version of the Firmware.

“Restore” :- Contains a backup of systems files.

Other files on the USB stick could be system backups etc.

Manuals can be viewed on a mobile phone, tablet or PC.
Go to http://112.213.32.25/manuals8a
nb the “http://” can normally be left off, just use 112.213.32.25
or go direct to this SVI Manual by scanning the QR Code

Long Version (this version)

Short Version (commands Only)

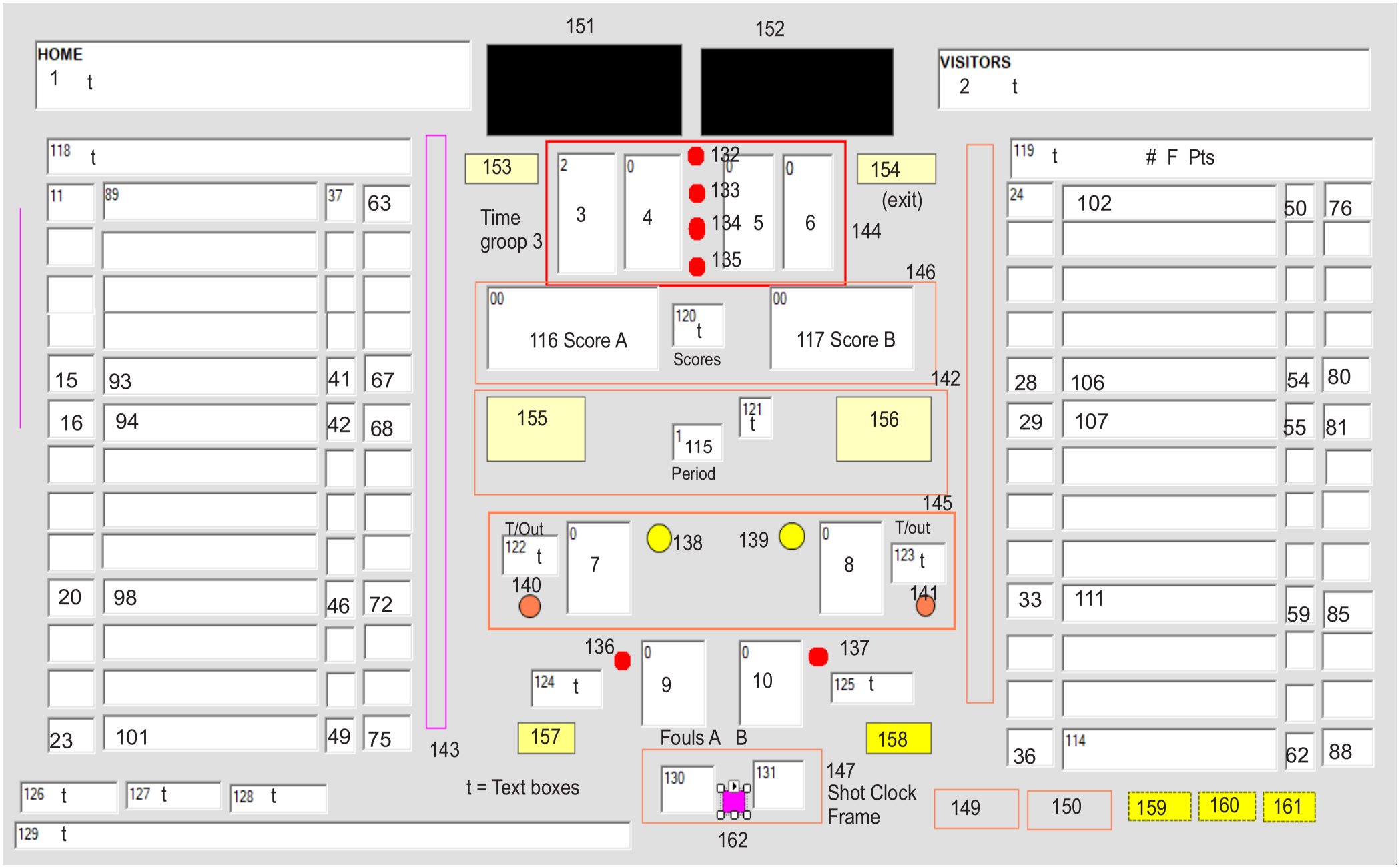
UpDating Firmware. :-

When a Firmware update is required the file can be emailed, This will be in ZIP format.

Unzip the folder, there will be three files, SBTVI.exe , Launcher.exe and Version.txt.
Copy and Paste all files into the folder “Update” on the USB stick, overwrite the existing ones.

Place the USB Stick into the SVI unit and boot (re-boot) the system.
The new firmware will be transferred and installed.

If the SVI Control App is running, the progress is displayed in the window.


All GUI's Show, NB:- this is NOT a layout, only shown to display all GUI's
HOME
1 t
151
152
VISITORS
2 t
118 t
119 t # F Pts
153
154
(exit)
Time groop 3
144
146
116 Score A
120 t
Scores
117 Score B
142
155
156
121 t
1 115
Period
145
T/Out
122 t
140
138
139
T/out
123 t
141
136
137
124 t
125 t
157
158
Fouls A B
147
Shot Clock Frame
162
143
126 t
127 t
128 t
129 t
t = Text boxes
149
150
159
160
161

Grouped GUI's

Since this unit is designed specificly for scoreboard and stats display, some of the GUI's are grouped together, this method makes it quicker and easier to position and size a group of GUI's.
EG, the Time display consist of gui's 3,4,5,6,132,132,134 and 135. Selecting GUI 3 will therefore move and size all of this group together.

TIME display:-

The Time display is 4 digits with a colon, this uses GUI's 3 to 6 for time digits, and UGI's 132 to 135 for the colon, These GUI will only ever be used for the time display

When the GUI no 3 is selected and a radio button, it will act on all the GUI's in the group.

The time display will be drawn on the screen with digits 3,4 then colon then digits 5,6

Shot Clock Display :-

These GUI's can be used for general purpose if the Shot Clock group is turned Off
See Command flag A11

STATS:-

Stats, (Personal player information Personal Fouls, Points ETC) uses GUI 11 to 144. Depending on the usage for STATS will depend on the way the GROUPED GUI's will be arranged.

The GUI No 11and radio X,Y Pos, is the master command for the grouped STATS layouts and the command A 0 will determine the layout of the group.

Create STATS group sequence:-
Set the Video Layout page to a layout page to be used.
Use Command W with pin Val1= 20, Val2 =12 to completely wipe any thing displaying on the screen. All GUI's are now hidden and placed in the TOP LEFT Corner of the layout.
Use the Command A Val1= 0, Val2= 2 (For a 13 player STATS with Player No, Name F, Pts.
Select the radio button X,Y, Pos and press the X+ direction button.
Select the radio button Show/Hide and press the Y+ direction button.
Select the radio button Boarder and press the Y+ direction button.

This has created the groups for Team A and Team B

Select GUI 24 and move team B to approximately its desired position.
NB: the value inside the direction buttons will be the number of pixels shifted each direction button press.

A Grid can be turned on to help align GUI's on the layout, Cmd 4, Val2 = 0 off, Val2=1 on

Use GUI 89 to expand the player name text boxes
Use GUI 11 x,y Pos and x,y size to position on screen.

STATS BOARD

Team Name A 1

Team Logo 151

Pn	P/Name	Pf	Pp	Ass	Rbs	Stl	Blk
11	89	37	63	42	68	16	94

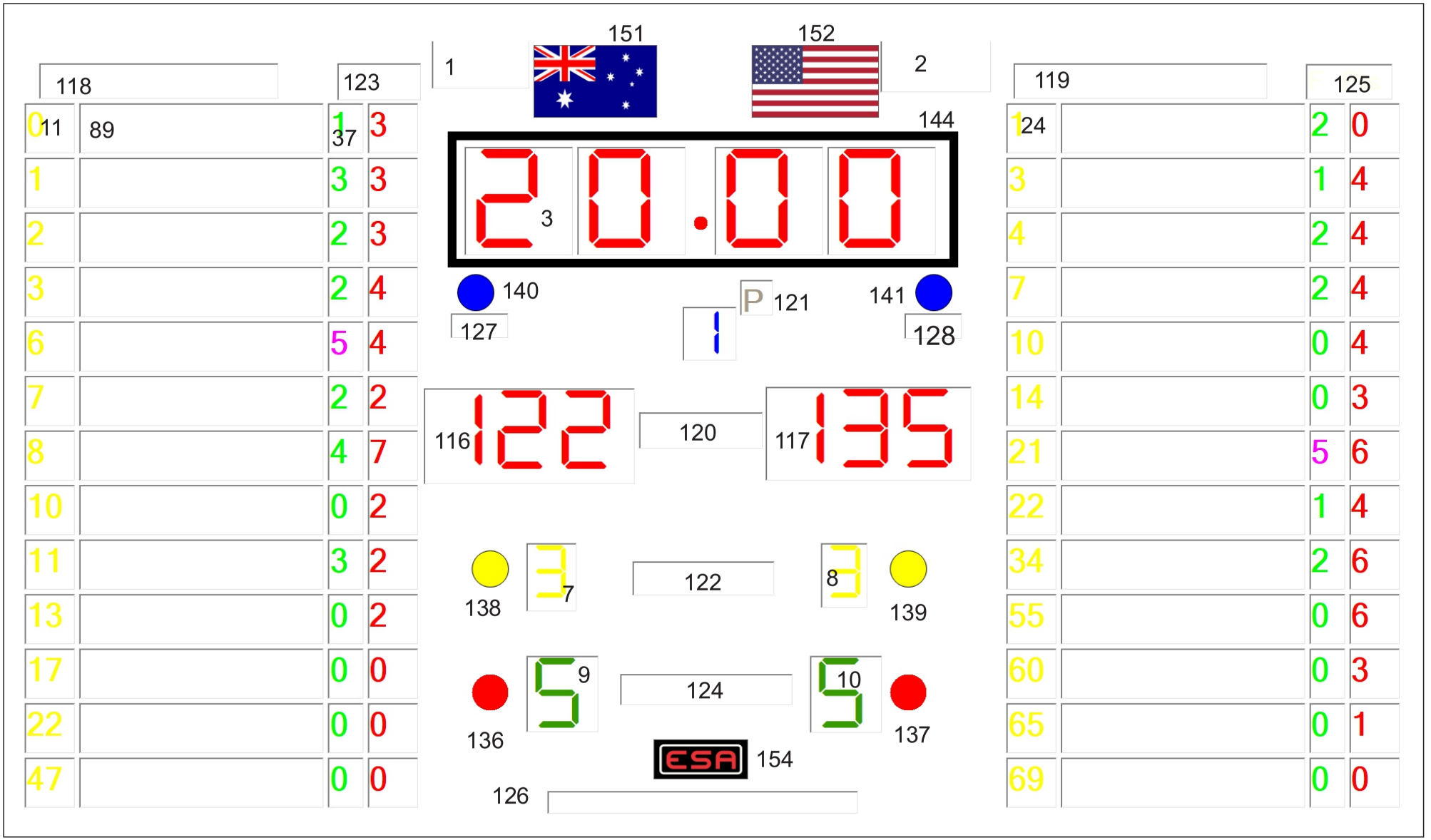
Team Name B 2

Team Logo 152

24	102	50	76	55	81	29	107

Animated Image #160

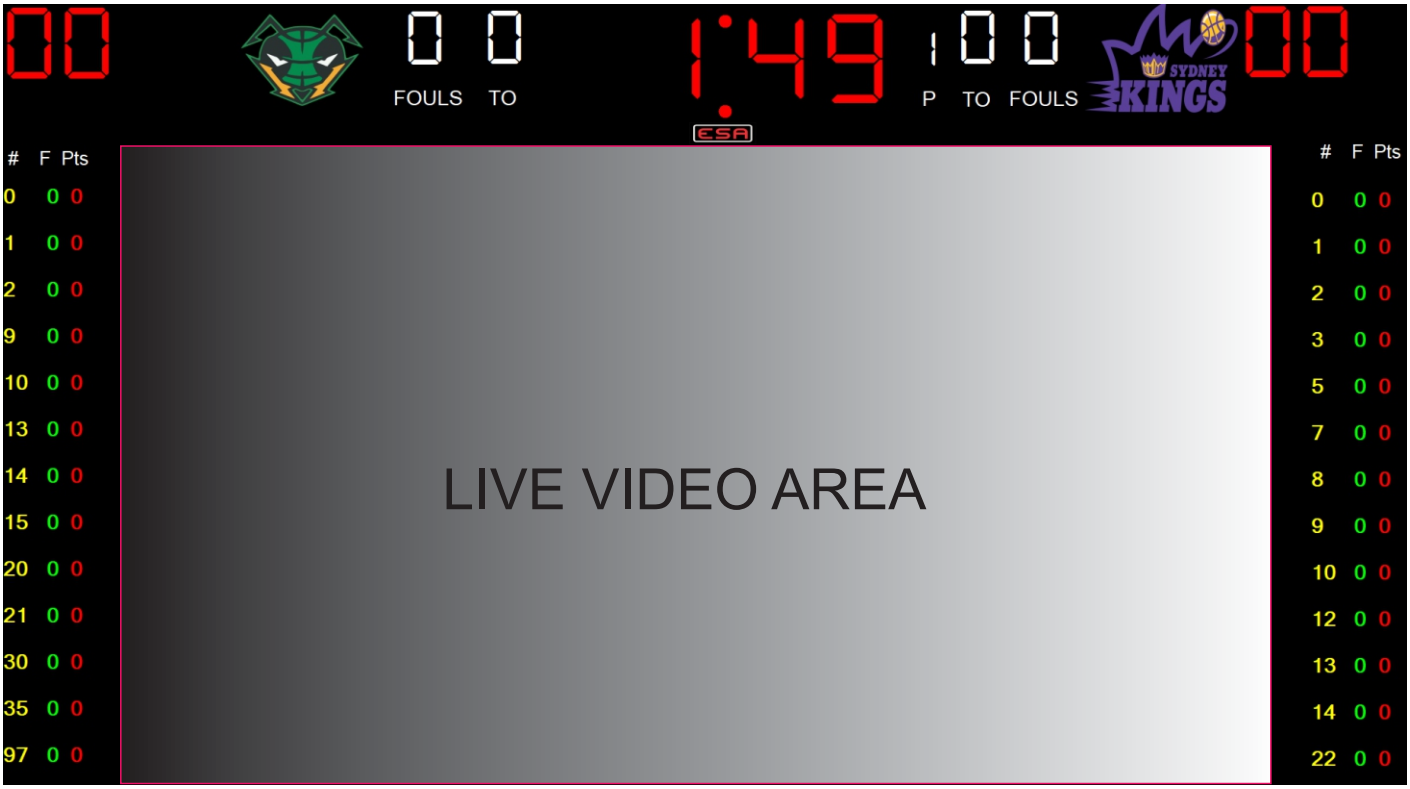
Animated Image #161



FIBA GUI Reference November 2021

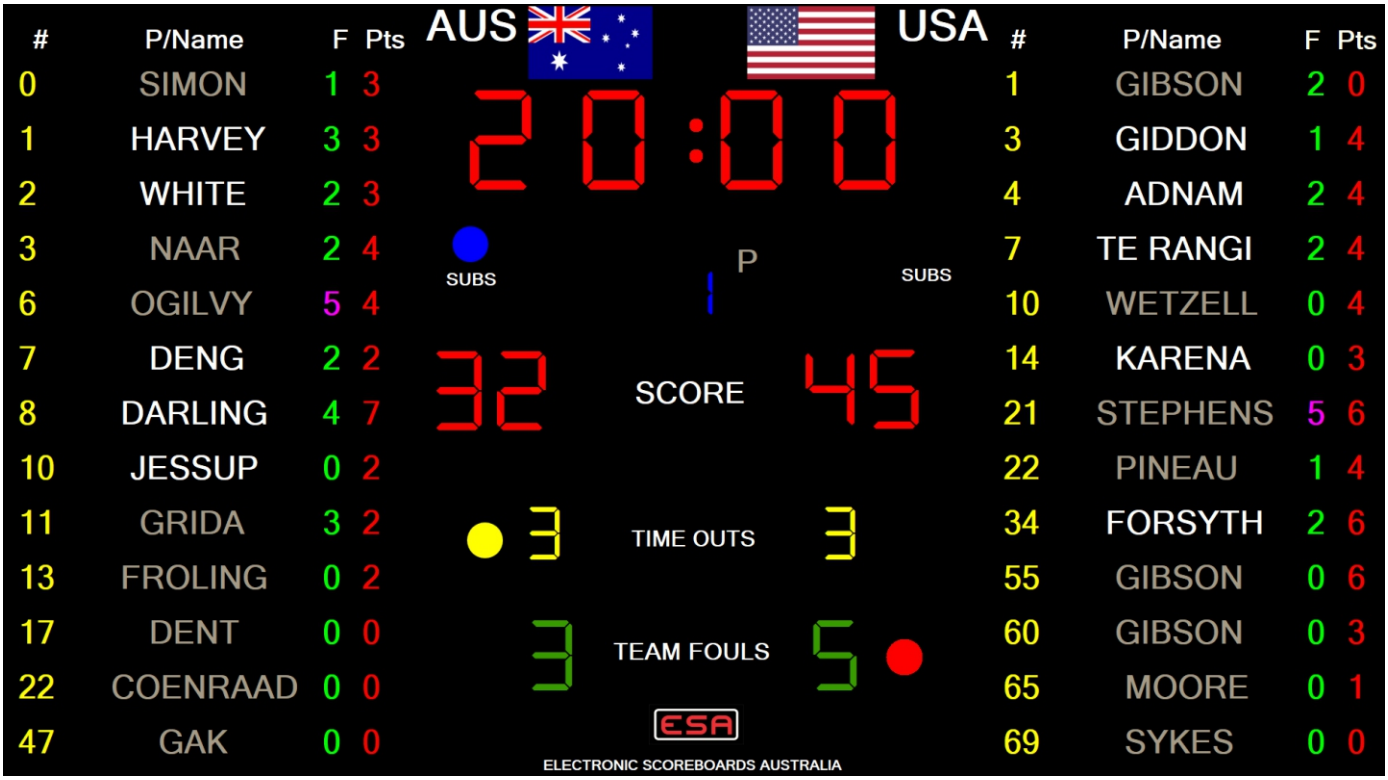
LAYOUTS

NBLPF1



NBL Layout with Team LOGO's and Live Video

FIBA1



Typical FIBA Layout with country FLAGS showing

Stats Only Display

153

151 152

161

118		Pf 126 Pp		119		Pf 127 Pp	
11	89	37		24			

#	NAME	Pf	Pp
1	DUFEMEIER	1	0
2	MALOU	2	0
9	MARSHALL	1	0
10	MCCARRON	5	2
11	SOTTO	0	2
21	JOHNSON	0	2
25	GATTOMA	0	2
41	BAIRSTOW	0	2
44	DECH	0	1
21	JOHNSON	0	1
3	HANNAHS	0	1
22	HARRIS	0	1
8	HUMPHRIES	3	1

#	NAME	Pf	Pp
0	LUAL-ACUIL	0	0
4	NEWLEY	0	0
7	AGADA	0	0
8	DELLAVEDOVA	0	0
12	DALTON	0	0
13	PREWSTER	0	0
14	WHITE	0	0
15	HUKPORTI	0	0
20	BARLOW	0	0
22	PEATLING	1	1
35	OKWERA	1	1
43	GOULDING	1	1
43	GOULDING	1	1

GUI Allocation

"TEXT BOXES"

The following GUI's are used in the application for displaying text. (Time, Scores ETC. These should NOT be used as General Purpose text

1 Team Name A
2 Team Name B
3 Time Mmt
4 Time Mmu
5 Time Sst
6 Time Ssu

Grouped as 3 . Time and colons (gui's 132-135)

7 Time Outs A
8 Time Outs B
9 Team Fouls A
10 Team Fouls B

11 GROUP Control, Position X,Y and Size X,Y
This will draw all the Team A and Team B Player SRATS panel includes
13 Player Numbers
13 Player Names
13 Personal Fouls
13 Personal Points

NB: The formatting of the STATS board can be set using command 0-A

The panels are drawn over each other, The Group B can be reposissioned x,y use #24

24 GROUP Control for Team B possission only X,Y

11 Size X,Y size the Player Number and Player Points Column for A and B

89 Size X, the width of the Player Name Column.

37 Size X, the width of the Personal Fouls collumn

11 to 144 reserved for Player Information panels as above. (STATS)

V7+ allows 11 to 144 to be used as general purpose text boxes if STATS Not used.
the text boxes are NOT saved, must be refreshed from the controller each time the system is RUN.

Use the following General Purpose Text Boxes for,

120 "SCORES"
121 "Period"
122 "Time Outs A"
123 "Time Outs B"
124 "Team Fouls A"
125 "Team Fouls B"

126 - 131 General Purpose Text Boxes *

if Flags A-11 = true (Enable Shot Clock Display) then gui's 130,131,162,147 used and grouped #

These Text boxes are saved and shown on RUN

* = R3 Up

= R5 Up

GUI Allocation

Graphic Oblong dots:-

132	Used to draw the Time Colon
133	“
134	“
135	“
138	Time Outs Request Indicators
139	“
136	Team Foul Indicators
137	“
140	Spare
141	“

Boarders :-

142	Transparent , Square corners (SC)
143	Solid Background - Radiused corners
144	Transparent ,SC Time Boarder
145	Transparent ,SC
146	Transparant ,SC Shot Clock Boarder
147	Transparent, SC
148	Solid Background, Radiused corners
149	Solid Background, SC
150	Solid Background, SC

Picture Boxes :-

151	Team A Logo
152	Team B Logo
153	ESA Logo
154	ESA Logo (touch to exit)
155	Boot Screen Logo #1
156	Boot Screen Logo #1
157	General Purpose Picture Boxes
158	used for sponsor logos etc
159	can be placed any where on screen
160	160 and 161 can be used for displaying
161	a sequence of images
162	(Shot Clock Dp if used)

All Picture Boxes can be used for any image if not being used on the layer.

NB Boxes 155,156,157,158 are alternative COLON for the time display
They are used when the time is overlayed on a frame. the Dots are NOT visible.

Use 19-A-1 to enable Pic Boxes or 19-A-0 to use normal dots as colon display

GUI Allocation

GUI Allocation when used as a Football / Cricket Scoreboard to Video Display

Football Team A

7 Goals
9 Points
116 Total

Text Boxes

120 = Total
122 = Goals
123 = Runs

129 Message Center

Football Team B

8 Goals
10 Points
117 Total

Cricket Team A

7 Overs
9 Wickets
116 Runs

120 = Runs
122 = Overs
123 = Wickets

Cricket Team B

8 Overs
10 Wickets
117 Runs

Boarders

144 TIME
145 Team A
146 Team B
147 MESSAGES

Logo's

151 Team A Logo
152 Team B logo
153 ESA on BOOT Screen
154 ESA on RunTime Screen
155 - 162 >> Available for SPONSORS
160 - 161 can be used for image sequence

Time
(Group 3)

Team Names
1 Team A
2 Team B

Team Name Data Base and Team Logo’s

The CC-20 has mutiple team name data bases.

Default is 0 St for NBL/FIBA logo’s
1 Contains 200 country flags
2 Reserved for NBL/FIBA Basketball modes
3 Corporate logos

Use SVI Folder for logo’s-Layouts

4 Basketball
5 Netball
6 Volleyball
7 Rugby
8 Football
9 Cricket
10
11
12

NB/ These values are NOT fixed, but recommended as a default status.

There can be up to 99 team name data bases in the CC-20
The SVI has 10 pages to select from. Any page can be loaded with any layout from the library.
There are currently 12 folders for logo’s 0-3 reserved, 11 & 12 for animated display.

Command's

Holds values for every GUI for All Layout screen (Global)

Value 1	CMD	Value 2	Text	Comment	
0-19	1	0-255	N/A	Sets the RED Tint for Val1 colour	
0-19	2	0-255		Sets the GREEN Tint for Val1 Colour	
0-19	3	0-255		Sets the BLUE Tint for Val1 colour	
	4	0 / 1		Drawing Grid 0= off, 1 = on	0
	5	0-255		Hold Screen 1 for xx seconds (Boot Screen)	5
	6	0-1		Blank display during LAYER change = 1	1
	7	0 / 1		Enable Auto Save of edit. 0 =off, >0 - seconds Before save	15
	8	0/1		Enable SVI Device to TX info 1 = enabled 0 = Disabled	0
Device No 1-9	9	Send to Layer 1-9		Advanced, Receive data from multiple devices	
Flag No	A	Flag Value		Set / Clear All Flags (for Current Layer only)	
	B	0/1		Hide / Show All BOARDERS	
	C	0-9 Layout No		Copy the current layer to a layer >>	
1 = On court 2 = Off Court	D	Colour 0-19		Set the Player Name Colour On/Off Court	
1 = On court 2 = Off Court	E	Colour 0-19		Set Player Name Colour " "	
	F	1-40 Font No	"Font Name"	Assigns the entered font to a No	
1 = Save 2 = Load	G	1= SVI 2-5 = USB	"File Name""	Save, Load Current Layer to file (See Command "G")	
	H	0/1		Hide / Show all GUI'S on this layer	
	M			Copy All .JPG from folders 0,1,2,3 etc	
Pass 1	N	Pass 2	eg"E:/ABC"	Backup Entire system from c: to c: d: e:	
Pass1	O	Pass2		Restore Entire system to c: from c:d: or e:	
GUI No	P	From folder 0,1 2, etc	Name.jpg 1, 1A etc	Places a Image into the Picture Box	
	R			Re-Load and Re-Draw all layers	
	S	0,1 or 2		Saves ALL Layers parameters 0 = to SVI device 1 = to USB drive 2 = to BACK-USB	
GUI No	T		"Text"	Places the text into a text box	
0 = landscape 1 = Portrate	V	25-200		As a % of video output screen size	
Pass1	W	Pass2		Wipe off and reset all gui's on this layer	
	X	0-255		Applies a gap in between X GUI's	
	Y	0-255		Places a gap in between Y GUI's	
Pass1	Z	Pass2	Cmd	"R" Reboot SVI (other commands see "Z cmds")	

Password 20 12

Layer Flags Set/Clear “A”

>. These Flags are Single LAYER Controls <

(Only acts on the current displayed layer)

(Each layer page created will use all of these flags, when the gui’s are visible.
the gui’s (DOT indicators, MUST be enables if required, (5,6,14))

Val1	Cmd = A	Val 2	Def Val	
0	Enables the STATS screen, 0 = off, 1 top5 pfpp, 2 all 13 pfpp, 3 top5 with Rb,As			
1	Team A Player Name Justification	0,1 Left - Centre	0	
2	Team B player Name Justification	0,1	2	
3	Allow the Colour of the TIME display be changed from CC20	1 / 0	1	
4	Allow the Team NAME colour change from CC20	1/0	0	
5	Enable the Time Outs INDICATORS	1 / 0	1	
6	Enable the Foul Penalty INDICATORS	1 / 0	1	
7	Enable Flashing Boarder on 144 or 145 (Time)	0 = Off 1=114 2=145	1	
8	Enable Flashing Boarder on 147 (Shot Clock)	1 = On, 0 = Off	0	
9	Force Player Names “>” Level 2	1 Level 2 0 Level 1	1	
10	Add a LOGO Suffix from CC-20 Team Number	1=A,2=B,3=C,4=B Can go to Z	0	
11	Enable display of Shot Clock Uses gui 130,131,162	0=No 1 = use Dp 3 = No Dp (old)	0	*
12	Team Name A Justification	0 = Leave as is, 1 = Left Justify, 2 = Right Just	0	*
13	Team Name B Justification	if > 2 then left justify but add xx spaces in front	0	*
14	Enable the GP SUBS indicators	1 =on 0=off	0	
15	Show Team Names and Logo’s from MASTER NBL or single CC-20		0,1,2,3,	
16	Enable GUI 160 animation with hold time (0 = off)	> 0 hold time (250ms)		
17	Enable GUI 161 animation with hold time (0 = off)	> 0 hold time (250ms)		
	For 16 and 17 the text = first and last .jpgs	eg 12-22		
18	Change the background colour on current displayed layer Background is saved	0 to 19 use 20 to force all gui’s to black background		
19	Use Pic Boxes as colon display in time display Uses Picture Boxes 155,156,157,158	0 use dots 1 = use Boxes	0	

Display Team Names and logo's

Get Team Names From MASTER

Set Flags A 15 = 1 >> Get from MASTER
this is the MASTER of a NBL Set, or a single CC-20.

Get Team Names from PfPP

Set Flags A, 15 = 0 >> Get from PfPp
Only get team names and logo's from the NBL set console 3 (Score/Stats)
or if a stand alone console is used for STATS only

Show The TEAM NAMES in Colour

Set Flags A,4 = 1 >> Allow team colour from CC-20

The Team Name colour set in the CC-20 will be transferred to the SVI

Display TEAM LOGO's :-

SVI V8a >>

Set Flags A,10 = 2 ("B" suffix)
The MASTER CC-20 can only give a team number to a logo reference. therefore a suffix must be added to the team number, (1 to 10 for NBL.) as per logo samples.

SVI V9 >>

Several options can now be used to select Logo's from team names.
Team logo's are stored in several folders depending on the game, NBL, Netball, ETC
There is also separate data bases for team names and there colours.

T LOGO's

The Logo's are picture files, they MUST be a .JPG image

They will auto stretch to fit into the picture box on the screen.
If the point size of the JPG is stretch the resolution is lost.
If the point size is squeezed the resolution will be increased.
The picture will be distorted to fit the picture boxes so some care is necessary when generating a .JPG image

The team logo's are typically 120 x 120 points
Any other logo can be of any size to fit into the picture box on the screen, however a large file size takes some time to load, so please keep it small.

The picture boxes can be re-sized easily but software will scale the .JPG to fit. therefor the .JPG point size will have to be created reasonably accurately..

Logo's are stored on C:\SVI_1\ in folders 0 to 12

Logos can be copied from USB drive onto the SVI module (see Command "M")
Folders on the USB drive must be on the root directory and named 0,1,2,3,4 and 5
Use command "M" to copy all logos from USB drive to the SVI

FILE SYSTEM

The entire system is run from the internal windows system on C:\SVI_1

The system including all of the screen layouts and all the images can be backed up to one of three destinations.

C:\Name	Drive C is the local drive on the SVI Device (PC)
D:\Name	Drive D is a USB thumb drive

The .JPG images for team logos, corporate logo's and advertising logo's are in separate folders.

Folder "0" is for All the Team logos. The SVI App will only look hear for the team logo's

The Team logo's are names to suit the CC-20 Data base system 0 to 99 team names.
Each Team name has a colour associated with it.

Logo Names are from 0-99, and can have a suffix A-Z. Eg "24D",default is "B"

The CC-20 MASTER can only access logo's 0-99 and auto adds the suffix given with A Flags 10
The CC-20 PfPp console Auto adds "B" to the team number but can be manually entered for FIBA Flags etc, eg AUS or USA etc. these names are remembered.

For the Backup and re-store function it is necessary to place a password into Val1 & val2 boxes. This will prevent an accidental over-write of the operation system.

A secondary backup system only saves to working files to a folder on the USB stick
The folder is called "Restore" or "Back\Restore"

The "restore" folder is used to automatically recover damaged files.
See Command "S"

Load and save PAGES or individual LAYOUTS.

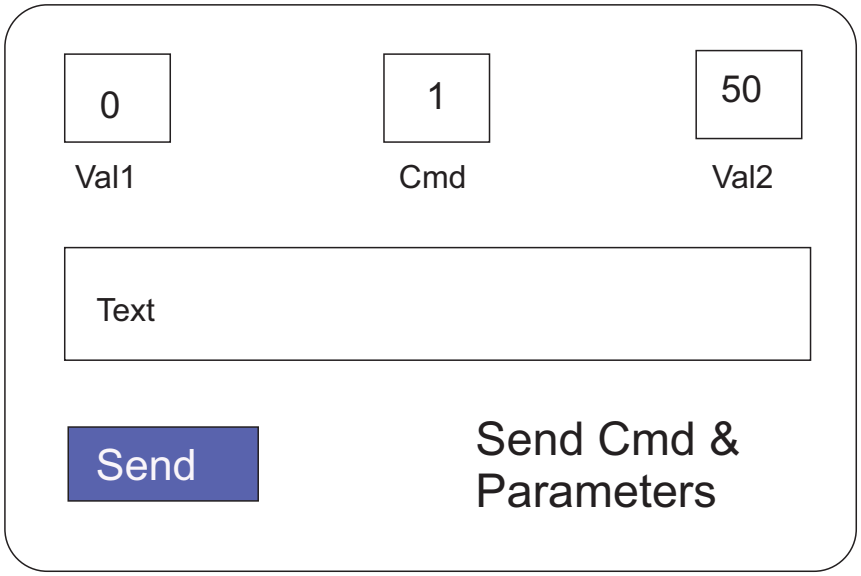
See (Command G) and pages

there are several layouts pre programmed with in the system.

any of these can be loaded into any page number and used as is or modified to suit.

Commands >>
1,2 & 3

Change the Red, Green, Blue tint of any colour.



Val 1 =Colour Number 0 to 19

Val2 = the tint value, 0 to 255

Text = Don't Care

Cmd = 1 = Chang the RED tint

Cmd = 2 = Chang the GREEN tint

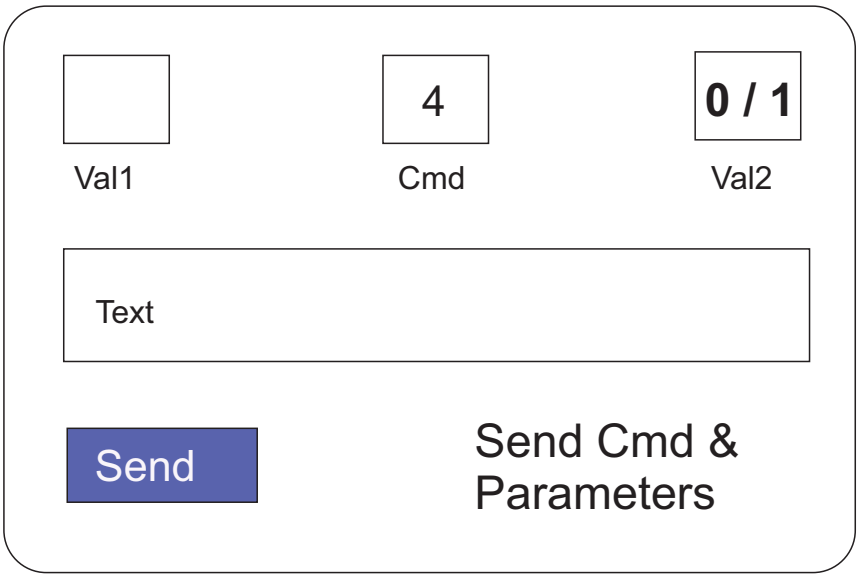
Cmd = 3 = Chang the BLUE tint

Master Colours		Auxiliary colours	
0 Black	0,0,0	10 Dark Grey	25,25,25
1 Brown	201,155,110	11 Light Brown	80,80,80
2 Red	255,0,0	12 Dark Red	255,0,180
3 Orange	255,220,0	13 Light Orange	255,190,240
4 Yellow	255,255,0	14 Light yellow	255,255,190
5 Green	0,255,0	15 Dark Green	0,185,0
6 Blue	0,0,255	16 Light blue	240,0,250
7 Purple	255,0,255	17 Dark Purple	215,215,215
8 Grey	165,155,135	18 Light Gray	210,255,255
9 White	255,255,255	19 Bage	255,255,240

NB: Auxiliary colours are most changed and can be changed to suit.

4

Show or hide a grid on the screen



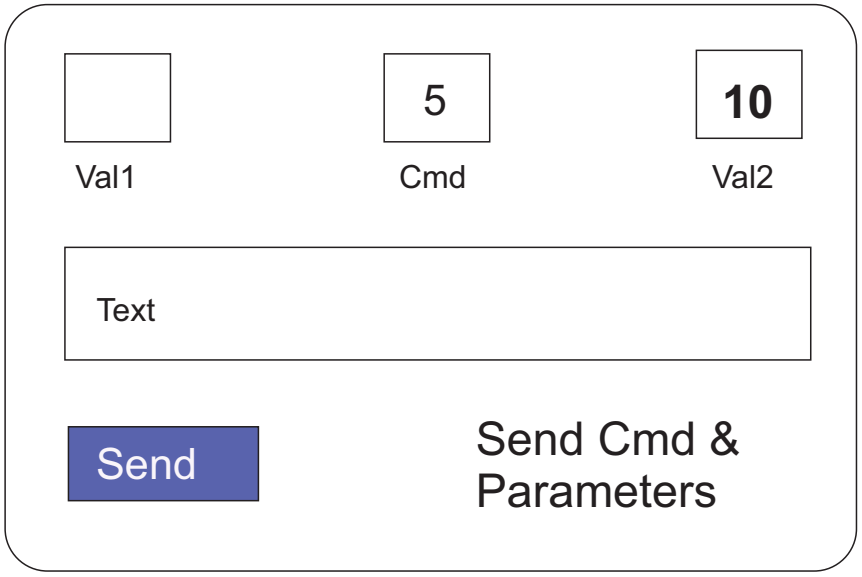
Val 1 = Don't Care

Val2 = 0 = off, 1 = on

Text = Don't Care

5

Boot Screen (1) Hold Time



Val 1 = Don't Care

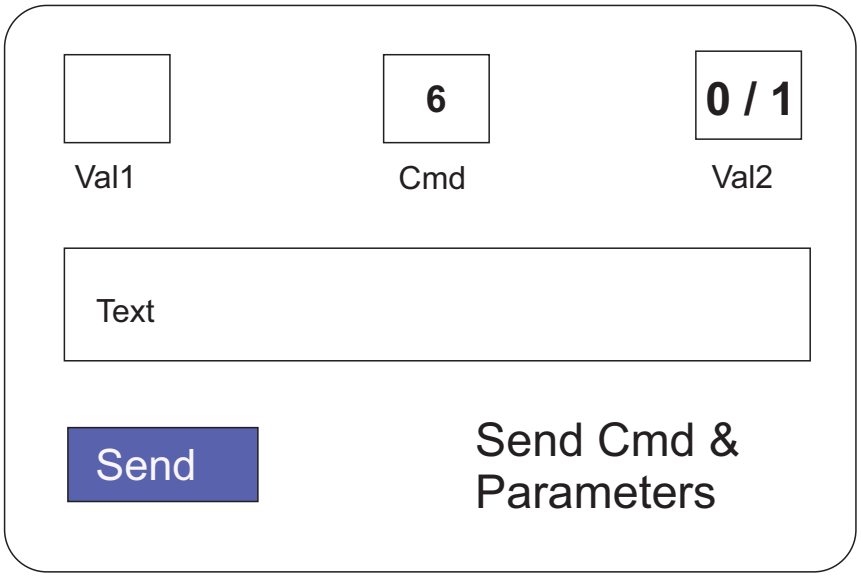
Val2 =hold time seconds

Text = Don't Care

After the hold time the last used page layout will be shown

6

Blank the display during Layer redraw



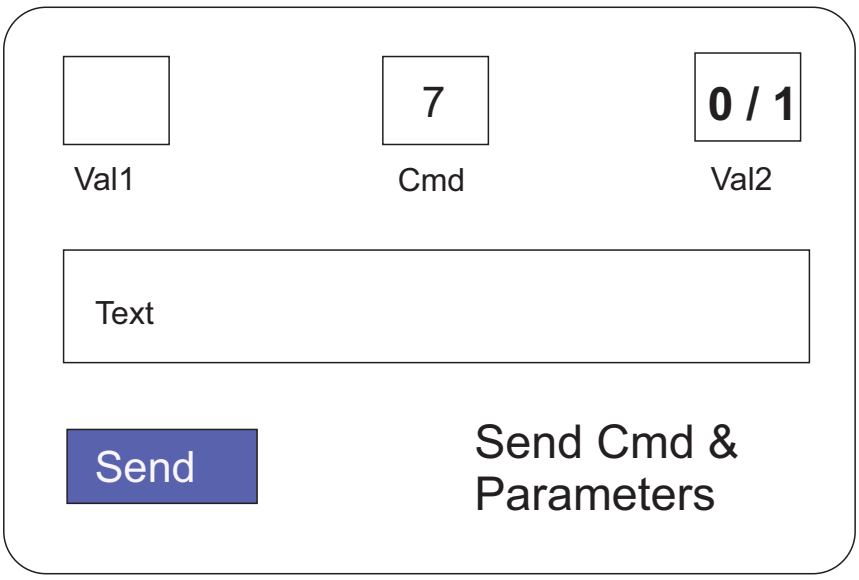
0 = Redraw on screen

1 = Blank ,
Redraw on windows
background screen

Simply blank the display during Layer Re-Draw.
!! Caution !! will show the PC background screen during blanking.
The Background image is pre-set in the windows system.

7

Auto Save the settings when in EDIT mode after xx seconds



Val 1 = Don't Care

Val2 =0 = 0ff
Manual save

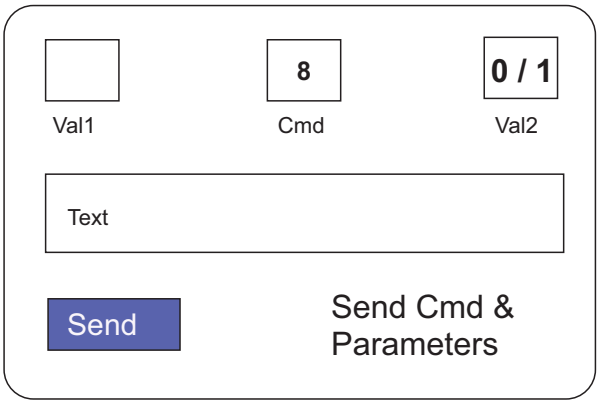
>0 auto save seconds

Text = Don't Care

Use Cmd “S” to manual save

8

Enable Bi directional communications

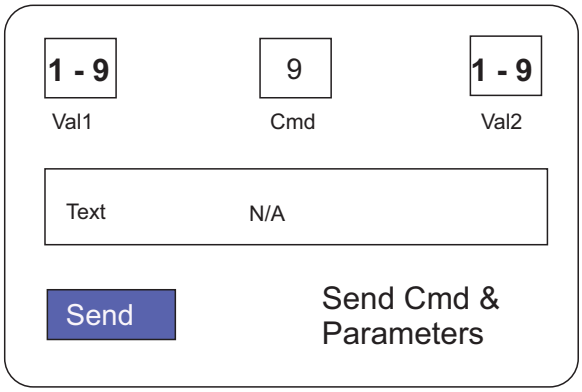


0 = off
1 = on

The SVI device may be required to TX data, depending on the device it is receiving information from.
Enable Bi-directional Coms = 1

9

Advanced mode receiving data from multiple devices.



Val 1 = device identifier

Val2 = Destination layer

Text = Don't Care

Advanced mode when the SVI is receiving data from several devices.
The Val1 is the device identifier 1 - 9. and Val2 is the destination screen layer.
This command is set for each device and its layer destination
eg Device 1 will be displayed on layer 1 . Command = 1 9 1

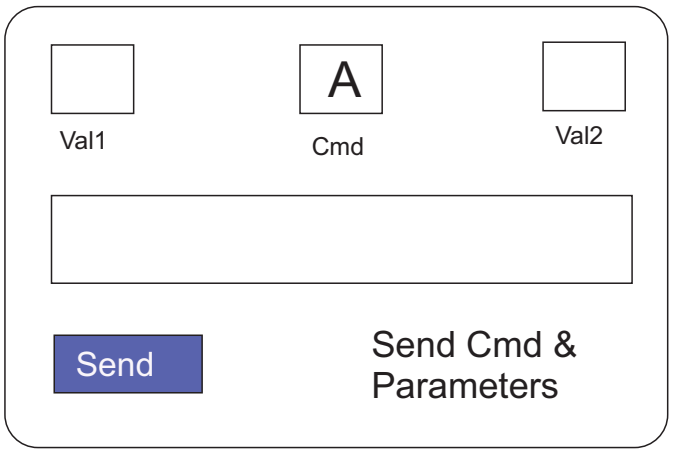
Device 2 will be displayed on layers 2,3& 4 Command = 2 9 2
Command = 2 9 3
Command = 2 9 4

Device 3 will be displayed on layer 6 and 7 command = 3 9 6 and 3 9 7

NB The SVI must be set to the layer before data form that device will be received
eg, layer 2 is set, data from device 2 to layer 2 will be received.

A

Set or Clear a variable related to the working layout only



Val1	Refer to “Layer Control Flags”	Val 2
0	Enable STATS display	0,1,2,3,4
1	Team A Player Name Justification	0,1,2
2	Team B player Name Justification	0,1,2
3	Allow the Colour of the TIME display be changed from CC20	0,1
4	Allow the Team NAME colour change from CC20	0,1
5	Enable the Time Outs INDICATORS	0,1
6	Enable the Foul Penalty INDICATORS	0,1
7	Enable Flashing Border on 144 or 145 (Time)	0 = Off 1= 144 2=145
8	Enable Flashing Border on #147 (Shot Clock)	1 = On, 0 = Off
9	Force Player Names “>” Level 2	1 Level 2 0 Level 1
10	Add a suffix to Team Logos when sent from MASTER	1 - A 2 = B etc
11	Enable import and display of shot clock	0 = off . 1= With Dp, 3=No Dp
12	Team NAME A justigication	0 = off (leave as is) 1 = LEFT 2 = RIGHT >2 = Left with added spaces
13	Team NAME B Justification	
14	Enable the GB SUBS indicators	
15	Enable Team Names From CC-20 MASTER = 0=from Stats >1 from Master 1,2,3	
16	Enable animation of GUI 160 0=off > 0 =On time (250ms)	See A16,17 for details
17	Enable animation of GUI 161 0=off ,> 0 =On time (250ms)	
18	Fill the entire screen with a background colour (0 to 19) 20 force all black	
19	Use Picture boxes for the TIME colons (Not dots)	

To change the value of the “flag” place the flag No in Val1. “A” in Cmd and the flag value in Val2 then press SEND

A0

0	A	1	Val 2 = 0 to 3
Val1	Cmd	Val2	

Enables the drawing of the STATS section. 0 = off

1 = Top 5 on court players only. Pn, Name, Pf and PP (4 columns)

2 = All 13 players. Pn, Name, Pf, PP (4 columns)
on court players can be hi-lited (See command D & E.

3 = Top 5 on court with. Pn, Name, Pf, Pp, Rb, Ass (6 Columns)

4 = Top 5 on court with Pn, Name, Pf, Pp, Rb, Ass, Steel, Block (8 Columns)

A1,A2

1(2)	A	1	Val 2 = 0 to 2
Val1	Cmd	Val2	

0 = Team A(B) Player names are LEFT Justified, Names are next to their number.
1 = Names are centred between the # and the Pf
2 = Names are right justifies next to the Pf column

A3

3	A	1	Val 2 = 0 or 1
Val1	Cmd	Val2	

0= The time display on the video screen is fixed, (normally RED).

1 = The TIME display will always be (normally RED) and when the period time is displayed, but can change colour for indication of other functions. eg YELLOW for Xtimers, GREEN for 1/4 time break, ORANGE for 1/2 time break ETC. These colours are sent and programmed in the master CC-20

A4

4	A	1	Val 2 = 0,1
Val1	Cmd	Val2	

0 = No Blocks team name color change
1 = enable team name color change

A5,6,14

5 (6,14)	A	1	Val 2 0 = Disable 1 = Enable
Val1	Cmd	Val2	

A5 Enable or disable the OUT's indicator to be displayed
A6 Enable or disable the PENALTY " "
A14 Enable or disable the SUB's " "

A7

7	(8)	A	1	Val 2 0 = Disable 1 = 144 2 = 145
Val1		Cmd	Val2	

A7 Enable a flashing boarder on theTime display when time = 00.00
1 = use boarder 144 (standard on a black background)
2 = use boarder 145 when being used over a boxed backgroung

A8

8	(8)	A	1	Val 2 0 = Disable 1 = Enable
Val1		Cmd	Val2	

A8 Enable a flashing boarder on the Shot Clock display when time= 0.0

A9

9	A	1	Val 2 = 0 or 1
Val1	Cmd	Val2	

Level 1 (FIBA) the player name must be displayed Val2 = 0
Level 2 (NBL) the player name is optional, depending on the screen layout.
The Player names can be turned off and a “>” character will replace the player name and change colour with on court and off court players.. Val2 = 1

A10

10	A	1	Val 2 1 to 25
Val1	Cmd	Val2	

Adds a Logo suffix to a team number sent from the master CC-20.
1 = A, 2 = B, 3 = C ETC

A11

11	A	1	Val 2 0 = Disable 1 = Enable
Val1	Cmd	Val2	

Enable Shot Clock to be displayed on the screen, this will use GUI’s 130,131,and 162 with optional frame 147

A12,A13

12	(13)	A	1	Val 2 0 to xx
Val1		Cmd	Val2	

Team Name Justification A12 for Team A and A 13 for Team B
Val2 = 0, Leave as is without forcing justification
1, Left Justify, 2 = Right Justify.
Greater then 2 then add xx spaces in front of name

A15

15	A	1	Val 2 0 or 1
Val1	Cmd	Val2	

Show TEAM NAMES for master CC-20 or from the PfPp console.
0 = from the Stats console
1 = The Team Name Log's will have a suffix eg 1B
2 = The Team Name Logo's names first 3 characters used for logo's eg "UNIted"
The logo's have a 3 chr name (flags)
3 = Use the full team name as logo name

A16,A17

11	A	4	Val 2 0 or 1
Val1	Cmd	Val2	

Text	12-24

Enable GUI Animation with hold time. 0 = off, >0 = hold time 1/4 sec steps.
eq 4 = hold for 1 second then change.
The text field specifies the images numbers to use. all image files must be in C:/1
A16 is for GUI 160, A17 is for GUI 161.
More detail see next page :-

A18

18	A	0	Val 2 0 to 19
Val1	Cmd	Val2	

Change the background colour of the current displayed layer. colour is saved
uses the inbuilt colour system as colours 0 to 19,
use 20 to force all GUI's to a black background so the colour can then be changed.
Only a GUI with a black background can have its background changed.
A GUI that requires a BLACK background use colour 10- R1,B1,G1

A19

19	A	0	Val 2 0 to 19
Val1	Cmd	Val2	

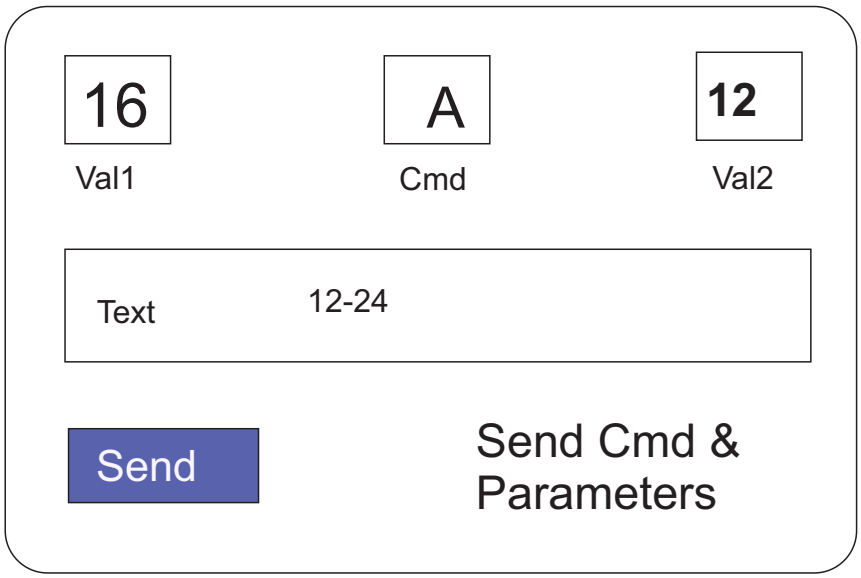
0 = Use dots as the flashing colon in the time display (Default)
1 = use Picture boxes in the Time display when being used over another frame

Pic boxes used are 155,156,157 and 158

NB> Pic boxes are used when the time display is overlaid on another image

A - 16 & 17

Allows a sequence of .jpg's to be displayed with vairable on time



Val 1 = Sequence

Val 2 = On time(250ms)

Text =Image first to last

Two GUI's can display a sequence of .jpgs, GUI 160 and GUI 161
Val 1 is to select the GUI to be used as a sequence (16 for gui 160) and (17 for GUI 161)

Val 2 = the time the image will be displayed before the next image is shown
the time interval is in 250ms steps, therefore, Val2 = 20 then image will display for 5 seconds

The Text field is used to select the first and last image to be displayed.
the format of this field MUST follow this :- eg 12-24 Where 12 is the first image and 24 is the last. the "-" separates the two fields. Do NOT use any spaces in the text field.
the values are 1 to 999 (a JPG image with this name, eg 12.jpg is required.

All images must be in .JPG form and in the folder 1

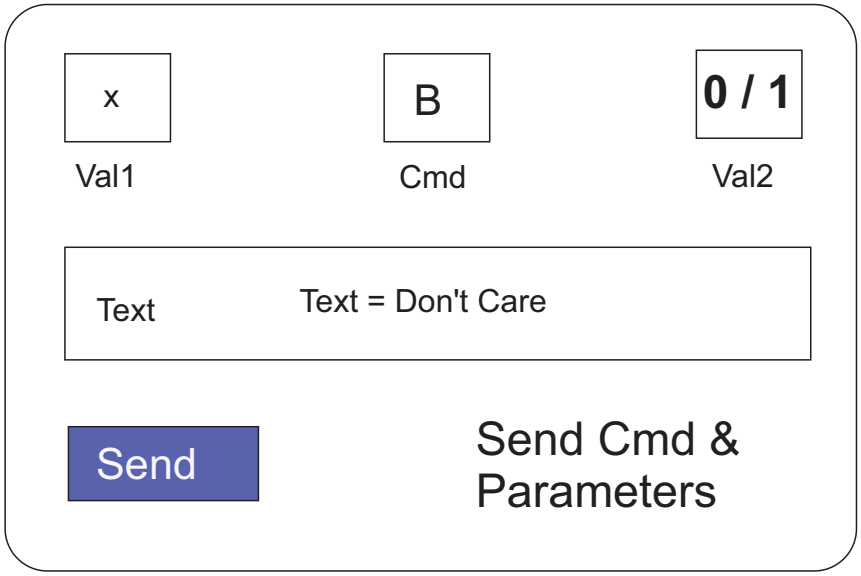
To Display a GUI select the layout to use, then place and size the GUI (160 or 161) or both on that layout. Use the above instructions to enable a sequence of images.

The image can be copied from the USB thumb drive to the SVI unit with the command M, They must reside on the SVI to be used

The Images can be copied from folder 5 using the cc-20 tool to create a run-time list.
(See CC-20 App xx) or create a run time list manually in a USB thumb drive and use command M to copy them to the SVI.

B

Hide or Show ALL Boarders for ALL GUI's on this layout



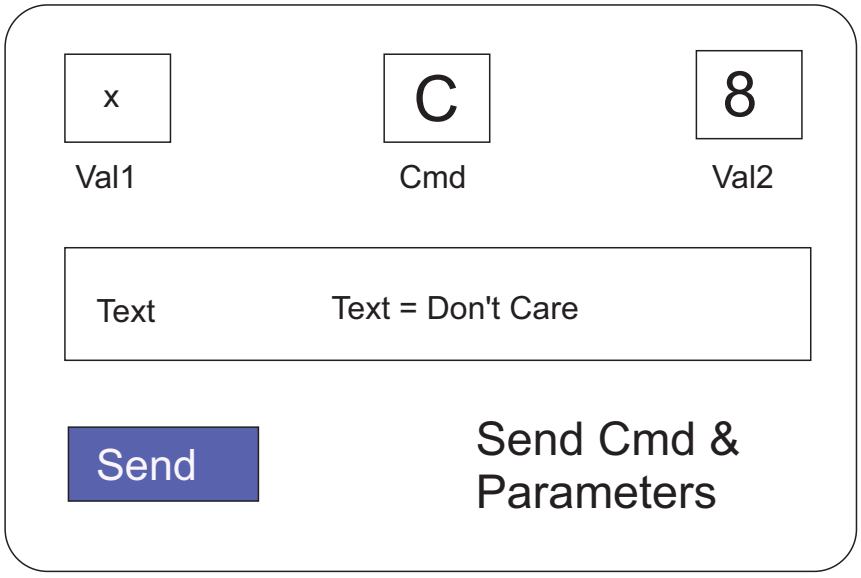
Val2 = 0 = Remove All boarders from All GUI's

Val2 = 1 = Place All boarders "

NB: Boarders can be SET or CLEARED individually with from Screen Settings.

C

Copy the entire layout page to another page



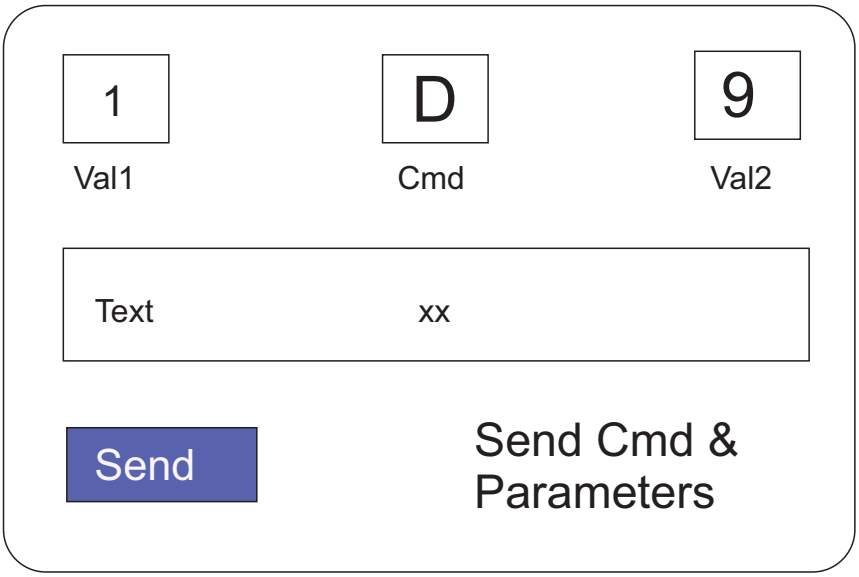
Val2 = the page no to copy to

!! CAUTION !! The Destination page will be over written without notice !!

D&E

Set the colour for the PLAYER NAME for On Court and Off Court

TEAM A (Left Side), TEAM B (Right Side)



Val1 = 1 for On court
Val1 = 2 for Off court

Cmd = D for Team A
Cmd = E for Team B

Val2 = 0 to 19 For colour selection

Text = Dont Care

Master Colours	Auxiliary colours
0 Black	10 Dark Grey
1 Brown	11 Light Brown
2 Red	12 Dark Red
3 Orange	13 Light Orange
4 Yellow	14 Light yellow
5 Green	15 Dark Green
6 Blue	16 Light blue
7 Purple	17 Dark Purple
8 Grey	18 Light Grey
9 White	19 ??

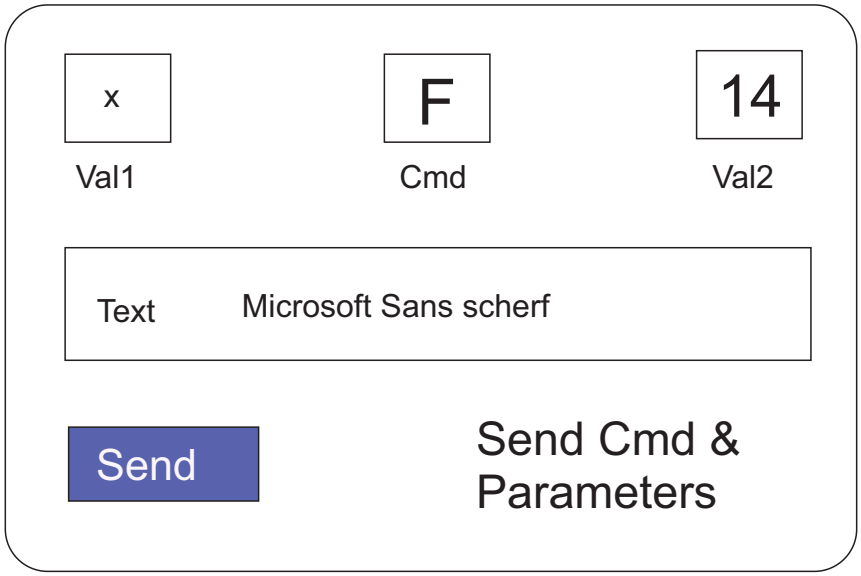
NB: Auxiliary colours are most changed and can be changed to suit.

This is used in FIBA level 1 when player names are on screen.
For FIBA level 2 where the player names are not shown the name is replaces with the “>” symbol to shows show on court players.

When the TOP 5 only on court players are set. only the on court colour is set.

F

Assign a New Font to a font No



Val 1 = Don't Care

Val2 = eg 14 Will place the new font in bay 14 with the font in the text box

Text = Font Name

NB: All fonts are kept in bay's 1 to 40. When a Font type No 14 is now selected it will show the new font name.

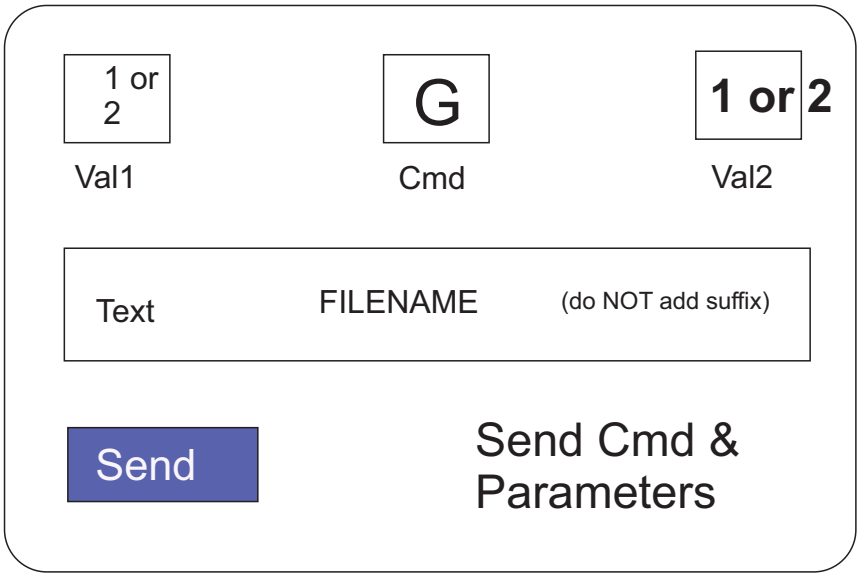
Any of the standard Windows 10 Home fonts can be used,
Other fonts must be installed into Windows before they can be used.
eg, Dseg7 Classic is an installed font.

All fonts can use the "Font Type" radio, Normal, Bold Italic ETC

1	Microsoft Sans Serif 12345	21	
2	Arial 12345	22	
3	**Arial Rounded MT 12345**	23	
4	Bahnschrift 12345	24	
5	85EG7 CLA55 IC 12345 (Deg7 Classic)	25	
6	Courier New 12345	26	
7	Dabai 12345	27	
8	**Calibri 12345**	28	
9	**Impact 12345**	29	
10	Lusid Console 123345	30	
11	**Palatino Linotype 12345**	31	
12	Terminal 12345	32	
13	**Vardana 12345**	33	
14		34	
15		35	
16		36	
17		37	
18		38	
19		39	
20		40	

G (V8 +)

Save and Load the Current layer to a file



Val1

1 = SAVE
2 = LOAD

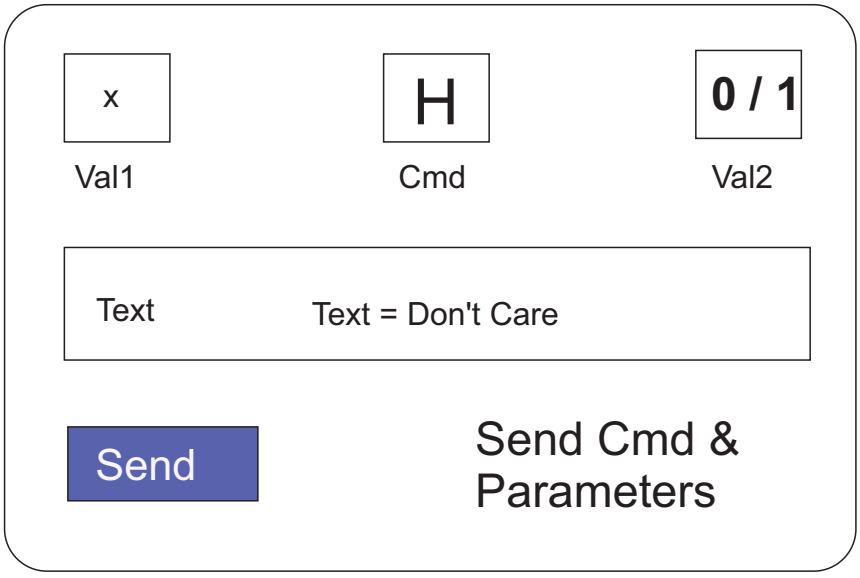
Val2

1 to Internal
2 to USB

Val 2 = File PATH
1 = SVI Device C:\SVI_1\LAYOUTS\FILENAME
2 = USB drive D:\LAYOUTS\FILENAME

H

Hide or Show ALL GUI's on this layout



Val 1 = Don't Care

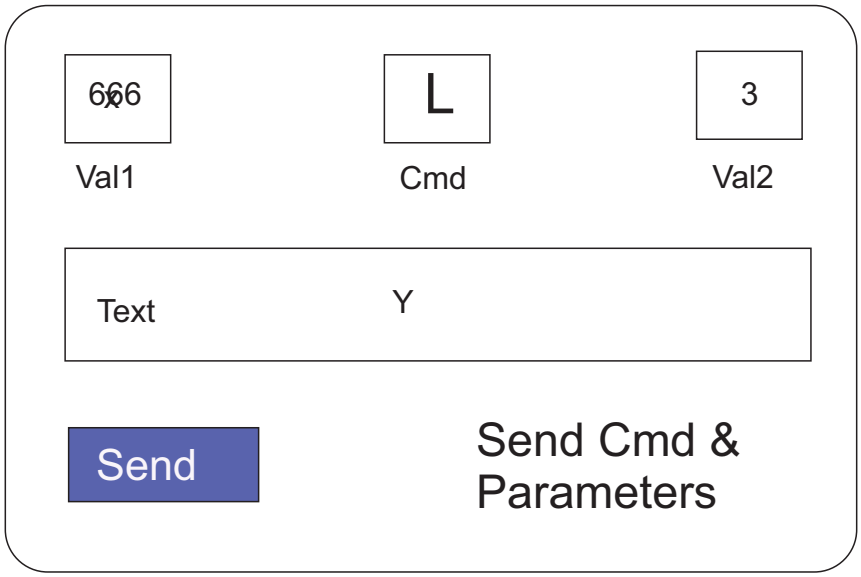
Val2 = 0 = Hide All GUI's on this layer

Val2 = 1 = Show All GUI's

NB: GUI's can be SET or CLEARED individually from Screen Settings.

L

Copy a *.JPG images from Folder 5 to folder 1 on the SVI



Val1 = JPG Number to copy from folder 5 (0 to 999) 0 is a blank image

Val2 = Rename *.JPG to new number on folder #1

Text = “Y” to display image after copied on GUI # 162 on the current screen

To display images when transferring to see the image, set the layout screen to a screen that has GUI 162 on it. (Suggest using screen 9 with gui 162 only on it)

Number the transferred images in the order for the sequencer (160 or 161) to display them.

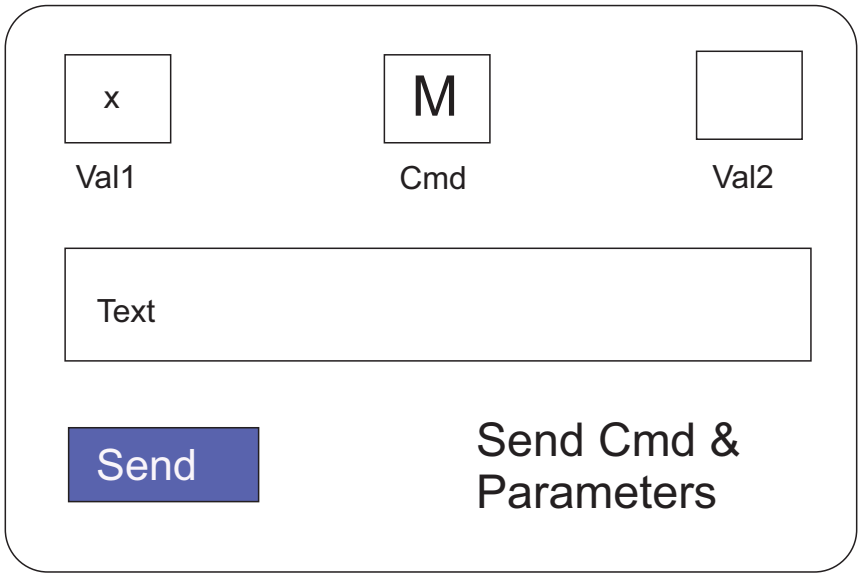
eg Layout screen #3 will use #160 with images 1 to 10 with a 1 second interval,
and 161 will use images 11 to 20.

Layout screen #4 will only use #160 with images 21 to 25.

NB: It is best if using multiple screens, they use a different number sequence.
as above screen 3 used 1 to 20 while screen 4 used 21 to 25.

M

Copy all *.JPG images from USB drive onto the SVI



Val 1 = Don't Care

Val2 = Don’t Care

Text = Don't Care

Copies all the images from the USB Thumb drive into the SVI device.
The images must be in the appropriate folder names.
0 All Team LOGO’s
1 Images for animation using gui 160 and 161
2 Team Sponsor logos
3 SVI Specific logos
4 Any other logo’s
5 All library images to use for animation (See Command “L”)

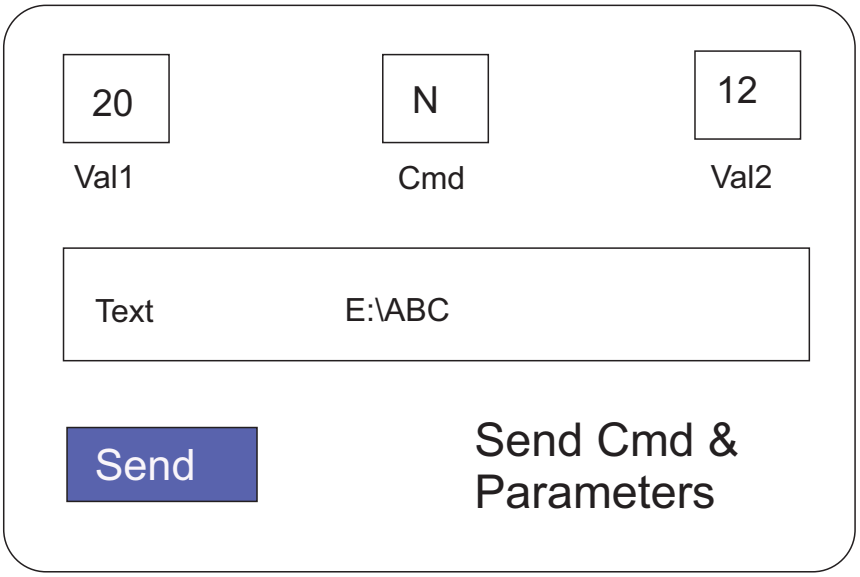
NB: Team Logos MUST be names with a 1 or 2 digit number and a letter suffix
eg 1A, 24B, 3C etc. Logo’s without a suffix can only be accessed with the STATS software.

Pre defined Logos with white BACKGROUND COLOUR

White		Black	Coloured	
1A	Adelaide 36ers	1B	1C	1
2A	Brisbane Bullets	2B	2C	2
3A	Cairns Taipans	3B	3C	3
4A	The Hawks	4B	4C	4
5A	Melbourne United	5B	5C	5
6A	NZ Breakers	6B	6C	6
7A	Perth Wildcats	7B	7C	7
8A	SEM Phoenix	8B	8C	8
9A	Sydney Kings	9B	9C	9
10A	JackJumpers	10B	10C	10

N&O

Backup and Restore



Val1 = Pin Number
Val2 = Pin Number

The Pin number is to stop accidental operation
The pin number is 20 12

Cmd N = Save a backup
Cmd O = Restore a backup

Text = D:/ABC

Where E:/ is the path to place or restore the backup

options are C:\= the SVI device windows local drive C:
D:\ = a USB external drive.

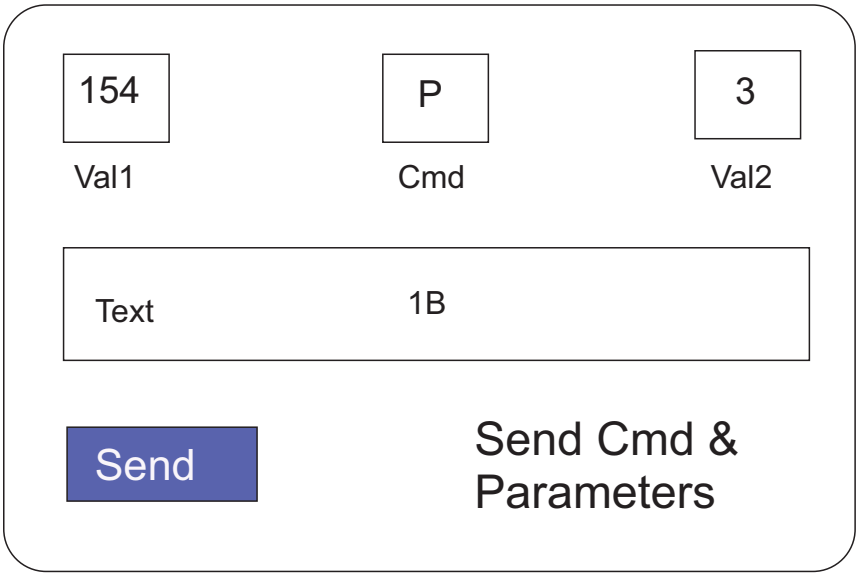
ABC is a folder name where the backup will be written to.
if ABC dose nor exist it will be created.
ABC can be any valid windows naming folder names.

This will copy tp D:\ABC\SVIBACKUP\SVI_1\0*.*
1/*.*
2*.*
3*.*
4*.*
LAYOUTS*.*
.

Where \0 to \4 are the *.JPG images.
\Layouts where all saved layouts are stored
and \SVI_1 is the application with all of it's current layouts and settings

P

Place any of the *.JPG's images into a picture box.



Val2 = Folder Ref No
0 = C:\SVI_10\0*.*
1
2
3
4

Val 1 = The Picture box GUI No where to place the image

Val2 = The folder name where to get the image from. 0,1,2,3 or 4

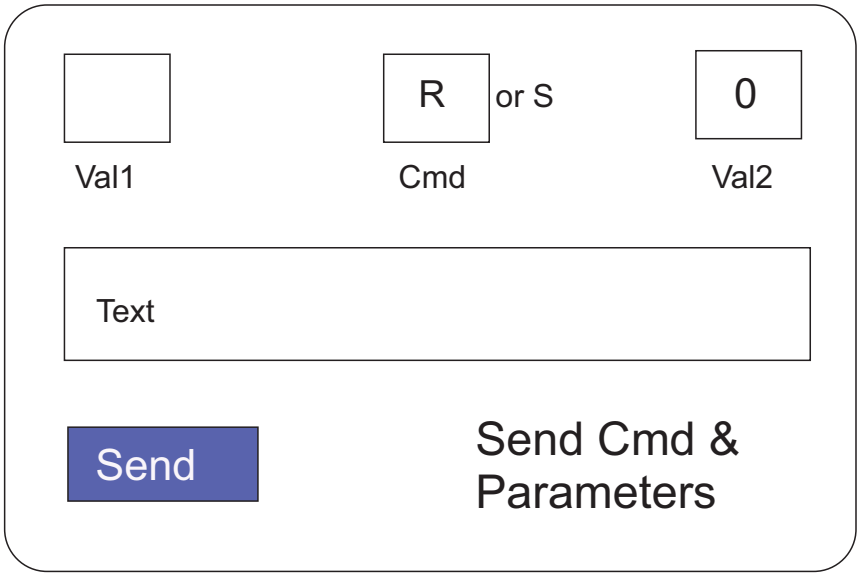
Text = The name of the image to load

The GUI Picture boxes available to place an image are
151 to 162. NB: GUI No's 151 and 152 are reserved for Team Logo's

.JPG's can be copied from USB Thumb drive prior to placing. (See Command M)

R

Reload and re-draw the screen layout



Val 1 = N/A

Val2 = N/A

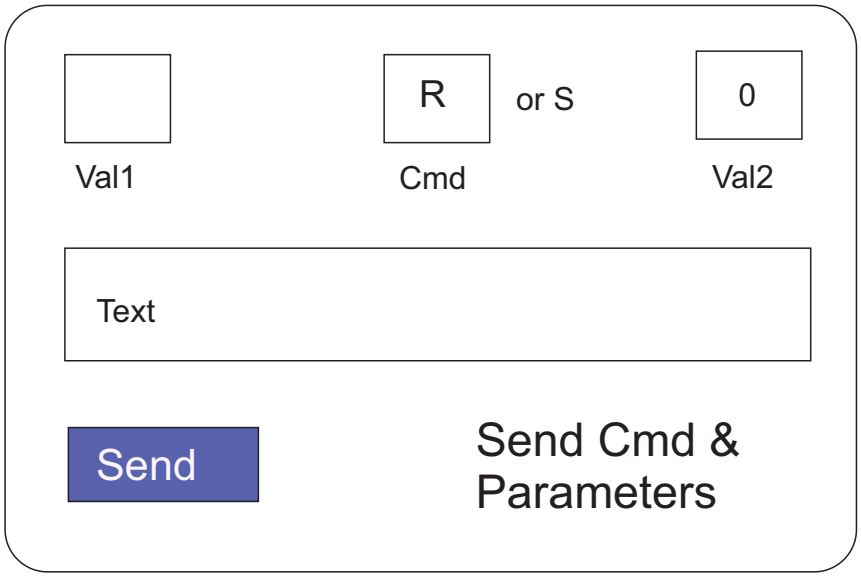
Text = N/A

Simply Re-load's the current screen layouts and re-draws the selected screen

Only loads the working files (Not The Whole System)

S

Saves the current screen layouts. 0-9



Val2
=0 Save files local
=1 save to USB
=2 Save backup USB

Saves all 10 current screen layouts

Val2 = 0 Save to local machine.

=1 Saves to USB to /RESTORE/
=2 Save to USB tp /BACK/RESTORE/

When a screen layout has been changed, and auto save is turned on, the new layouts will be saved to LOCAL (internal file system)

The files can be forced to save at any time with the “S” command,

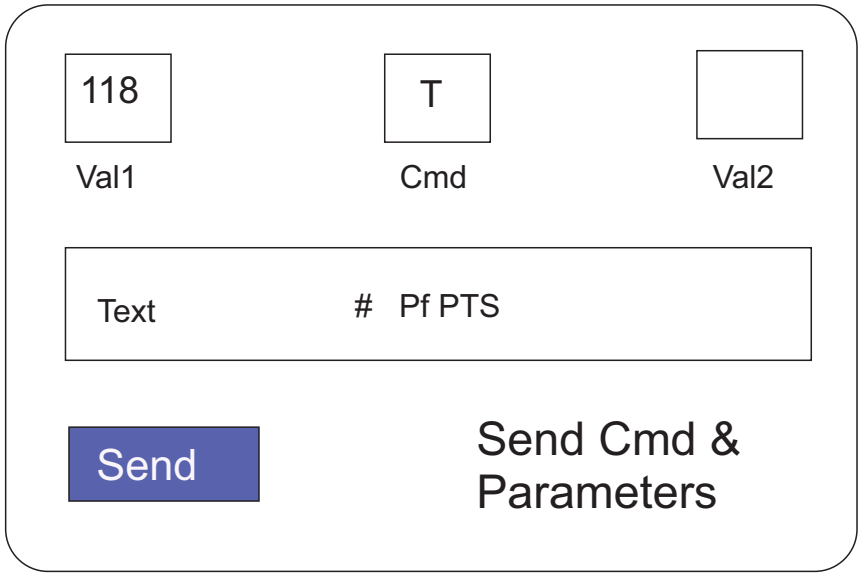
Files can be optionally saved to USB using the Val2 option = 1 or 2,
Using option 1, the files will be saved to the USB and overwrite the existing files if any.
With option 2 the files will be saved to the USB on a sub folder “BACK”

When the SVI is first powered up or re-booted, it will check the integrity of the file system. If the file system is corrupted the software will attempt to restore the files from the USB if it exists from the “RESTORE” folder.

The “BACK” folder can only be accessed on a PC and manually transferred to the “RESTORE” folder if necessary

T

Place TEXT into a text box.



Val 1 = The Text box GUI No where to place the text

Text = the actual text to place in the box

NB: Text Boxes 1 to 10, are used for scoreboard information (Time, scores ECT) and 115 to 117 are used for annunciation “Fouls, T/Outs “ etc

The GUI Text boxes available to place text are 115 to 131, these text boxes are saved with the layer, and re-loaded on RUN.

Text Boxes 11 to 144 are generally used for the STATS, the “A” flags (0) will determine the use of these text boxes. FIBA Level 1 or 2 will use ALL of these boxes, Pn, Pname,Pf, Pp for 26 players and are blocked from being accessed with this command.

Flag = 0 :- Not used for STATS and can be used,

1:- Top 5 On court players only, for Pn, Pname, Pf, Pp

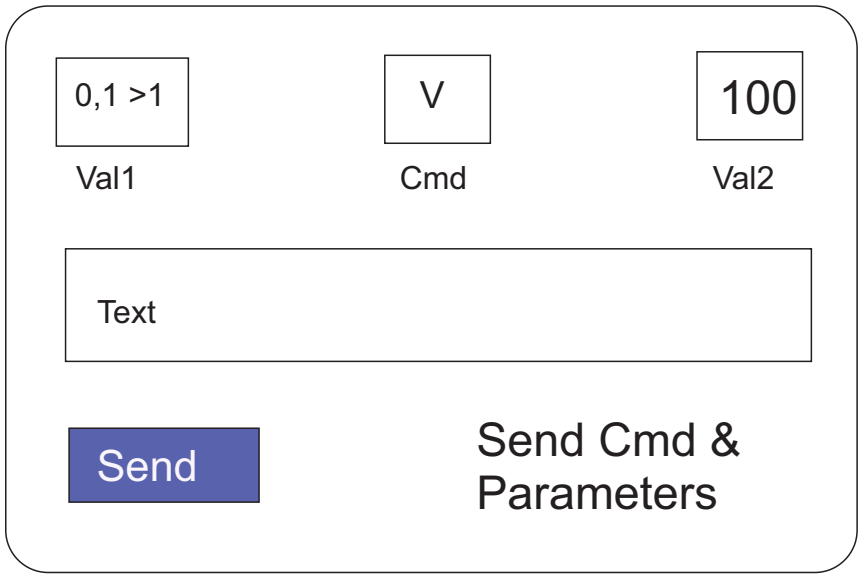
2:- FIBA level 1 or 2 (as above)

3:- Top 5 on court players with Pn, Pname, Pf, Pp, Rb, As

4:- Top 5 on court players with Pn, Pname, Pf, Pp, Rb, Ass, Stl, Blk

V

Video Screen Scale %



Val 1 =Rotate P/L

Val2 = %

Text = N/A

Val1 = 0 Place display into landscape mode

1 Place display into portrait mode

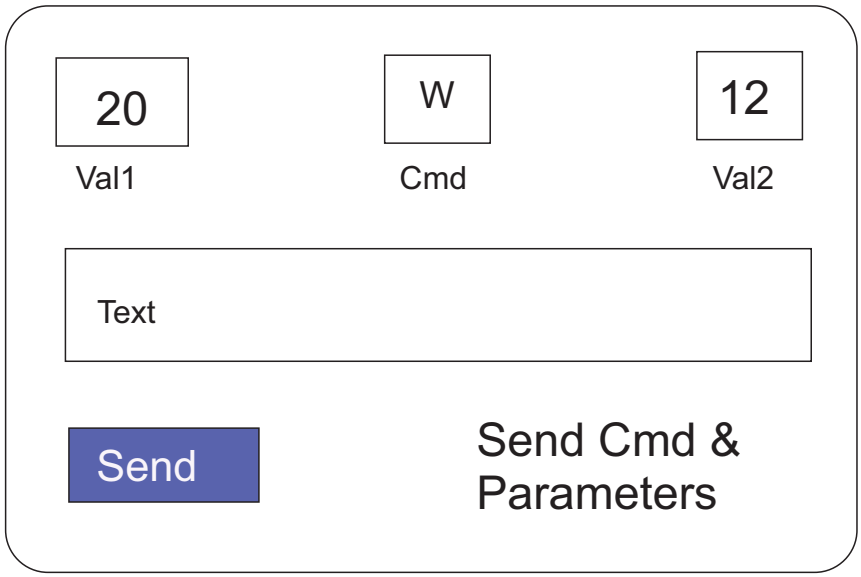
Val2 :- if > 100 then change settings to 4K mode

Takes an imported screen layout and scale it to fit the resolution of the video display

Min 25% to max 200%, Screen layouts are loaded as 1080p x 1920p.

W

Wipe and clear the current page



Val 1 =Pin 20

Val2 = Pin 12

Text = N/A

Clears the current page and places all gui's into the upper right hand corner.

All guis's are hidden. All gui's are size 50x50

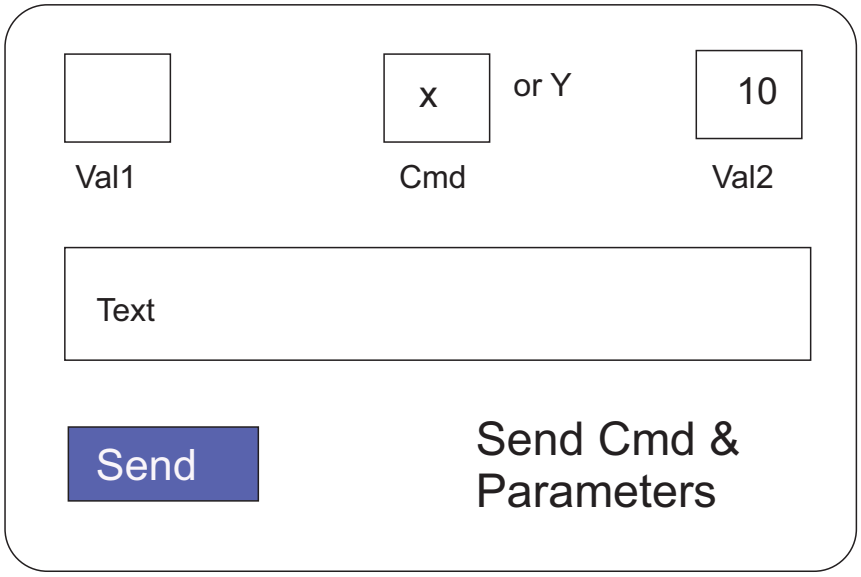
All boarders off. All colour = white on black

All variables (G_Flags) and A Flags are cleared, (set to zero)

!! Caution !! The whole page will need to be rebuilt after this command

X&Y

Places a gap between the X and Y text boxes when creating the player name panels (#11)



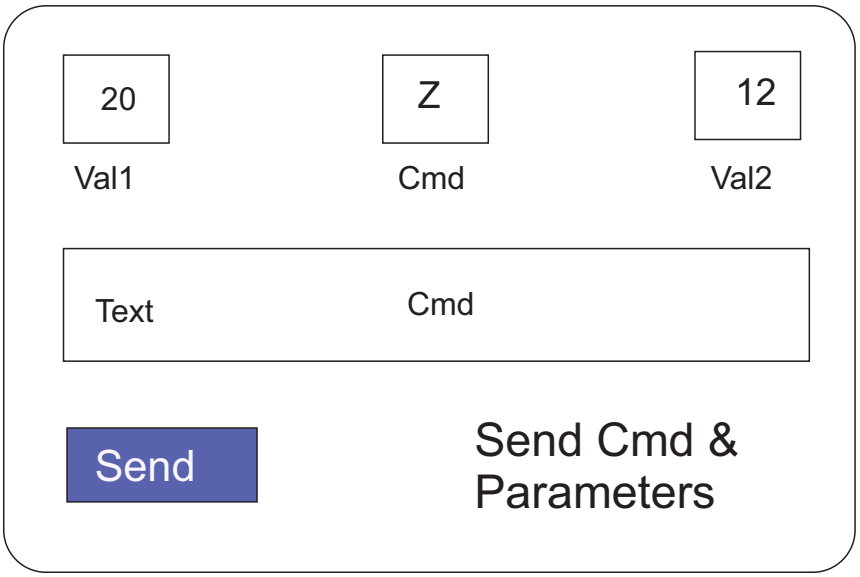
Val 1 = N/A

Text = N/A

Val2 = Is the number of pixels between the text boxes on either the x or y axis
NB: Only used when creating or sizing the player name panels. Pn,Pname,Pf,Pp

Z

Special control requires PIN



Val 1 = Pin No = 20

Val2 = Pin No =12

Text = The actual special command

Commands:-

"R" = Reboot the SVI. >> Causes the SVI module to shutdown and re-boot
"S" = ShutDown the SVI. >> Causes the SVI module to turn OFF.
"E" Shut down the running programme. END, goto windows

Logo’s Folder #1

Naming rights

1A

1B

Major Sponsors

2A

2B

2C

2D

2E

2F

2G

NBL Teams Folder #0

1A

2A

3A

4A

5A

6A

7A

8A

9A

Logo folder #1

Broadcast

3A

ESPN

3B

VICE LAND

3C

SBS ONDEMAND

LADDER

BUNNINGS warehouse

Profile

4A

MARSH

4B

Europcar moving your way

4C

SWINBURNE UNIVERSITY OF TECHNOLOGY

4D

Supplier

5A

Mitchell & Ness

5B

Wilson

5C

UNDER ARMOUR

5D

FIRST EVER

NBL Teams Logo Folder #0

1B

2B

3B

4B

5B

6B

7B

8B

9B

10B

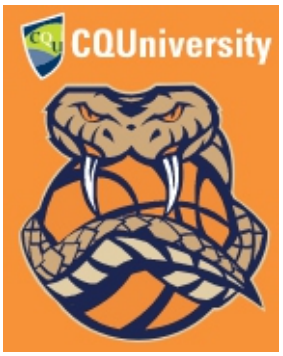
NBL Teams Logo Folder #0

These logo's are dual named eg 1 and 1C

1 1C

2 2C

3 3C



4 4C

5 5C

6 6C

7 7C

8 8C

9 9C

10 10C

Master Logos Folder #3

1A

1E

1B

1C

2A

ACTIVE DISPLAYS

BOOT SCREENS

ORO-BOOT4 (RIBBON)

ORO-BOOT5

OFO-BOOT1 (Full Screen)

OFO-BOOT2