JVC

SCORING OVERLAYS

GY-HM200SP

USERS GUIDE

Network Connections,

Overlays and

Scorebot Live Data Feeds

JVCKENWOOD

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Introduction

The following guide is designed for ease of use by non-technical individuals. It is based on a step by step walkthrough with the camera in actual use. It is suggested that you read through this carefully and be sure that you understand the steps before working with the camera. Testing the entire system and setup that will be used for recording or live streaming should be done well in advance of an event. This will help to insure trouble free operation and allow time to address any issues that may arise in testing.

The JVC scoring overlays are used to provide the score and other information about the game while capturing and/or streaming video. The overlays become a permanent part of the video, once added to the video being sent to the SD card recorder or to the internal encoder for live streaming. They may not be removed later except by cropping the video.

There are overlays are for a variety of sports – they include:

- Baseball
- Basketball
- Football
- Type 1 (For Soccer, Rugby, Field Hockey, Lacrosse etc)
- Type 2 (For Volleyball etc, with no clock)

Overlays may be used as found on the camera (default) or as modified by the user (more about this later).

STEP 1: Selecting an Overlay

Accessing the overlay functionality in the camera is done via the main menu, simply swing out the LCD panel and press the MENU/THUMB button. The camera menu appears on the LCD screen and is seen to the right. There is a "mini-joystick" below MENU/THUMB button which has both directional control and select capability. You will use this mini-joystick to scroll up or down the list of options displayed or to drill down into any sub-menu options.


Overlays are available when recording or streaming at a resolution of 1920 by 1080 or 1280 by 720 pixels.

1) To access the **Overlay Settings**, press the "mini-joystick" below the MENU/THUMB button. The overlays are the first item on the **Main Menu**, as seen above.

2) To select the type of overlay that you wish to use, scroll down to **Type** and press the mini-joystick (enter) or to the right. The list of available overlays is shown (this may vary based of the firmware edition your camera is using).

   Scroll to make your choice, and then press the center of the mini-joystick to select. In the example seen here, **Football** was previously selected and **None** has been highlighted, as if to turn off the overlay.
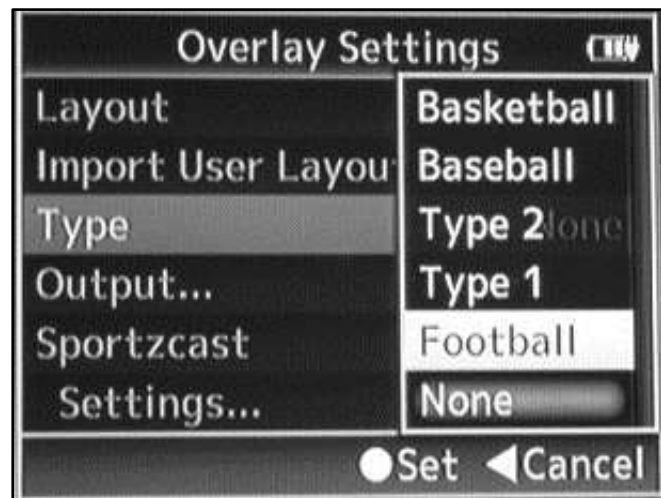
3) Once you select the type of overlay you are taken back to the **Overlay Settings** menu.

4) You then select where you want the overlay to appear. Scroll down to **Output** and press the mini-joystick in or to the right to see the output options as shown here.

   The overlay is selectable for **HD Recording** or **HDMS/SDI** output from the camera but is **On** by default and is fixed (not modifiable) for **Proxy Recording** and **Live Streaming**.

Overlay Output	
HD Recording	On
HDMI/SDI	On
Proxy Recording (Fixed)	On
Live Streaming (Fixed)	On
USER3 Apply	

To disable the use of an overlay or to not have an overlay present during live streaming, the user should select **None** from the **Type** as explained in 2 above.

5) Once an overlay has been selected, you will need to input and update the information displayed as the game progresses. A laptop, tablet or phone with wireless computer network capability is needed.

STEP 2: Establishing a Connection

The instructions seen here for establishing a connection are not comprehensive, as they are intended to get you "up and running" with the camera quickly and easily (comprehensive information may be found in the camera manual). Three of the four methods of connecting to the camera from an external device will require the camera to have an IP address. You will enter this address into the web browser address field on the external device. The exception to this IP address requirement is the P2P method, which will be presented first. The 4 options for enabling a connection to the camera from an external device are as follows:

- P2P
- Wireless Internet Connection
- Hardwired Internet Connection
- Cellular Connection

P2P
This method is useful when you will only be capturing video to the internal recorder or when there is no wireless or hardwired internet capability available. This is the simplest way to connect to the camera but this **WILL NOT** allow video to be steamed out to an internet destination. This method will not work unless the camera has a wireless adaptor connected (typically the small USB wireless antenna).

To utilize this method:

1) Enter the main menu by pressing the MENU/THUMB button above the mini-joystick, scroll down to **System** and press the mini-joystick (enter) or to the right.
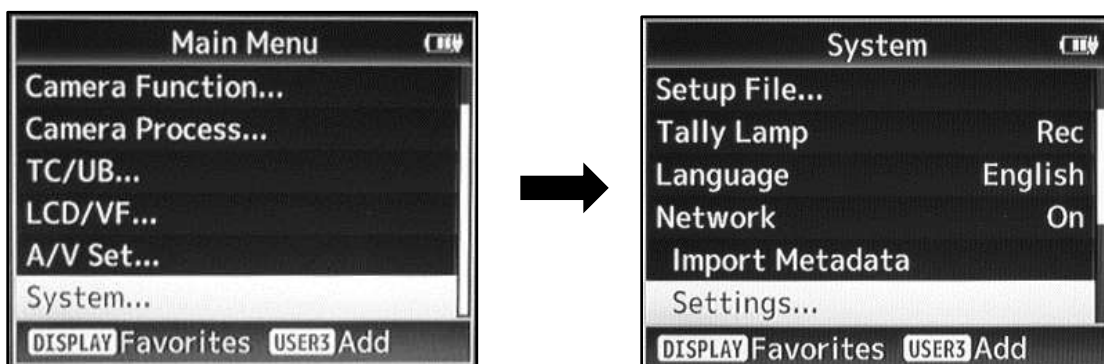

2) Scroll down under **System** to highlight **Network** and press the mini-joystick. An On/Off option opens, select **On**.

3) Still within the **System** menu scroll to below **Network** select **Settings** and press enter.

4) Within **Network Settings** scroll down to **Connection Setup,** press enter
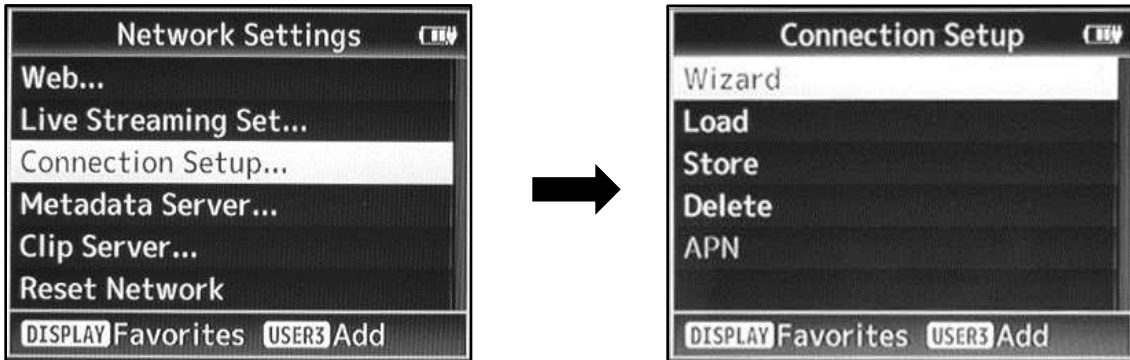
5) Highlight **Wizard** and press enter; you will see **Available Adaptor (Wireless LAN)** this indicates that the small antenna / wireless adaptor has been plugged into the USB port.
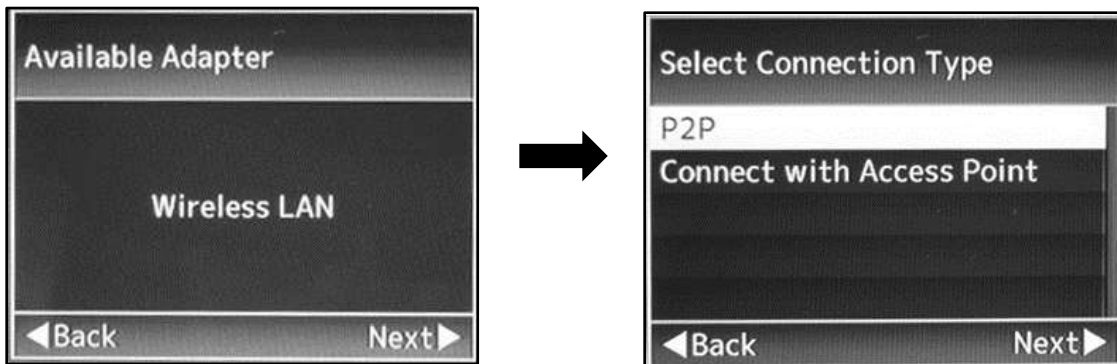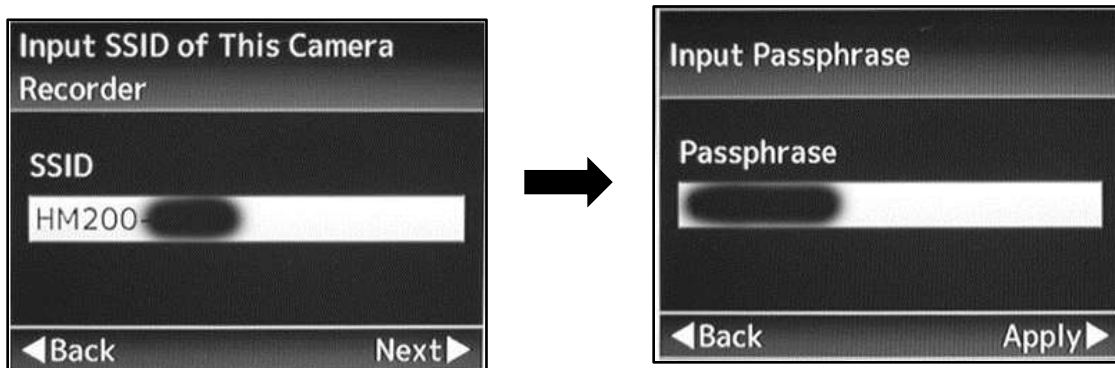

6) Press the mini-joystick to the right to follow the **Next** arrow, leading to **Select Connection Type.**

7) Select **P2P** press enter or press the mini-joystick to the right to follow the Next arrow, leading to **Select Setup Type.**

8) Under **Select Setup Type,** highlight **Manual** and press enter or press the mini-joystick to the right to follow the **Next** arrow, leading to **Input SSID.**
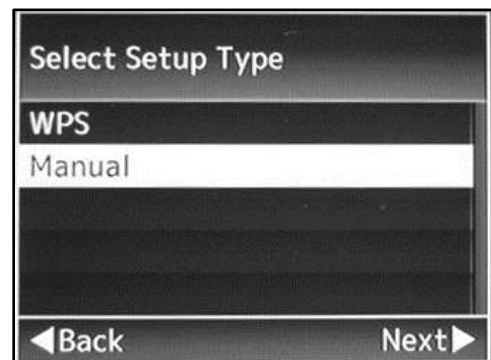
9) Under **Input SSID** you will find the identity of the camera if previously setup or you may enter the name you wish to use in alphanumerics. To enter the SSID press down on the center of the mini-joystick and use the alphanumerics panel to enter the name. To accept the SSID displayed press the mini-joystick to the right, which follows the **Next** arrow to the **Passphrase**.

10) As for **SSID** above, under **Input Passphrase**, you will press down on the center of the mini-joystick to enter a passphrase or press right to **Apply** the passphrase displayed.

11) Once completed you will see the **Finished** message shown to the right. You are now ready to connect to the camera via P2P.

**Wireless and Hardwired Internet Connections**

An IP address is obtained automatically by the camera when it is connected to a local area network (LAN). You can connect to a LAN from the camera via a wireless connection (requires a USB antenna) or with a direct wired connection (requires a Cat 5 to USB adaptor). Another option is to use a wireless "hotspot" which connects to the internet over a cellular phone network. Be aware that streaming video uses a lot of data and cellular networks may have restrictions or overage charges for data transmission.

To connect to a wireless network you will need to know the SSID (the name of wireless local network) and the password. The network must be able to allow devices to connect with the network ID and passphrase. A network that requires a web browser for access will not work with the camera, as it does not have an internal web browser. Be certain to check the network on location in advance of the event to avoid problems, as there are many possible network configurations.

Wireless Internet Connection

To enable the wireless connection:

1) Access the **Main Menu** via the MENU/THUMB button on the flip out LCD panel and scroll down to **System**, and press the mini joystick to access the **System** options.
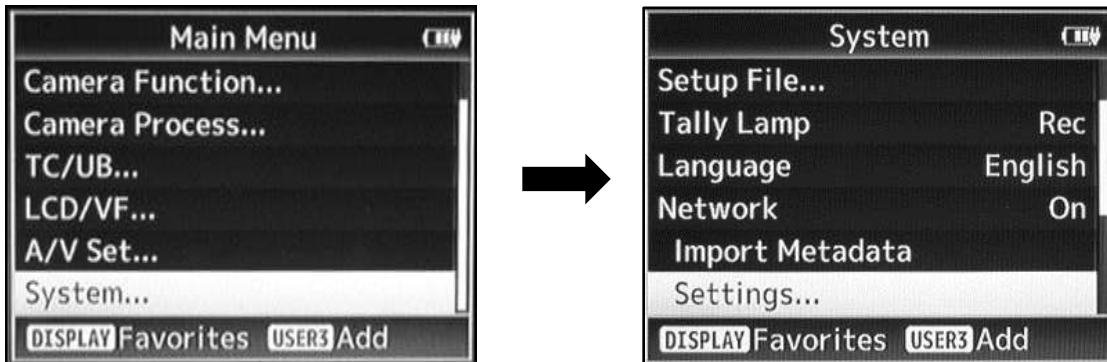

2) Scroll down under to highlight **Network** and press the mini-joystick. An On/Off option opens, select **On**.

3) Scroll down under **Network** to highlight **Settings** and press the mini-joystick to access the **Network Settings** options, as seen here.

   There are several options in this sub menu that will be used when controlling the overlay and live streaming (more about those later).
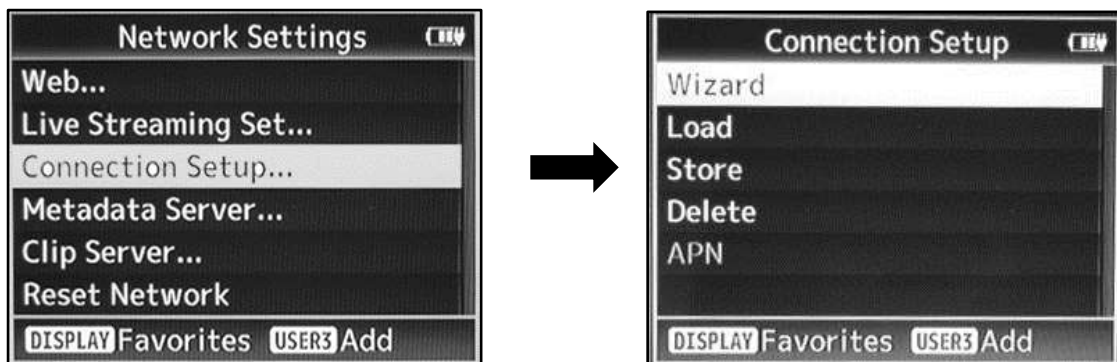
4) Scroll down to **Connection Setup** and press the mini-joystick to see the options. The first option is **Wizard**, which will automatically detect the available network adaptor. Press the mini-joystick to begin.

5) The result will be **Wireless LAN.** Use the mini-joystick to follow the **Next** prompt to **Select Connection Type**. Highlight **Connect with Access Point** and press the mini-joystick.

Available Adapter	Select Connection Type
Wireless LAN	P2P / Connect with Access Point
◀Back Next▶	◀Back Next▶
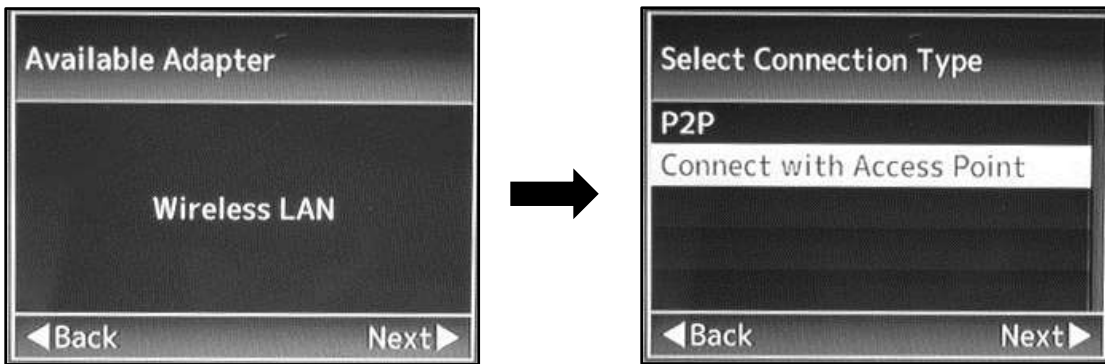
6) You will then be prompted to **Select Setup Type**, highlight **Search Access Point** and press enter. The camera will search for the available networks.
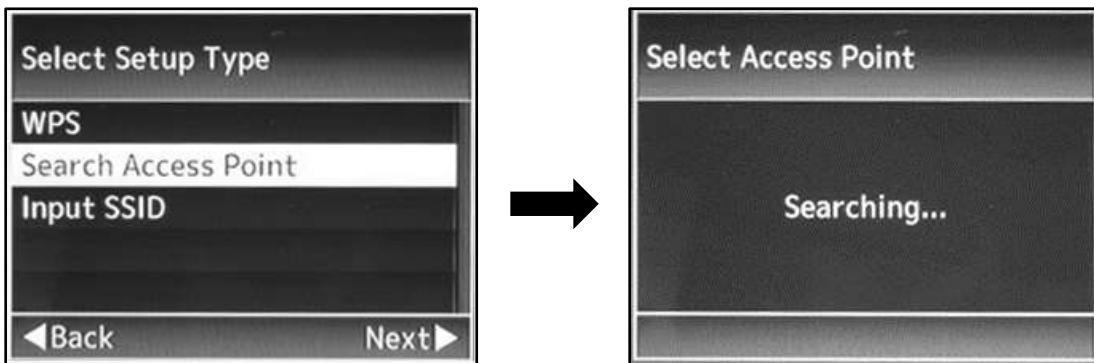
7) Select the network you wish to access and press enter to **Input Passphrase**. Use the displayed alphanumerics to enter the passphrase by scrolling with the mini-joystick and pressing to select characters. Once finished entering the passphrase, highlight **Set** and press the mini-joystick.
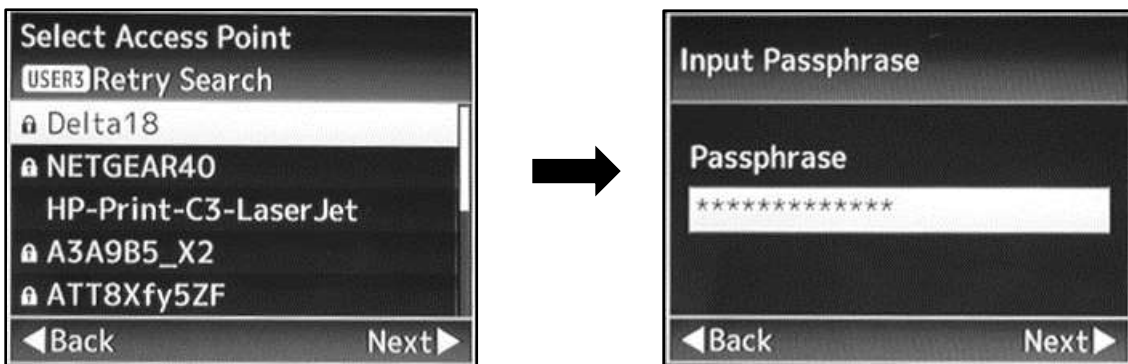
8) You will then need to set the **IP Address Configuration**, which has 2 options: **DHCP** or **Manual**. **DHCP** is most commonly used but the address can be entered manually if required. Press the mini-joystick and you will see the word **Connecting…** with the periods flashing as it establishes a connection.
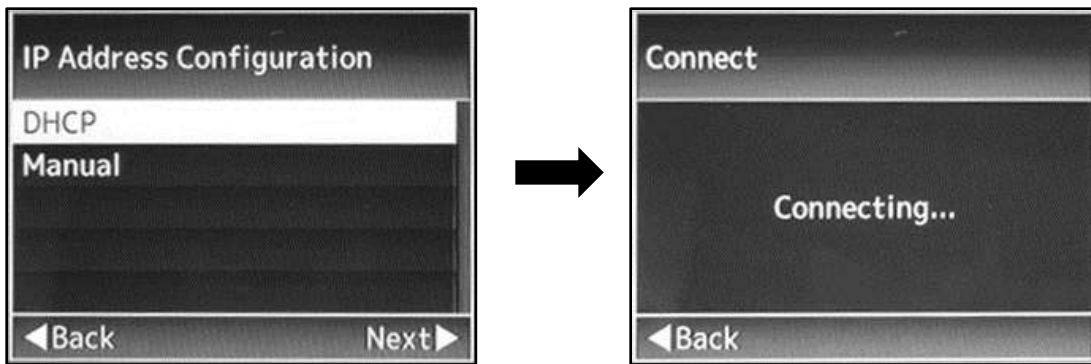
9) If the passphrase is incorrect, the periods will just keep blinking.
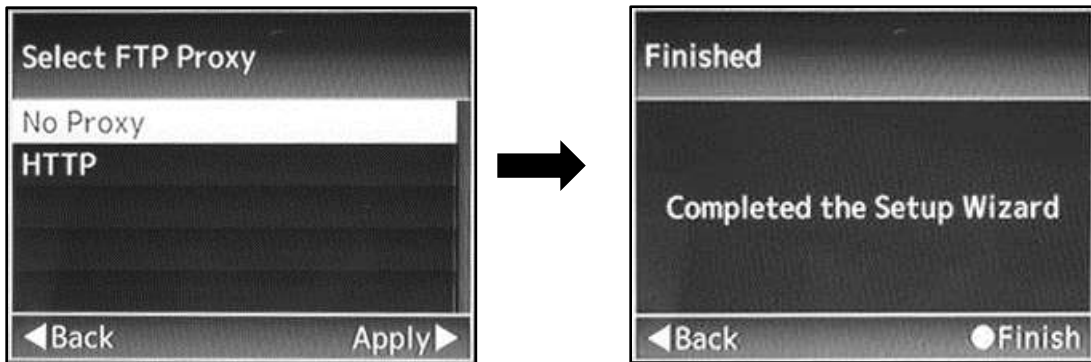
10) Use the mini-joystick for follow the **Next** prompt to the options for **Select FTP Proxy**. You will likely select **No Proxy** and press the mini-joystick to follow the **Apply** prompt.

11) You will then see the message: **Completed the Setup Wizard**. Press the MENU/THUMB button at upper right of LCD panel to exit. You will then see a yellow network icon in the upper right or the LCD panel. It should go from yellow to white within a second or two. The white network icon indicates an established connection.

Hardwired Internet Connection

To utilize a wired connection simply plug the cable adaptor into the computer and connect a Cat 5 cable, before powering on the camera. A direct wired connection may or may not require a password. The IT staff at the event location should be able to assist. Be sure to check the network on location in advance of the event to avoid problems and to allow time to resolve any issues that may occur. The instructions are similar to using a wireless connection, but are shown below as a step-by-step process.

To enable the hardwired internet connection:

1) Access the **Main Menu** via the MENU/THUMB button on the flip out LCD panel and scroll down to **System**, use the mini joystick to access the **System** menu.
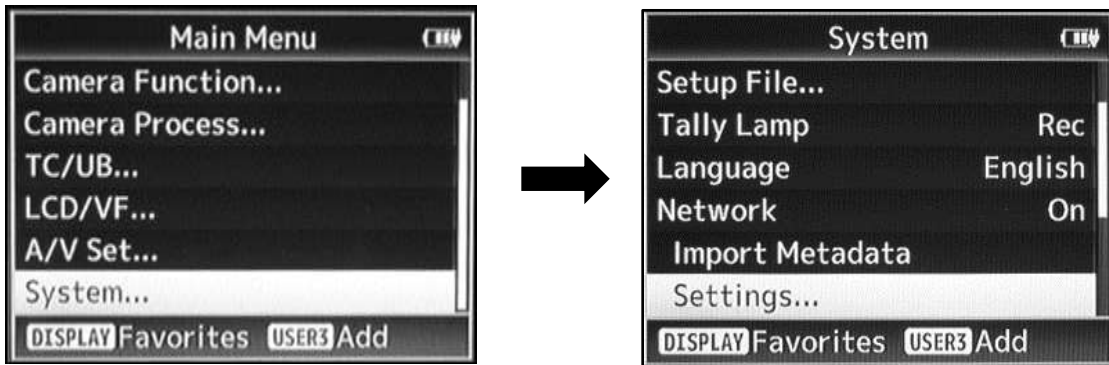
2) Scroll down under to highlight **Network** and press the mini-joystick. An On/Off option opens, select **On**.

3) Scroll down under **Network** to highlight **Settings** and press the mini-joystick to access the **Network Settings** options, as seen here.

4) Scroll down to **Connection Setup** and press the mini-joystick to see the options. The first option is **Wizard**, which will automatically detect the available network adaptor. Press the mini-joystick to begin.

5) The screen will then show the **Available Adaptor** as see below – the screen should display **Ethernet**. Use the mini-joystick to follow the **Next** arrow.
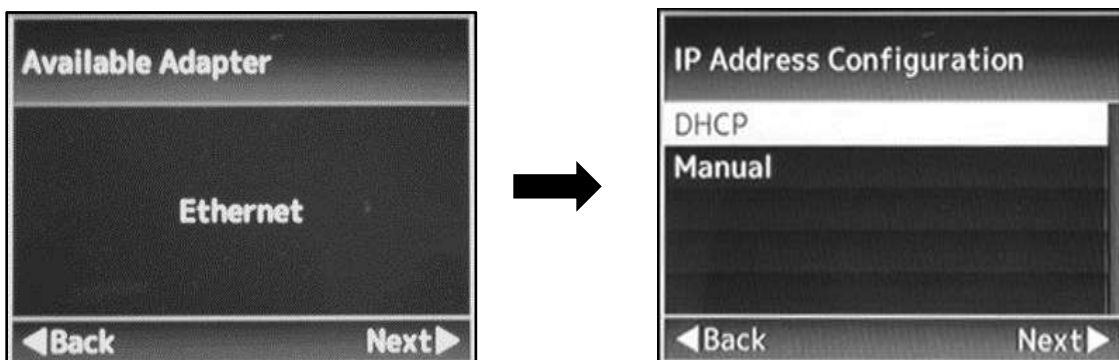
6) You will then need to set the **IP Address Configuration**, which has 2 options: **DHCP** or **Manual**. **DHCP** is most commonly used but the address can be entered manually if required. Press the min-joystick in or to the right to follow the **Next.** Prompt.

7) On the **Select FTP Proxy** screen You will likely select **No Proxy** and press the mini-joystick in or to the right to follow the **Apply** prompt.
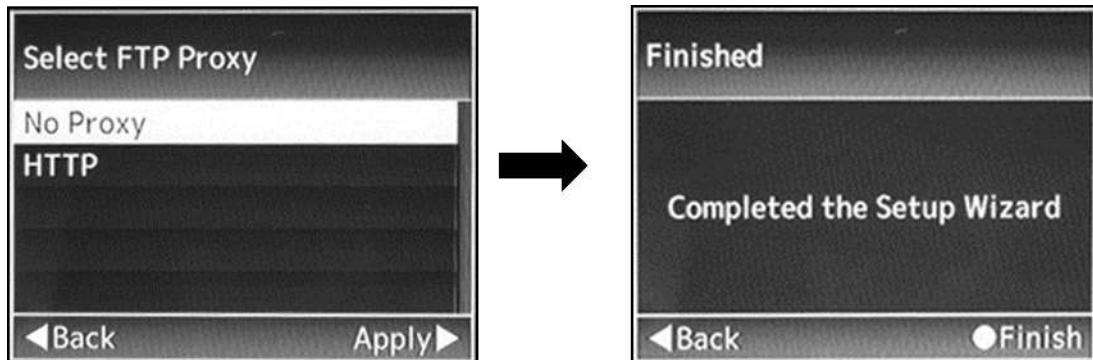
8) You will then see the message: **Completed the Setup Wizard**. Press the MENU/THUMB button at upper right of LCD panel to exit. You will then see a yellow network icon in the upper right or the LCD panel. It should go from yellow to white within a second or two. The white network icon indicates an established connection.

STEP 3: Controlling the Overlay

Once the camera has successfully established a connection to a local network, it will be possible to connect with a wireless enabled laptop, tablet or cell phone.

The overlay control does not utilize an "app" for control of the overlay – it utilizes the web browser in the remote device for control. Once you connect to the camera with the web browser, a control panel will open that allows you to remotely control many functions of the camera.

You will need to know the **IP Address** of the camera in order to establish a connection. The **IP Address** of the camera can be found by pressing the **STATUS** button which is found adjacent to the memory card slots.

| ◄	Network	►
Type		Access Point
SSID		NETGEAR40
Security Type		WPA2
Passphrase		**************
DHCP		On
IP Address		192.168.1.9
MAC Address		000E3B7107E5
Live Streaming		
		Off
Type		RTMP
Sportzcast		
		Disconnected

This button allows access to several menus, by default you will see **Network** which has the information you need. The **Network** information displayed is seen above.

Step by step instructions are as follows:

1) Open a web browser window on the remote device and type in the **IP Address** of the camera and press enter. You will type this number into the address bar of the browser in the form of **"http://192.168.1.9"** or similar, press enter on the remote device.
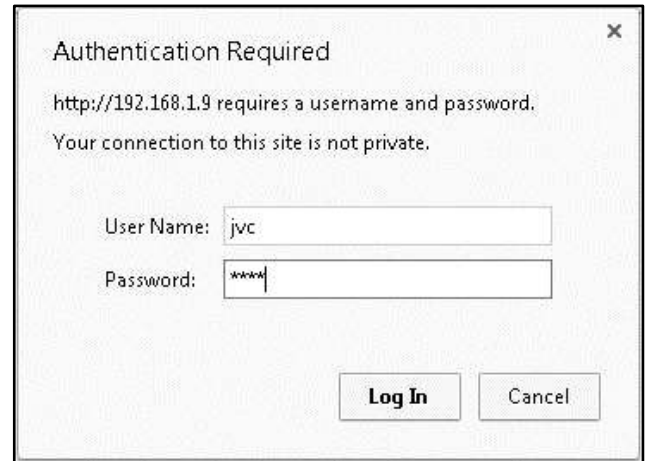
   An example is seen below.

New Tab ✕

← → C ⓘ http://192.168.1.9

Gmail   Images
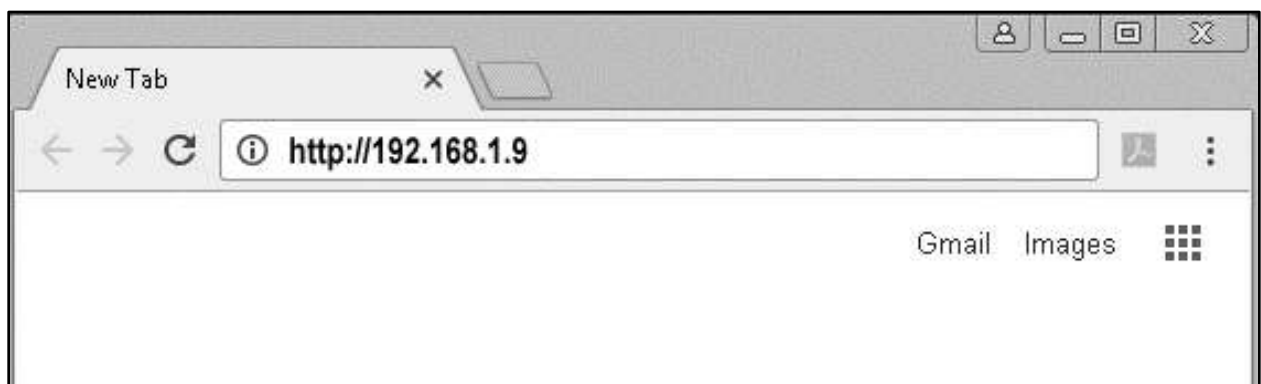
2) Authentication is required for remote control of the camera the camera, which prevents unauthorized access during use.

You will be prompted in a popup window to enter a username and password.

By default the username is **JVC** and the Password is **0000**.

3) The next panel that is seen is the camera control panel, as shown to the right. This panel is utilized to remotely control many of the functions of the camera and even allows viewing to the incoming image from the remote device.

4) To access the overly control, click on the **Overly Control** button in the lower center of the control panel.

5) If no overlay has been previously selected, you will see the following message:

> Overlay is set to None in the camera menu. During this mode, score input is disabled.
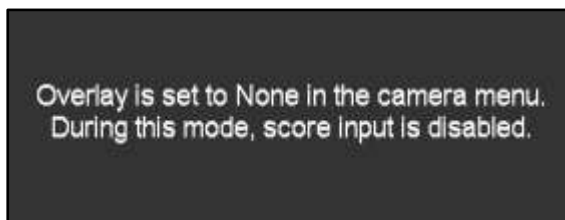
6) If an overlay has been previously selected, you will see the control panel. This control panel is where you update the various settings that are displayed in the overlay. Examples of the various overlays and the control panels for the overlays are seen below. All overlays are controlled in generally the same manner, details for football will be shown and for the remaining overlays significant variations from the football control will be explained.

FOOTBALL

The various options on the control panel include
- Overlay indicator
- the game clock
- downs and distance to the next 1st down
- penalty flags
- score
- time outs remaining
- quarters, halftime and overtime
- team names

Control of the overlay is done by pressing or clicking on the buttons to select or modify the displayed information. Once an option is selected, it is highlighted in blue. To unselect an option, simply click of press the button again

Overlay Indicator - this button, to the right of the large **Update** button, controls and indicates the display of the overlay. When the overlay is displayed it is blue, when the overlay is not displayed it is dark gray.

Game Clock – to set the time on the game clock, click within the **00** minutes or **00** seconds area of the display and enter the desired time. The time is then sent to the camera by pressing the **Set** button. Pressing the **Stop** or **Start** buttons causes the clock to pause or restart.

> **Note:** the game clock displayed on the web browser does not match the camera once started, the time on the camera changes but on the browser control it does not change.

Downs/Distance – If **None** is highlighted in blue as seen here, the down and distance (d/d) is NOT displayed. Just click or press on it to re-enable display of the d/d.

The down displayed on the overlay is indicated in blue.

To modify the yards, click or press the left or right arrows and click or press **Update**. Only the yards within d/d must be updated, all other settings display as soon as selected.

Penalties – By pressing or clicking on the **FLAG** button, the displayed d/d is replaced by the word FLAG, as seen below. Pressing or clicking again removes the flag display.

Possession is indicated by the **Left** or **Right** button and a red highlight which appear to the left of each team name on display.

Scores/Timeouts – To input or update the score and time outs, select **Left** or **Right** to choose which team will be updated. Then use the left or right arrows to modify the score or timeout displayed and click or press **Update**.


The example seen above shows that the left team score and timeouts remaining (yellow bars below team name) have been modified and that a penalty flag is indicated.

Quarters/Halftime/OT/Final – These are all controlled by clicking or pressing on the button. They will turn blue when selected and it is not necessary to press the **Update** button. They are displayed as soon as selected

Team Name – The team is changed by clicking within the white box below **Left Team Name** or **Right Team Name**. Once the desired names are input, press or click the **Set** button to display the name. The team name is not modifiable when the overlay layout under the **Overlay Settings** menu is set to **User**.

Baseball
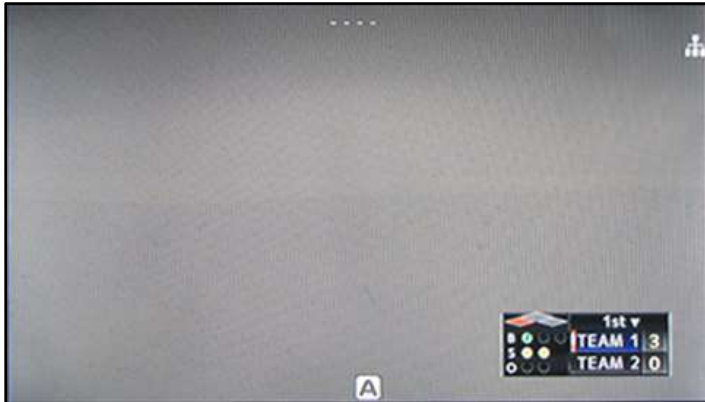
The baseball overlay is controlled the same way that the football overlay is controlled. Various options are selected in the controller and then displayed (or not displayed) in the overlay.

The **Update** button must be used to display changes made to **Scores** and **Innings**.

Changes to **Top & Bottom**, **Offense**, **Runner**, and **Count** are displayed as soon as entered.

The **Clear** button is used to clear the **Runner** and **Count** display, for when the teams switch from offense to defense at the top or middle of an inning. The **Display** button below the diamond base indicators causes the **Runner** and **Count** to be displayed. When it is blue, they are displayed in the overlay.

Team Name – The team is changed by clicking within the white box below **Left Team Name** or **Right Team Name**. Once the desired names are input, press or click the **Set** button to display the name. The team name is not modifiable when the overlay layout under the **Overlay Settings** menu is set to **User**. This indicates that a user modified overlay is displayed.

Basketball

For the basketball control, notable differences from other overlays include the ability to add scores in increments of 1, 2 or 3 points and the presence of 2 configurable shot clocks.

As with the football overlay, all clocks count down in the overlay but to do not change in the control.

The **Update** button is used to display changes to the scores, after selection with the **+1**, **+2** or **+3** buttons.

Two shot clocks are available for use, but only one of them is displayed at a time – in the red area at the far right of the overlay. To switch between the display of shot clock 1 or 2, use the reset buttons. **Reset 1** causes shot clock 1 to be displayed. Shot clock 2 is displayed after pressing **Reset 2**. The time selected for the shot clock may be configured by entering a number or by using the arrows. Once the needed time is displayed, pressing or clicking on the **Set** button configures that clock going forward.

All other functions display automatically in the overlay as soon as they are modified in the control panel.

Type 1

The type 1 overlay is very similar to the football overlay with the score updated by using the **Update** button. The **Periods** are updated as soon as entered and the displayed number is blue on the control.

There are 2 significant differences between this control and the football: the game clock and the **SO** button. These **Count Up** and **SO** features allow this overlay to be used for soccer matches.

The game clock may be set to count up or to count down. Time is **Set** for countdown using the minutes and seconds arrows or directly entering the time. (The game clock does not update in the control when run in count up mode).

The **SO** button indicates that the game has gone to a Penalty Shoot-Out.

Team names are not shown on the control because in this example a custom overlay is in use.

Type 2

This overlay can be used for sports like Tennis or Wrestling where there are multiple sets or matches.

The **Score** and **Games Won** are updated by Entering the score or by using the arrows. Once entered, the new number is displayed after clicking the **Update** button.

The **Set** selection is displayed immediately and the displayed number is blue on the control.

The **Team Name** may be entered and is then displayed after using the **Set** button below the team names (if custom overlays are not in use)

Automatic Scoreboard Data Import (Sportzcast)

Data can be automatically added to the game overlays when the venue has installed a device called a "Scorebot" from Sportzcast. This device connects to the scoreboard and outputs the scoreboard data over the internet to a server. The camera then connects to the server and retrieves this information in real time. There are a number of settings that must be configured to utilize the live data fees and the camera must be connected to a network to retrieve the data.

You will need the following information (obtained from Sportzcast) to establish a connection to retrieve the scoreboard data

- host name and IP address of the server
- license name
- bot number
- channel

You will also select the input source for **Score Input**, **Team Name**, **Shot Clock** and other data.

Step by Step Instructions:

1) Open the main menu and select **Overly Settings**. Scroll down to **Sportzcast** and right select on the mini-joystick to see the **Connect/Disconnect** choice. This is not available unless a network connection has been established.
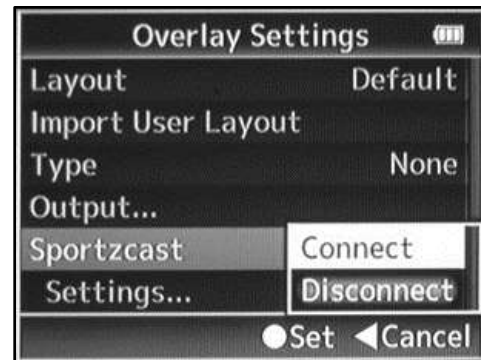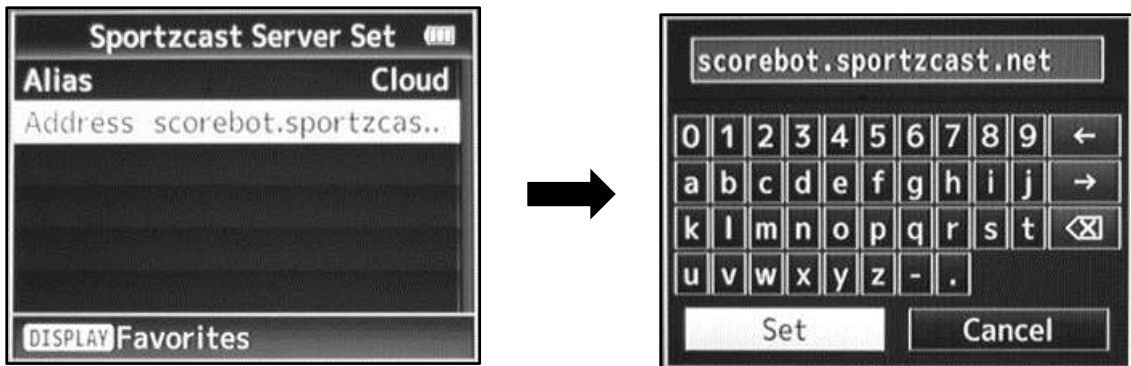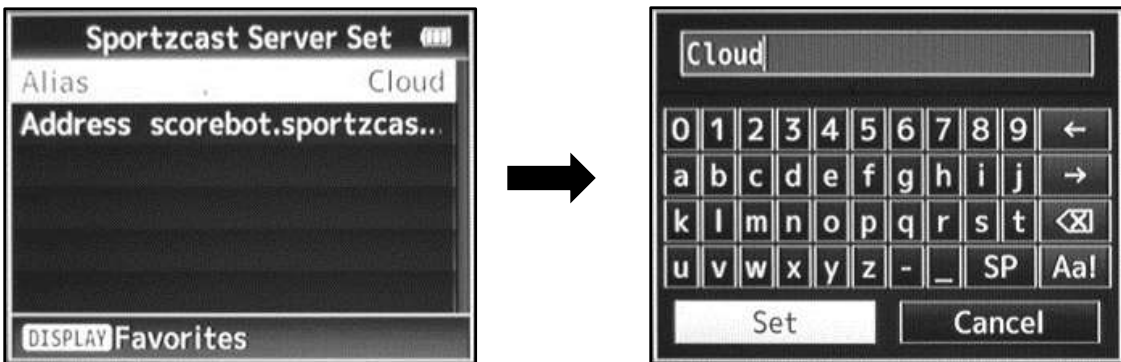
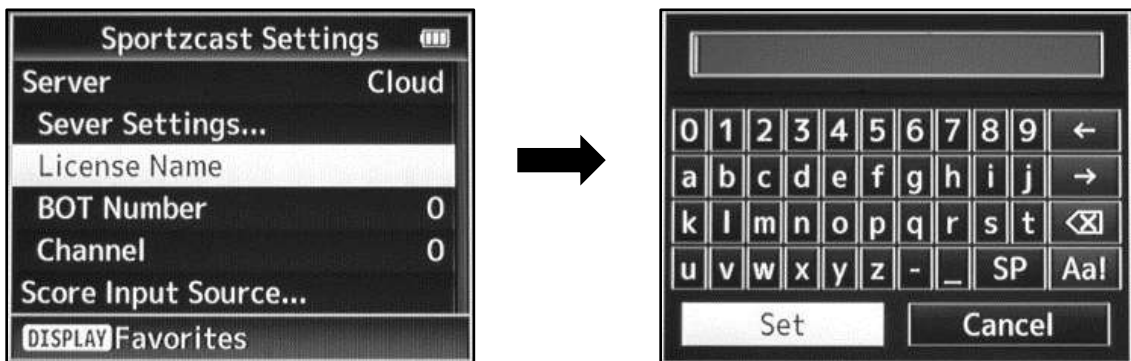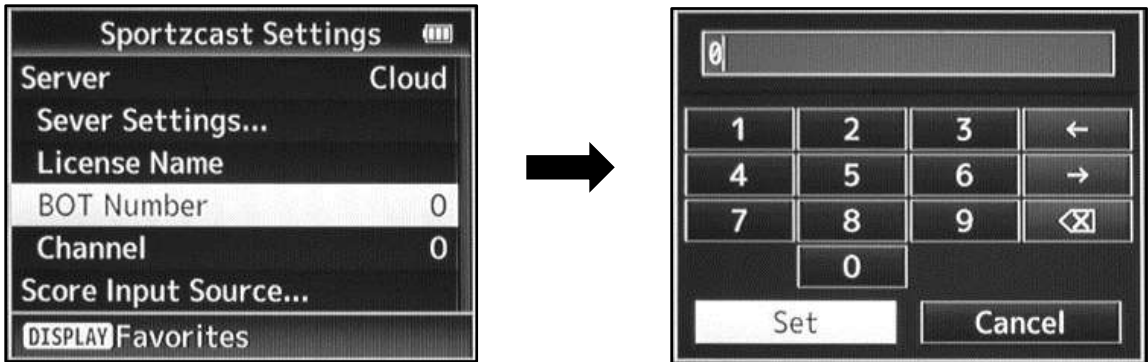2) After connecting you will need to set the following under **Settings**

3) **Server Name**

22
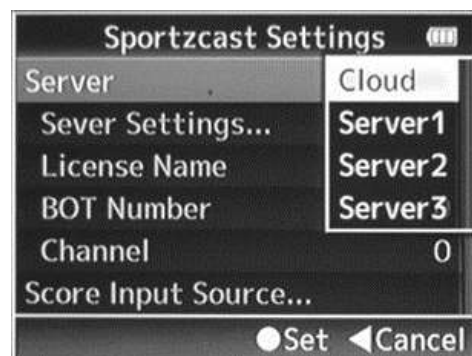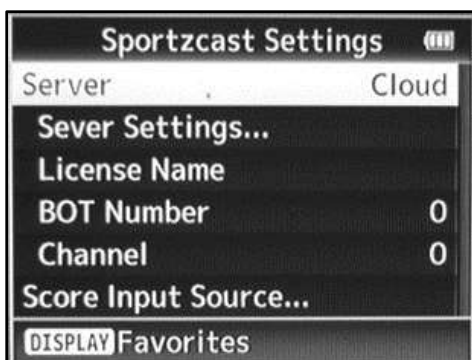
4) **Server Settings** (name and address) which are obtained from Sportzcast

5) **Server License Name**

6) **Server Bot Number**

Sportzcast Settings	
Server	Cloud
Sever Settings...	
License Name	
BOT Number	0
Channel	0
Score Input Source...	
DISPLAY Favorites	

➡

0			
1	2	3	←
4	5	6	→
7	8	9	⌫
	0		
Set		Cancel	

7) **Server Channel**

Sportzcast Settings	
Server	Cloud
Sever Settings...	
License Name	
BOT Number	0
Channel	0
Score Input Source...	
DISPLAY Favorites	

➡

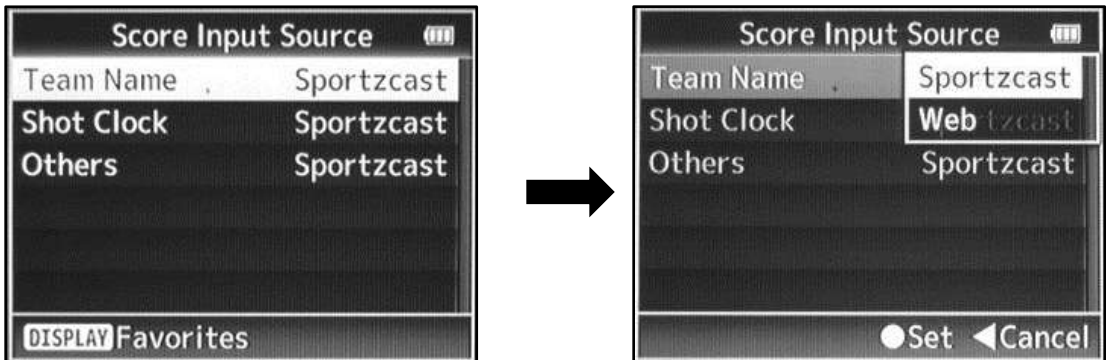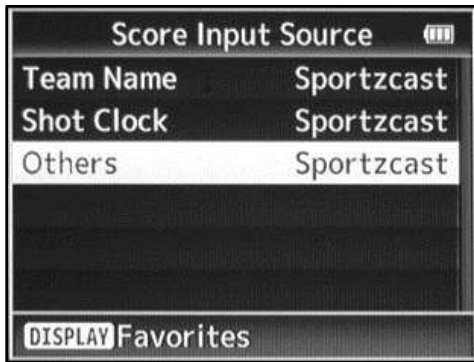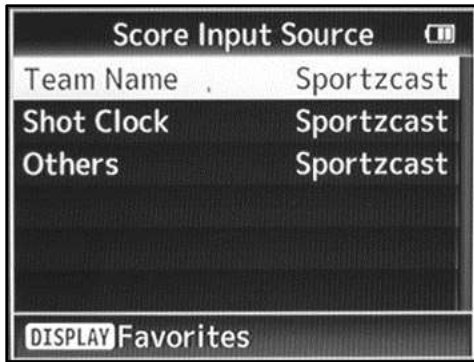|	
Sportzcast Settings	
Server	Cl 5
Sever Settings...	4
License Name	3
BOT Number	2
Channel	1
Score Input Source...	0
	●Set ◀Cancel

8) **Score Input Source** for **Team Names, Shot Clock** and **Others**

The **Score Input Source** settings are used to set input for the items on the overlay, including the team names, shot clock and others.
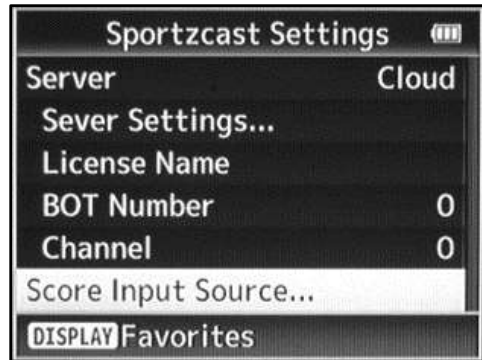
9) Right select with the mini-joystick when **Score Input Source** is highlighted. Examples are seen below.

Sportzcast Settings	
Server	Cloud
Sever Settings...	
License Name	
BOT Number	0
Channel	0
Score Input Source...	
DISPLAY Favorites	

Score Input Source	
Team Name ,	Sportzcast
Shot Clock	Sportzcast
Others	Sportzcast
DISPLAY Favorites	

➡

Score Input Source	
Team Name ,	Sportzcast
Shot Clock	Web tzcast
Others	Sportzcast
	●Set ◀Cancel

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The camera is now configured to obtain live game information from Sportzcast and display it in the overlay.

STEP 4: Customizing and Uploading an Overlay / SDIP Generator

The SDP generator software allows users to create images files and team names that can be added to the overlays. The images for use in an overlay must be in the .png format and should have a transparent background. The custom image import into overlays is allowed for recording resolutions of 1920 by 1080 and for 1280 by 720.

For the overlays, the dimensions for the images are as follows (all units are in pixels). Image dimensions greater than the listing below will result in part of the image not being displayed.

Football, Basketball, Type 1 and Type 2 Overlays

| Recording resolution	1920 by 1080	1280 by 720
Size (W x H)	188 x 30	125 x 20

Baseball Overlay

Recording resolution	1920 by 1080	1280 by 720
Size (W x H)	91 x 30	62 x 20

Preparing an image for use in the SDP Generator requires basic familiarity with image editing software like Photoshop or GIMP. Since for most of the overlays, the image dimensions are very wide compared to the height, a rectangular image will give best results when imported into the SDP Generator. Using a square image isn't recommended – it will not yield favorable results, since it will only be as wide as it is tall – maximum of 30 pixels. Baseball is somewhat of an exception since it allows images that are 91 pixels by 30 pixels.


Seen here is an example of an image that will work well. It is 30 pixels in height, 149 pixels in width and has a transparent background. This is appropriately sized for the 1920 by 1080 resolution. Once created it may easily be resized for use at the lower recording resolution. You may want to add the team name to the image.
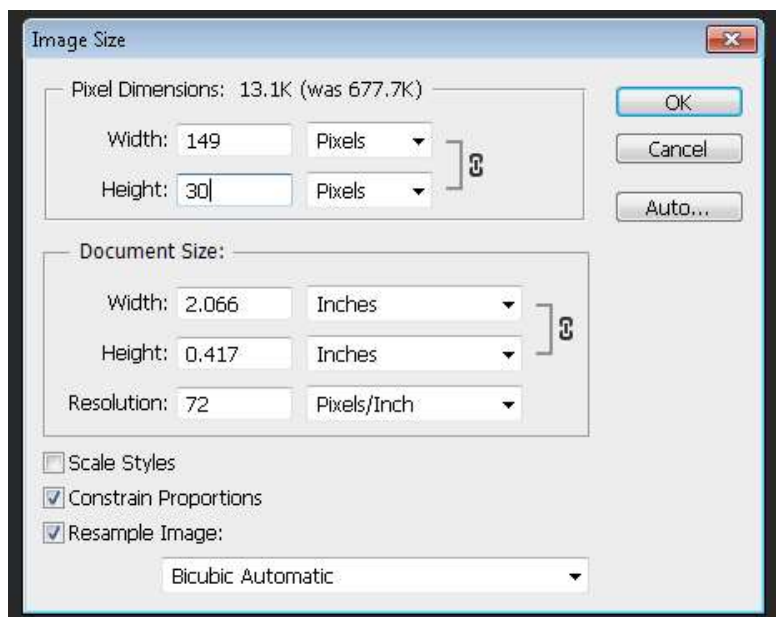
Using the SDP Generator Software

Open the SDP generator program to begin creating you custom overlay. The interface is simple and easy to use. The functions of the various parts of the interface are as follows:

- **New** button (upper left) – deletes all teams shown under team list
- **Generate** button (next to new button, upper left)) - generates the SDP file
- **Team List** – shows the list of team overlays that have been created
- **+** symbol (lower left) – adds a new team under **Team List**
- **–** symbol (next to +, lower left) – deletes a highlighted team from the **Team List**
- Under **Property** (far right)
    - Image for 1920x080
    - Images for 1280x720
    - **>>** used for image selection
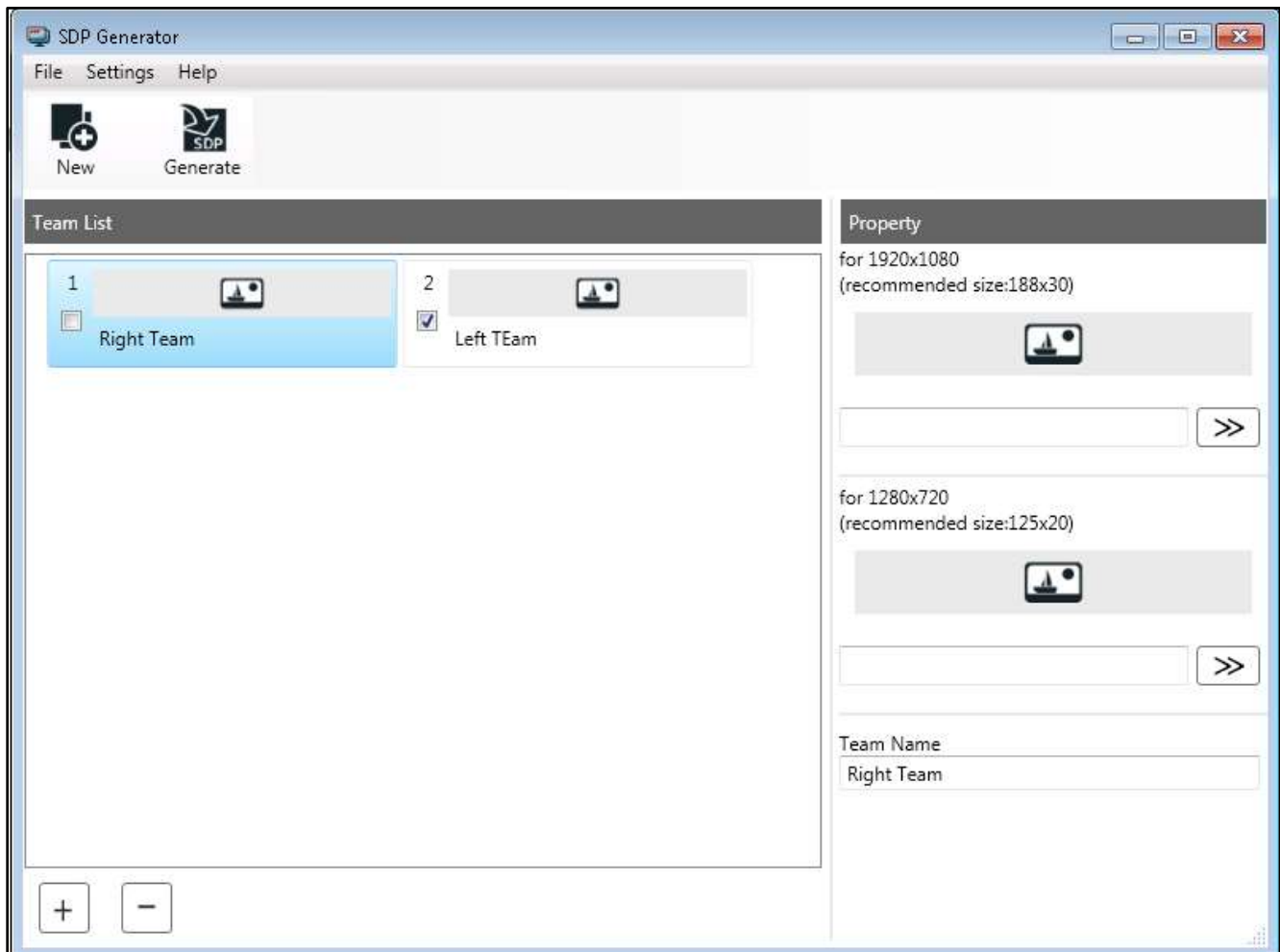
**Step by Step Instructions for Creating Overlays:**

1) Click the **+** symbol to add a team, which appears under **Team List**

2) Click on the team under team list, so that it is highlighted as shown here. While the team is highlighted, the team names and images for the overlay appear at right under **Property**
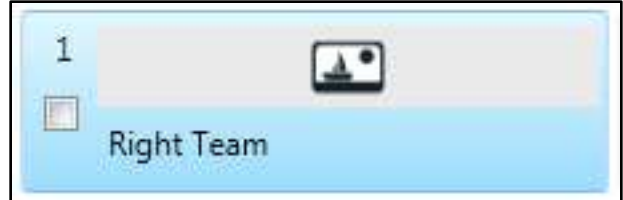

3) Under **Property**, click the **>>** to choose images for 1920x1080 and 1280x720. Once chosen, the image appears under **Team List.**

4) Add the **Team Name** at the bottom of the **Property** panel. Once entered team names show up under **Team List** as well.
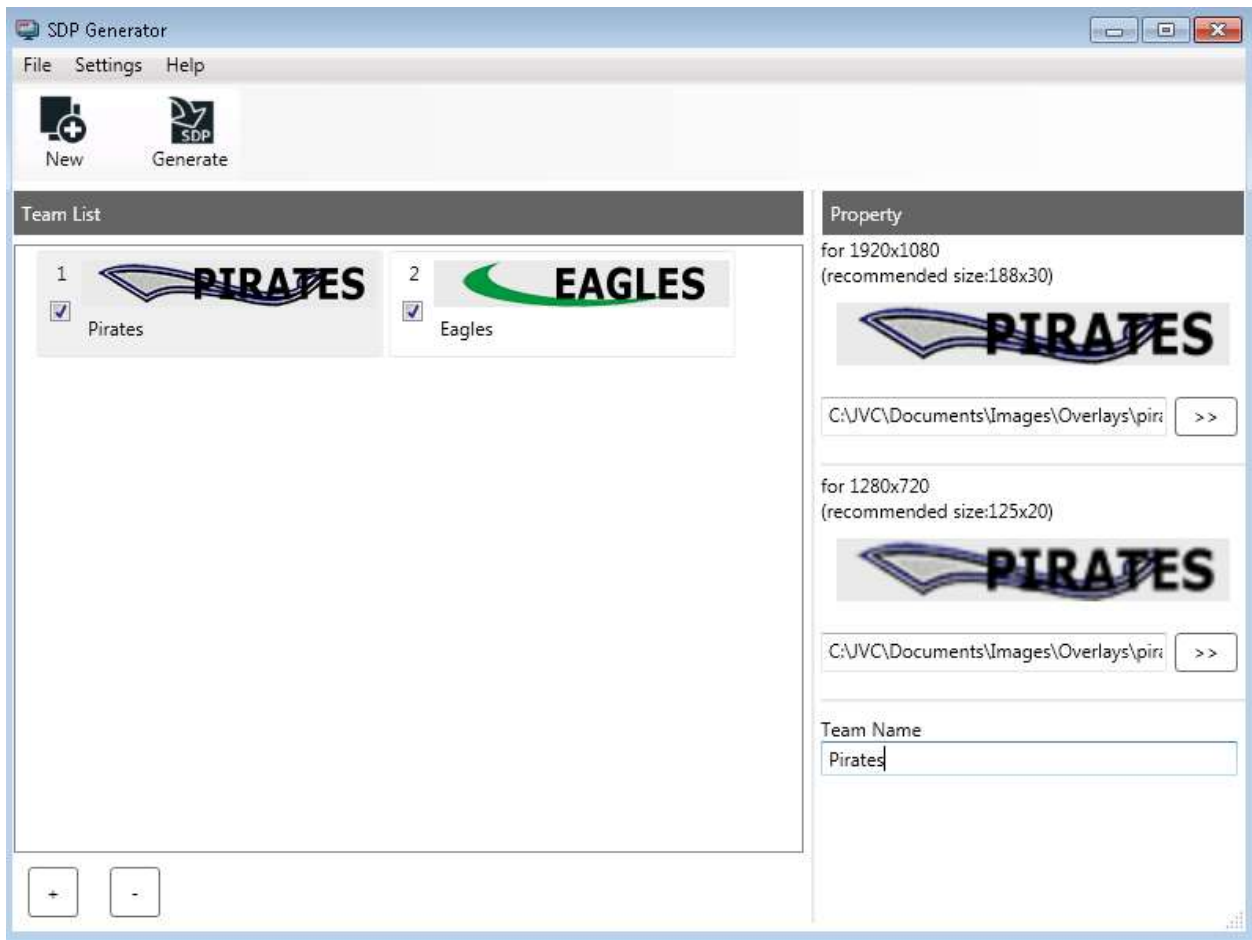
5) Once images and team names have been entered, click the checkboxes for the teams you wish to include in the overlay (seen above). Then click on the **Generate** button. You may then choose where you wish to save it.
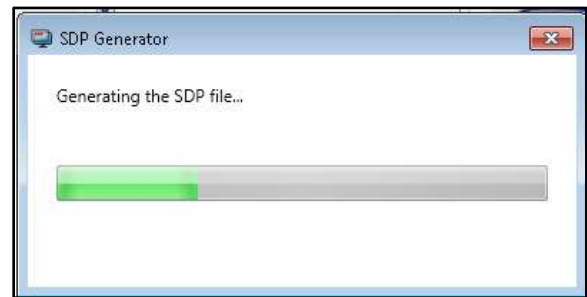
6) Please be aware that the overlay name cannot be more than 8 characters and must have an .sdp extension on the name.

   A convenient choice is to save it directly to the Sd card which you will be using to transfer the file to the camera, as seen below.
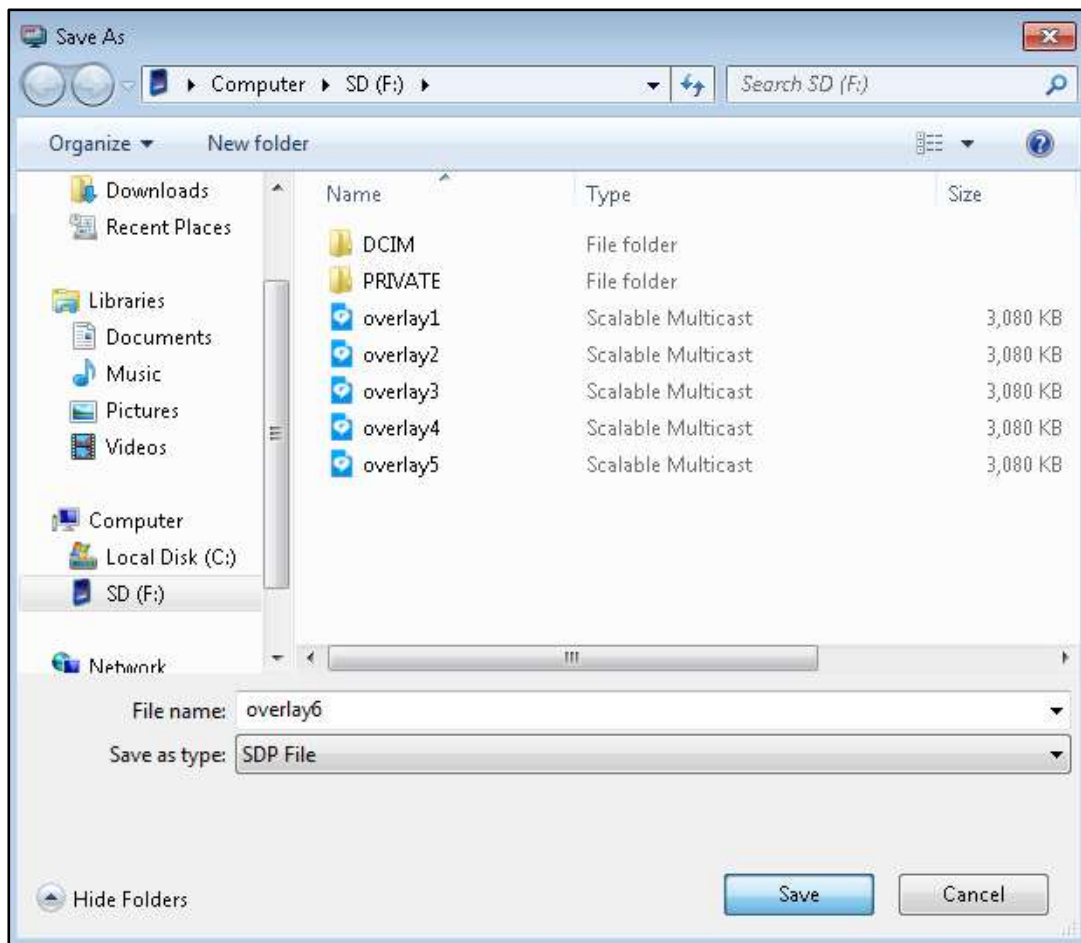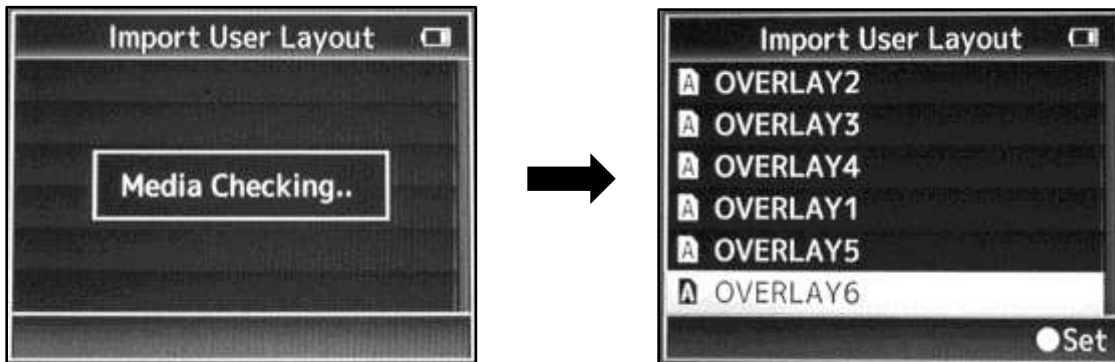

7) To import the overlay into the camera, copy the .sdp file onto the root directory on the Sd card (if you haven't already saved it there). Insert the card into one of the Sd card slots on the camera and access the Menu.
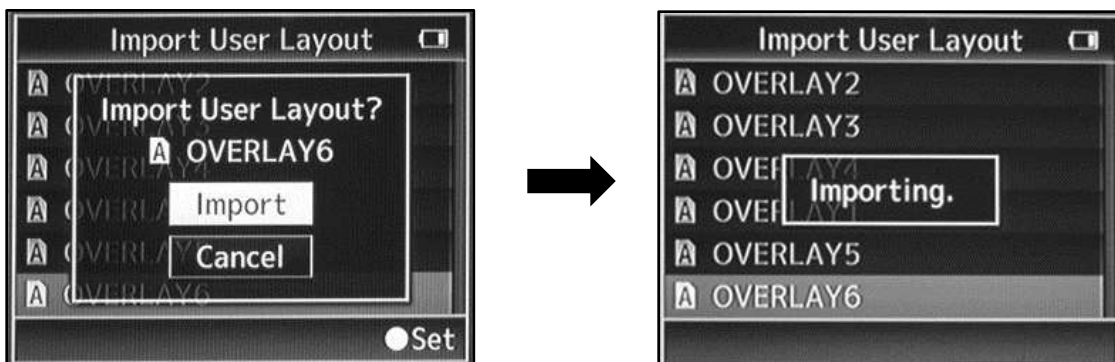
8) Enter the **Overlay Settings** sub menu and then choose **Import User Layout**.

Main Menu	
Overlay Settings...	
Camera Function...	
Camera Process...	
TC/UB...	
LCD/VF...	
A/V Set...	
DISPLAY Favorites USER3 Add	

Overlay Settings	
Layout	User
Import User Layout	
Type	None
Output...	
Sportzcast	Disconnect
Settings...	
DISPLAY Favorites	

9) The camera will then search for any overlays that may be on the Sd card.

Import User Layout

Media Checking..

Import User Layout	
🅐 OVERLAY2	
🅐 OVERLAY3	
🅐 OVERLAY4	
🅐 OVERLAY1	
🅐 OVERLAY5	
🅐 OVERLAY6	
	● Set

10) Once the Overlay you wish to use is displayed, press down on the **Menu/Thumb** button to select and import it. You will see the message on screen; "Importing" as seen below

Import User Layout

Import User Layout?
🅐 OVERLAY6

Import

Cancel

● Set

Import User Layout	
🅐 OVERLAY2	
🅐 OVERLAY3	
🅐 OVER...	Importing.
🅐 OVER...	
🅐 OVERLAY5	
🅐 OVERLAY6	

11) Once the layout is imported you can select which team will appear on the right and left using **Left Team** and **Right Team** in the **Overlay Settings** menu as seen here and the overlay will appear on screen (visible beneath the menu).

12) Once imported and configured, the images are displayed in the overlay as seen here. You are now ready to use the customized overlay to display the game information.