interspace industries

www.interspaceind.com

MasterCue V7

User Manual

Table of Contents

PLease note this Manual is still under revision as we develop this very new product.

Please see--

https://docs.google.com/document/d/1VVTmu9c_zDSwELNE4PwKbhaWUtcNxRf7s8EwzZXF5XE/edit?usp=sharing

For the latest revision.

MasterCue V7 is our flagship.

It will not be for everyone and the MicroCue 3 Prokit will do a lot of features that the V7 does.

If you need a fully integrative product for the IP-based, multi-screen, multi-control, ultra-reliable show then the V7 will do what you need.

Firmware Version Control (we will try to keep up with this!) Feb 2024

MasterCue V7 Main unit	Vers39
i2RF - RF receiver	Vers9
i2LP - Lamp	Vers9
i2WB - Wired button	Vers9

Drawings

Pencil Drawing…

USB port connections

Audio interface

Ethernet (Not PoE)
I2Net
Universal mains in

Rear of the unit has all the connections - the top row has the USB connectors - A “keyboard in” for editing and manual operation of connected machines plus programming of the individual port functions.

Rotary with Centre push

Touch LCD screen

Direct Port selection

A clean front display and controls for simple operation including the rotary control for menu selection that works in parallel to the touch screen.
Simple port selection buttons that show the status of the connected devices.

RF receiver (i2RF)

Aerial connection
for supplied
433Mhz aerial.
**

Ethernet

i2Net
XLR and RJ45

External
DC power
12-30VDC

RSSI indicator

Cue Status
Connection status

*** Mini USB for firmware updates if needed****

Wired button and Lamp
Wired button has 3 buttons but the Black out button is not usually used on V7
The 3 windows on the Lamp help with giving a clear light per position of Green Amber and Red - the front side can be turned off so only the presenter can see the cues for confidence.

Both the buttons and the lamp have RJ45 connectors at both ends for ease of connection for our own i2Net - NOT Ethernet.

Reason for MasterCue V7

The MasterCue Series has always been the forerunner in cueing systems. From the V1 and up to the V6, it has been about reliability: for the hardware, for the technician and not least for the presenter. Since 1996, we have been developing the forefront system for presentations.

MasterCue V7 has this pedigree running through its design and complementing today's practices in our meetings that need to run smoothly and reliably.

MasterCue V7 has been designed for very large shows that are intensive and use IP-based solutions.

6 USB ports allow direct control for the:
Main - Main backup
Next slide - Next slide backup
Notes - Notes backup

Full i2Net protocol allows other i2Net compatible (cueing) devices to be attached on simple XLR or the RJ45 cable infrastructure (non-switch) to link the Controller to the RF receivers, with the wired button and lamp for full backup and control. Our i2Net network is multi-drop and has a cable length of 1500m (1 mile)

Ethernet control:
The MasterCue V7 offers versatile connectivity options, allowing it to be seamlessly integrated into an ethernet LAN system. It can be configured to work with DHCP or utilize its own intelligent AnyNet feature.

The RF Receivers are designed with Ethernet support and feature Power over Ethernet (PoE) for easy and convenient deployment.

To provide real-time configuration and control capabilities, this system comes equipped with a dedicated web page. Additionally, an API is available, enabling seamless integration with Companion and other applications.

We value customer feedback and continuously strive to enhance our products. As we introduce this new interface, we are committed to incorporating requested features and making it an invaluable tool for your show.

2x RF receivers. - As with radio microphones it has been standard practice for years to use diversity receivers and we have also been able to offer this feature with the earlier versions - but you would buy an additional receiver and combine 2 receivers to the one connection. This has worked well for so long. (and continues with MC3 with i2Net) But with more control comes more features. The MasterCue V7 system has 2 receivers, as part of the standard

system, for mounting either side of the presenter for maximum coverage for a more reliable RF system.

Audio and comms - Buzz has been an issue on some shows when attaching intercom, with our new design you should not have this issue ever again. The ability to have a mono (4-pin) headset or 5-pin - left and right ear headset allows for the technician to hear the cues when running in manual mode. The external audio out on a TRS ¼” jack can be plugged into a sound input device if you need more people to hear it or use it later as a click track.

The touch screen can be used or just the rotary control - it's your choice. - the internal speaker can be turned off and on as required.

The Wired button has 3 buttons and runs on our i2Net but on RJ45 cabling to take advantage of the small connections they have. These are taught to the system. The Lamp with show cues (valid on the network) when you plug it in
Both of these can be connected to the controller or the RF receiver, as both have XLR and RJ45 cabling connectors just for the i2Net - (Yes we are aware that we will (I know I have) plug the wrong connector into the unit but it won’t do any damage - it just won't work!) - we chose to keep the RJ45 connector as it is common and it can be repaired easily in the field.

MasterCue V7 is our flagship - it will not be for everyone and the MicroCue 3 will do a lot of features that the V7 does - however, if you need a fully integrative product for the IP-based, multi-screen, multi-control, ultra-reliable show then the V7 will do what you need.

Systems Contents

- MasterCue V7 Controller (Main unit)
- 2x i2RF Receivers
- 2x Detachable BNC aerials (433Mhz)
- 2x i2TX handsets (i2tx-S2). Additional and different handsets can be purchased separately.
- 1x i2WB - Wired button, for back up on the lectern in case of RF issues or additional cueing.
- 1x i2LP Lamp, to show confidence that the system is working to the presenter, or for remote visual cues.
- 1x 4 pin loop cable for intercom
- 1x 5 pin loop cable for intercom
- 6x USB A-B cables
- 1x Mains power lead
    - Note we do not supply Ethernet RJ45 cables or XLR cables with the system.

Images of connections from Alice TBC

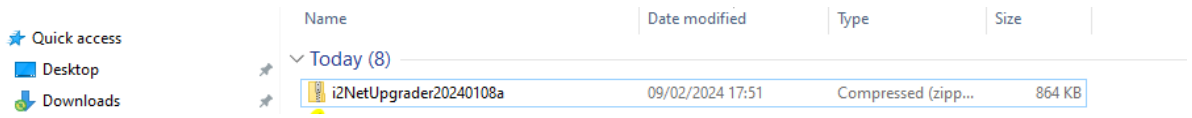
Firmware updates

The latest firmware version can be found on the website.
If your system requires a firmware update, this can be achieved by doing the following:

The firmware upgrader can be found on the Website at
https://www.interspaceind.com/new-products/mastercue-v7/

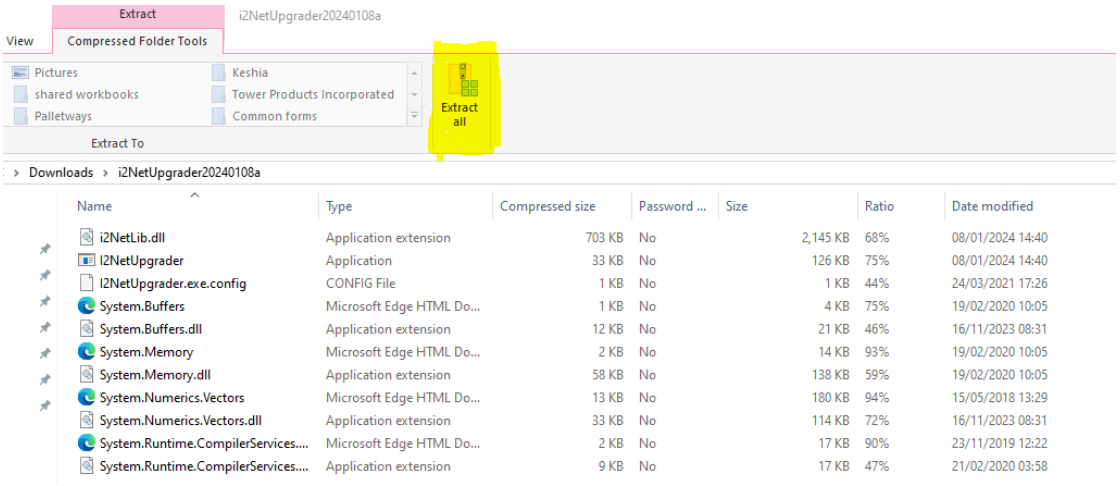
You will need to agree to the Terms and Conditions to go ahead with the update - you will then be taken to a Dropbox folder which contains the upgrader. Download the upgrader to your system, and connect your unit. This upgrader can be used for the MasterCueV7 main unit and all of its i2Net accessories i.e. i2Net RF Receiver, i2Net Wired Button and i2Net Lamp. The main unit will need to be connected to the computer via USB Port .
The RF Receiver will need to be connected via a MicroUSB port and will also need to be powered via i2Net, POE or 12V PSU.
The i2Net Wired Button and I2 Net Lamp will need to be connected via the MicroUSB Port.
Please note that the earliest versions of these products do not have access to these ports without removing the PCB from the metalwork

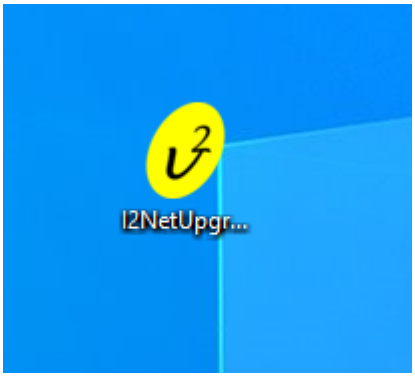
Once in the dropbox folder, download the i2NetUpgrader20240108a.zip locally to your computer.



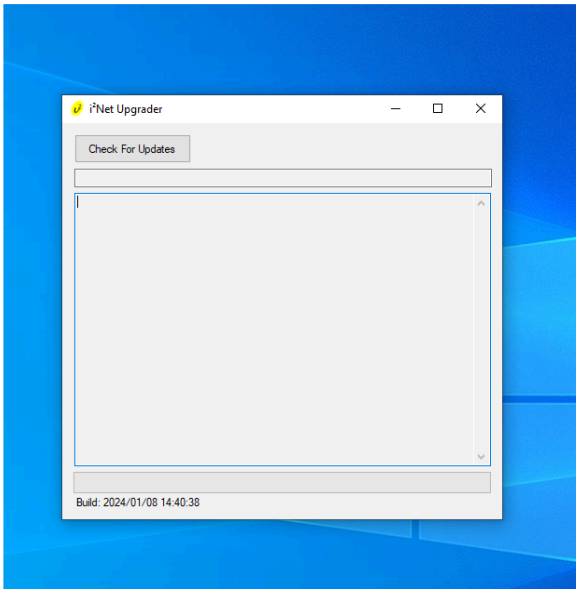
Once downloaded, select the file from your local downloads folder (or wherever your downloads are automatically saved).

Open the folder, and extract files to your desktop.





Open the file from the icon on your desktop - which will look like this



The i2Net Upgrader will look like this - you are now ready to plug in your i2Net product.

How to use (generic) - features

At this point and if it is the first time you are using it on a show use the centre button and rotate or select on the screen to the "Erase" button - once inside this menu Select the "Erase All" this will put the unit back to factory defaults and clear all user options to standard.

- ***You can also do this from the Web interface***

Position the main unit in close proximity to your graphic machines (slides). Attach to local mains power - 90-240VAC. Using IP, connect the Ethernet to the Main unit to your local switch. If you are using i2Net then run XLR or just RJ45 cable (not via switch) to the stage location.

At the stage location position the 2 RF receivers either side of the stage or up and down if impractical to do so for maximum coverage of the presentation area. Ensure the aerials are mounted vertical and nearest to the Presenter. Connect to the communications type you are using - If using IP ensure the Ethernet has PoE - if not you will need to supply external 12V - 30V power (2.1mm centre positive). The system works with DHCP and UDP protocols The Main controller will find them automatically.
Only use Ethernet or i2Net from the main unit to the i2RF units - do not mix
If using i2Net just connect and loop to the other receiver.

The i2WB and i2LP both only work on i2Net and have RJ45 connectors on as these are 1, common. 2, small. Run these out from the receivers (they have RJ45 and XLR for i2Net) to the lectern and visible for the presenter to provide them with confidence in the system. (they can see the cues and should the RF ever fail there is a backup with the wired button much like what we do with the wired, backup microphones on the lectern.

When the unit boots it will show its ID (for logging into the webpage etc…) and if it is connected to the network, what address your DHCP has given it.

With your 2 handsets - check they are both working - if this is the first time you will need to teach the handsets to the system. - if you select the central button on the rotary control. It will ask to program the handset - select again - - push a button on the handset to see it there and then hit save. Do the same for the other handset(s) you can delete all or individual handsets in this menu to prevent previous handsets interfering if they are in range.

Connect your graphic machine on the USB cables and to one each of the 6 ports on the controller and make a note of what machine is on each port enable, (white tape works well

there should be enough room under the buttons) you can then control which machine is driven by what presenter and when during your show.

You can add multiple V7 master units together if you need more than the 6 Ports, so an extra 6 ports on other units. - you may need to add handsets to the second unit if they have not copied across. (unlike MC3 systems)

Keyboard input, this feature allows you to reprogram the USB commands to something different - such as language differences or a media server (video)

Internal tones

The MasterCue V7 has an internal speaker to aid rehearsals and set up - this is usually off for the show. The same tones are always available on the comms interface and line/headphones out. Select using the menu under Settings and scroll down to “Tones”

GlobalCue

The ID of the unit is followed by a “G” for GlobalCue G0 means it is not assigned to any sessions, G1 is it connected to an active session

- To forget the link from GlobalCue hit the disconnect button to do this on the V7……..
-

Technician mode. (Cue Lights Full or Cue lights only)

A useful feature for technicians is to take control when the next cue is a Video etc.. placing the system from “Cueing full” to “Lamp only” mode will allow the Technician to see the cue but no cue is given on the USB connections. This will allow the Technician to cue a second source (such as a video) when the presenter cues them and make the change (Vision mix/switch)

i2Net RF receiver

The Red Led on the RF receiver will indicate (Flash) its connection status to either i2Net or EThernet if powered independently or is still negotiating the process. An equal on off flash rate (about 0.5 second) A solid LED with a quick blink to black (data) will show a good connection.

The RSSI will show the Received signal strength from the transmitter to help with range or interference issues - and to confirm the handset is transmitting too. - try to have at least the first 2 LEDs lit out of the 4 for a minimum ok reception. The more the better the reliability of course.

Haptic Feedback

On the MasterCue there is a click form the unit to aid the Technician when using the rotary, or the touch screen, to prove a selection has been made.

Power Good

This is to show that all is good on the i2Net circuit - both lines are monitored (pins 2 and 3 on an XLR) and if there is an issue it will be displayed. i2Net Protection.

Programmable keyboard.

As with all interspace industries products. You are able to change the command sent to the computers, this is done by attaching a USB keyboard to the system. Now this can also be done via the web interface.

Mac Address

In order to find the Mac address of a unit that is connected to our network we will need to know its IP address first. – on the Main unit of the V7 we can do this as it shows us – further work with a local router and finding the IP address of RF receivers is the only way this can work.

Main unit.

On a PC (I don't know how to use MACs) open the command window – to do this ---

Type CMD in the search box at the bottom of the screen, this will open a text screen of black background and white text (a DOS window)

At the Prompt type the following

"Ping XXX.XXX.XXX.XXX"

And enter – don't forget the space between ping and the address -

Where XXX is the ip address as shown on the front screen of the MCV7

It will return 4 lines of data, - this is to confirm and read the device on the network

Now type

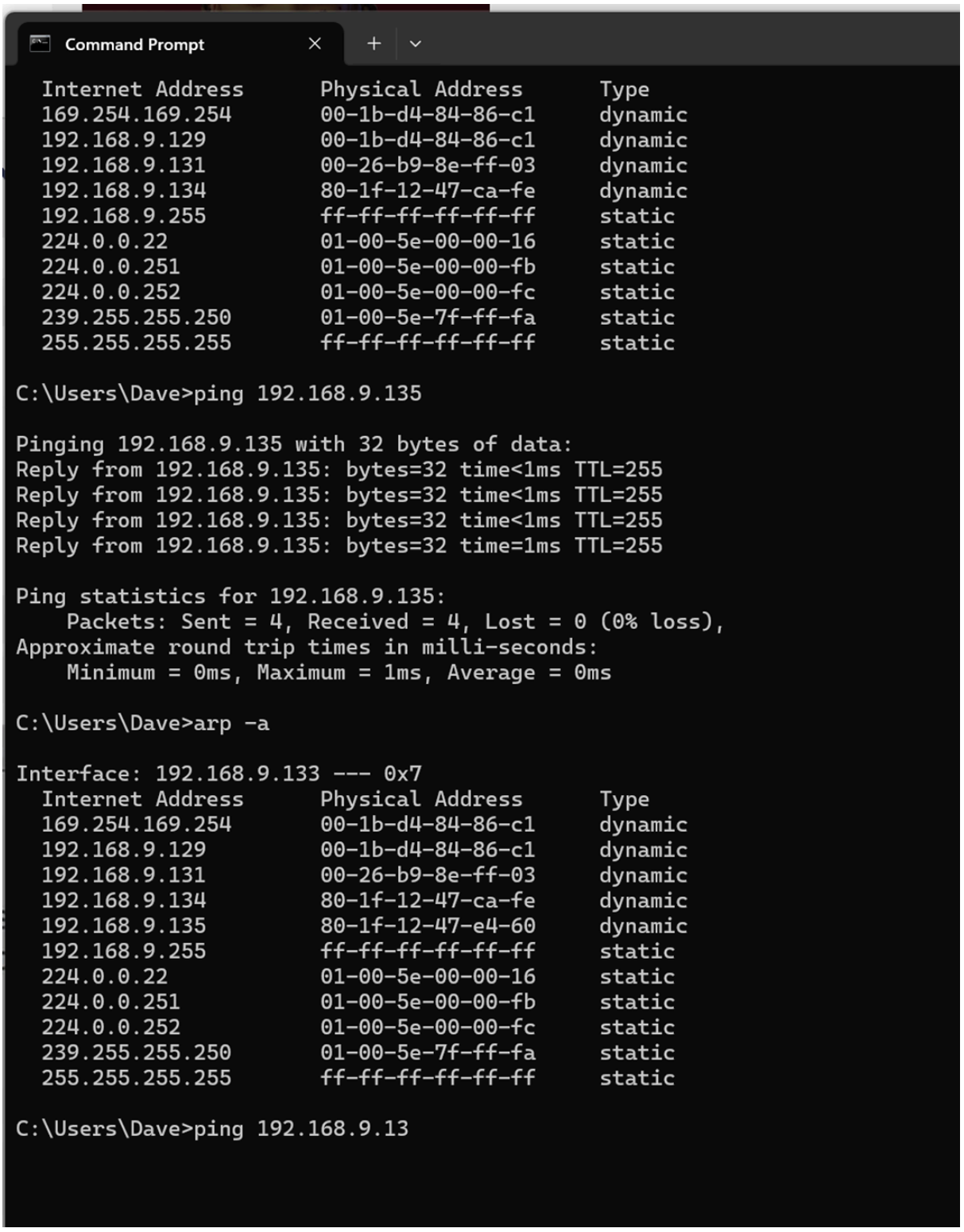
"Arp -a"

And enter

A list of all devices on the network with their IP addresses and the MAC address – this is an Alpha numeric 6 byte code

Below is what I did

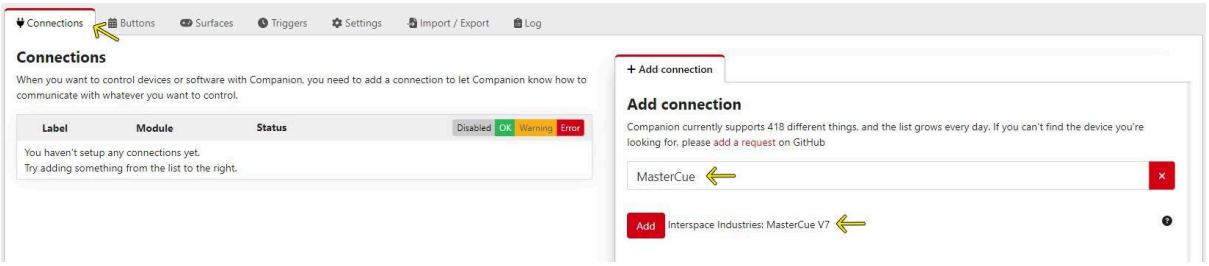
Note that I actually did a bit in reverse as the IP address was not seen first until I did the ping.



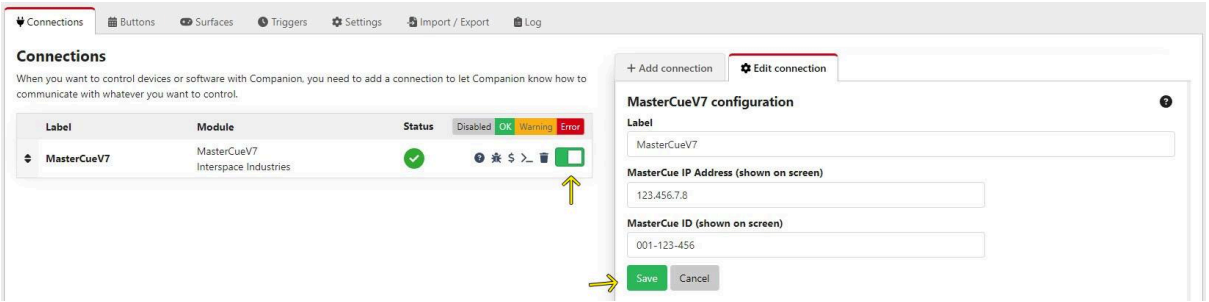
You can find the IP address and read off the MAC address of above – in this case it is 80-1f-12-47-e4-60

Companion 3.0

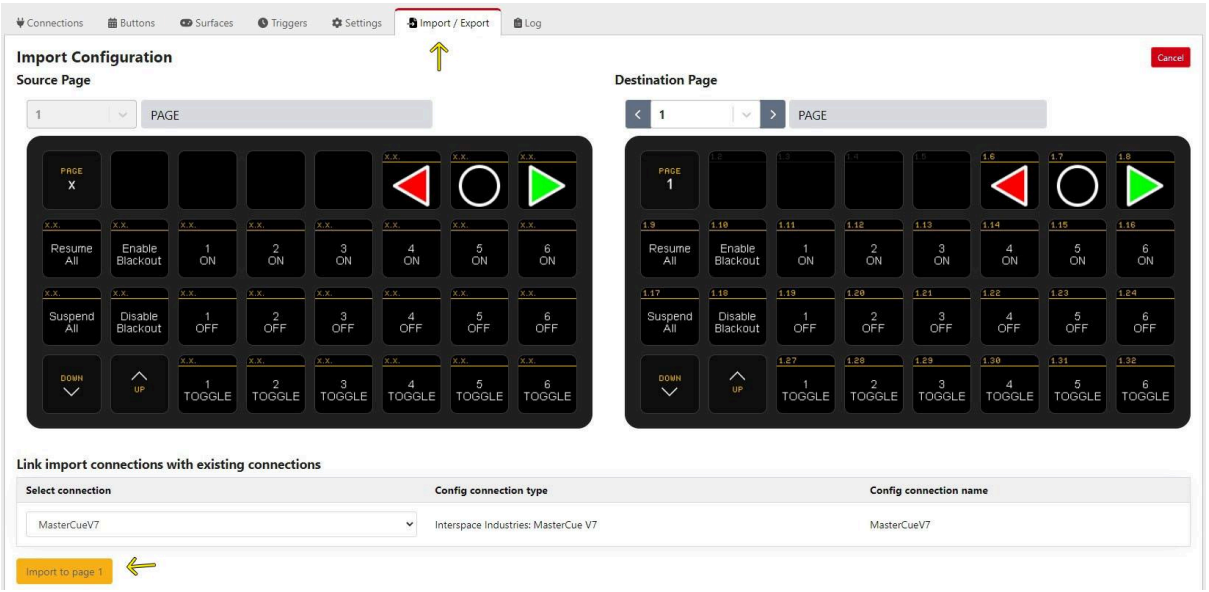
With connectivity and simplicity in mind, We have created a module for Bitfocus' Companion. This module enables seamless communication with the V7 device, even when you're not in close proximity. Now, with just a push of a button, you can effortlessly interact with the V7.



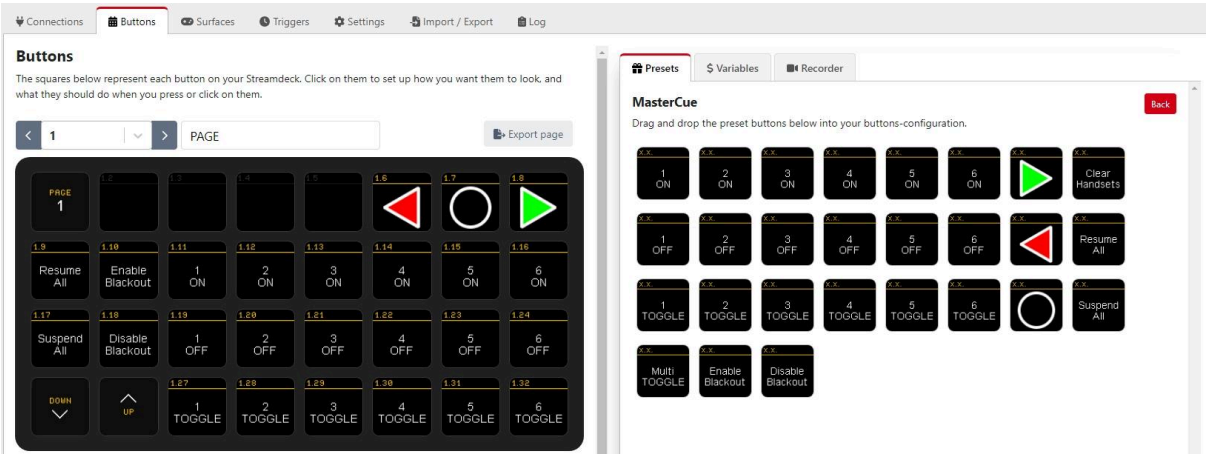
After installing and launching the Companion software from Bitfocus on the same network shared by the V7. You will be greeted with the dashboard, from which you can select the **Connections** tab and enter "**MasterCueV7**", adding it as a new connection.



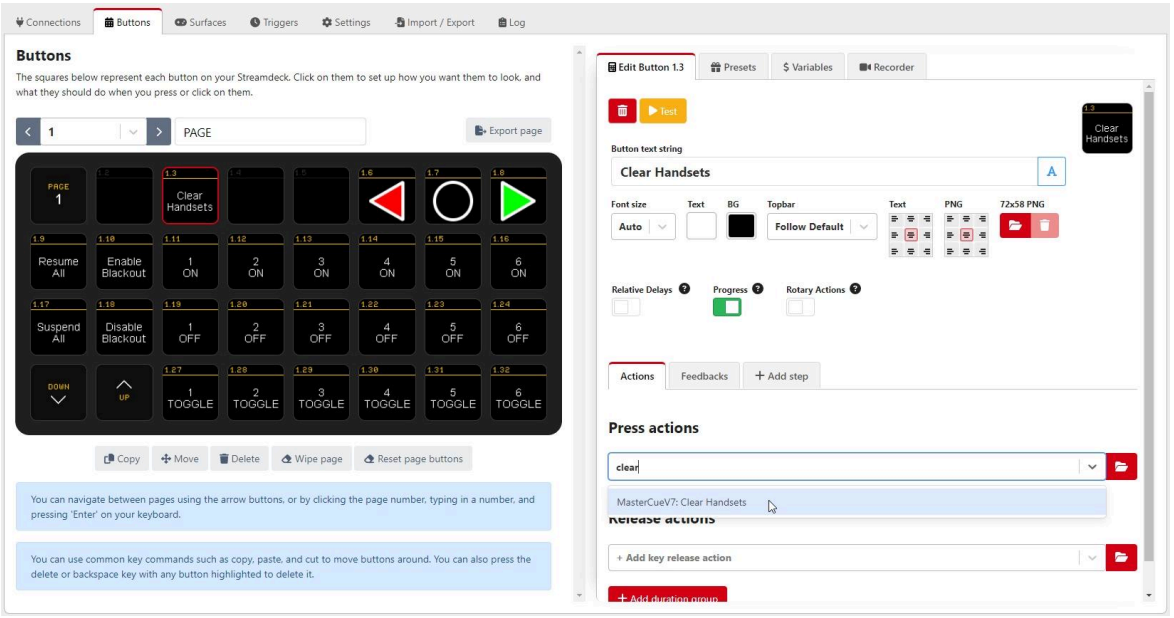
Once added, it will appear within your list of **Connections**. To link the software to the device, select the new connection and enter the **IP Address** and **ID** (shown on the V7 dashboard) before saving. Making sure that the Connection is enabled (using the toggle switch).



From here, you can use our premade button layout by importing the provided **companionconfig** file using the **Import / Export** tab. If you have an existing layout you don't want to lose, you can select the desired page to place the new layout using the **Destination Page** field. To apply this change, select **Import to page X**



Navigating to the **Buttons** tab, you will be presented with the current button layout. You can then drag and drop individual buttons for our module from the **Presets** tab (located on the right side after selecting a button).



You also have the option to enhance the functionality by utilising the provided Actions and Feedbacks to tailor the system according to your specific requirements.

If you own a Companion compatible device like a StreamDeck, you can easily set it up to work with Companion. After plugging in the device (please make sure to close the Stream Deck software), you can navigate to the Surfaces tab. From there, you can locate the Rescan USB devices button, which will scan and detect your connected input device. Once detected, you can use it to control your Companion setup.

API

If you are interested in extending the functionality of the V7 interface within your system, you can reference this section:

To access the device's web interface, use the URL format: http://<Unit IP>/<Section>/<Unit ID> (e.g http://192.168.1.20/cues/001-234-567). This allows you to interact with different sections of the V7.

Please note that when fetching or sending data, ensure that the Content-Type is set to application/json.

Sending commands

To send commands to the V7, you need to make a **POST** request to the following URL: **http://<Unit IP>/command/<Unit ID>**. The request body should include one of the provided commands, following the specified formats:

{command: 'cue', cueType: 'next', auth: '123-456-789'}
Sends a Cue of cueType (next, back, black) to the V7 associated with the specified auth ID.

{command: 'learnLatestHandset'}
Learn the latest Handset that is stored within state.latestHandset. Acknowledging the Cues that it sends.

{command: 'clearSelectedHandsets', handsets: ['01-234-567', ...]}
Removes specified Handsets from the V7. Ignoring any Cues that are sent from them.

{command: 'clearAllHandsets'}
Removes all instances of Handsets from the V7. Ignoring any Cues that are sent from them.

{command: 'claimReceivers', receivers: ['A00001', ...]}
Claim specified Receivers to the V7, if not already claimed.

{command: 'ignoreReceivers', receivers: ['A00001', ...]}

Ignore requests received from specified Receivers, without un-claiming them.

{command: 'forgetReceivers', receivers: ['A00001', ...]}
Removes specified Receivers from the V7.

{command: 'identifyReceivers', receivers: ['A00001', ...]}
Gives an indication of the specified receivers for identification
TBC

{command: 'forgetAllReceivers'}
Removes all instances of Receivers from the V7.

{command: 'globalCueForget'}
Clears sessions from the GlobalCue system

{command: 'outputOn', index: 0}
Enables the specified Output USB port, indexes 0-5

{command: 'outputOff', index: 0}
Disables the specified Output USB port, indexes 0-5

{command: 'suspendOutputs'}
Suspends connection to all Outputs (e.g. Received Cues will be ignored)

{command: 'resumeOutputs'}
Resumes connection to all Outputs (e.g. Received Cues will be acknowledged).

{command: 'settings', settings: '{"softwareVersion":"7.0.36","state":{},"settings":{}}'}
Updates the V7 settings with the supplied settings JSON (as seen in the configuration above)

{command: 'factoryReset'}
Resets the V7 to factory defaults.

NodeJS example:

```
async sendCommand() {
    let url = `http://${UNIT_IP}/command/${UNIT_ID}`;
    const commandResponse = await fetch(url, {
        method: 'POST',
        headers: {
            'Content-Type': 'application/json',
        },
        body: JSON.stringify({command:'cue', cueType:'next', auth:'123-456-789'}),
    });
```

```
    if (commandResponse.ok) {
        console.log('Cue received');
    }
}
```

Receiving data

By making a **GET** request to **http://<Unit IP>/settings/<Unit ID>**, you can retrieve a JSON structure with the current configuration of the **MasterCue** in the format:


```
{
   "softwareVersion":"7.0.36",
   "state":{
      "receivers":[
         {
            "serial":"FFFFFF",
            "isClaimed":false,
            "isIgnored":false
         }
      ],
      "latestHandset":"",
      "partitionMode":false,
      "gcSessionCount":0,
      "settingsSerial":0,
      "outputsSuspended":false,
      "outputChannels":[
         {
            "index":0,
            "isOn":true,
            "isConnected":false
         },
         ...
         {
```

```
                "index":5,
                "isOn":true,
                "isConnected":false
            }
        ]
    },
    "settings":{
        "network":{
            "address":"0.0.0.0",
            "mask":"255.255.255.0",
            "gateway":"0.0.0.0",
            "dnsServer":"0.0.0.0",
            "enableGC":true
        },
        "misc":{
            "enableBlack":false,
            "cueLightOnly":false,
            "enableRemote":false
        },
        "handsets":{
            "registered":[
                "01-234-567"
            ]
        },
        "outputs":{
            "channels":[
                {
                    "index":0,
                    "next":"ArrowRight",
                    "back":"ArrowLeft",
                    "black":"KeyB"
                },
                ...
                {
                    "index":5,
                    "next":"ArrowRight",
                    "back":"ArrowLeft",
                    "black":"KeyB"
                }
            ]
        }
    }
}
```


To retrieve information about the last Cue, you can make a **GET** request to **http://<Unit IP>/cues/<Unit ID>**. The response will depend on whether the system has received a Cue. If a Cue has been received, the response will include the type of Cue that was sent, otherwise omitting the type variable.


```
{
    now: 4358128,
    at: 0
}


{
    now: 4468391,
    at: 4438629,
    type: “back”
}
```


In the provided structure, the element labelled as "**at**" represents the time frame indicating when the last Cue of a specific "**type**" was received. Where the variable "**now**" holds the current time frame, which can be used to calculate the age of a received Cue.

NodeJS example:

```
async fetchSettings() {
    let url = `http://${UNIT_IP}/settings/${UNIT_ID}`;
    const settingsResponse = await fetch(url, {
        method: 'GET',
        headers: {
            'Content-Type': 'application/json',
        },
    });
    if (settingsResponse.ok) {
        const jsonResponse = await settingsResponse.json();
        console.log(`Latest Handset is ${jsonResponse.state.latestHandset}`);
    }
}
```

Location

Location of the equipment will change for each set up. However the thought process is the same for all of these

Main unit - this is usually on the graphics desk. Near your graphic machines for local control of them. (if you need control over a distance greater than the 5m limit of USB then you can add another MaserCue V7 or MicroCue3 units on i2Net. Ethernet is also possible for the V7 main unit.)

RF receivers - This should be tried in a few locations - away from other sources of RF energy and structures that can absorb or reflect it. Place them to provide a good overlap where the presenters will roam on stage. Extra i2RF receivers can be used or MC3 units to increase reliability and diversity of reception.

Ensure you use the i2WB - wired button. This will guarantee a cue should anything block the RF signal and will provide a valuable backup - you only have to use it once on one show (in its lifetime) to make it worth the effort. You would not use radio mics without the backup of the wired lectern mics.

If you are using ethernet then use a switch with PoE to power the i2FR receivers directly. Although the system does not need DHCP, everything will work better with a DHCP client on the network. If you Switch does not have PoE, you will need to provide power locally (12V-28V DC, centre positive, 1A on a 2.1mm ferrule)

GlobalCue - GlobalCue will work directly with the V7 system if the ethernet is connected to the Internet. This will make hybrid events with remote presenters, a very easy installation.

i2Net configuration

i2Net is our own multidrop long range cabled network solution on 2 wires plus ground - the XLR cabling that we have used as a legacy system for audio. It is still in widespread use although Cat5/ 5e / 6 etc… is now becoming a norm as a cable infrastructure. If the cable is volt and signal free (a passive patch) then we can use it with our systems on i2Net.

The advantage of i2Net over ethernet is simplicity in its entirety. i2Net can send data over 1500m (both ends may need power) and is multi-drop so you only need to loop devices together - it does not need a switch or to be a 1 to 1 connection. Ethernet on the other hand allows for a more complex control system and we will continue to build on this.

Ethernet configuration

The MCV7 main unit can be connected to an ethernet system, it is designed to work with a DHCP or create its own network with AnyNet. You can specify its IP address if needed. It is a 10/100 connection. The V7 does not support PoE - (The i2RF receivers are designed to work on PoE). The use of screened cable (cat6) is recommended but Cat5 (unscreened) will work just as well.

The MCV7 will display its webpage and you can access a lot of the features from it. As a simple logon and security you will need the unit's ID to log into the web page on a normal web browser.

This MCV7 system was designed to work with Companion from the start and we will continue to improve the features available.

Following the Devices IP address it will have a letter after it

S	Static address - not connected to any Ethernet system
A	Anynet - it has configured it self with out DHCP
D	DHCP server has issued an address
G	connected to GlobalCue may be used as part of a GlobalCue session
*	*

When using static IP ensure you have all the data for your connection (from Rev 37)

- IP address you want to use.
- SubNet Mask
- GateWay
- DNS server

Ethernet Partition - multi room control - same LAN

On some large shows a common ethernet LAN can span many rooms and have multiple cueing systems it is important to be able to partition each system from all the others - this is possible

First you need to have at least 2 MasterCue V7 main units and 2x i2RF receivers on the same network. When this is connected you can go to the webpage of each of the main units and configure it to only react to the i2RF units assigned to it.
This is done by selecting or telling the web page (under Receiver exclusivity) what receiver to associate with that main unit. Once associated, other units (main units and i2RF) will ignore them.

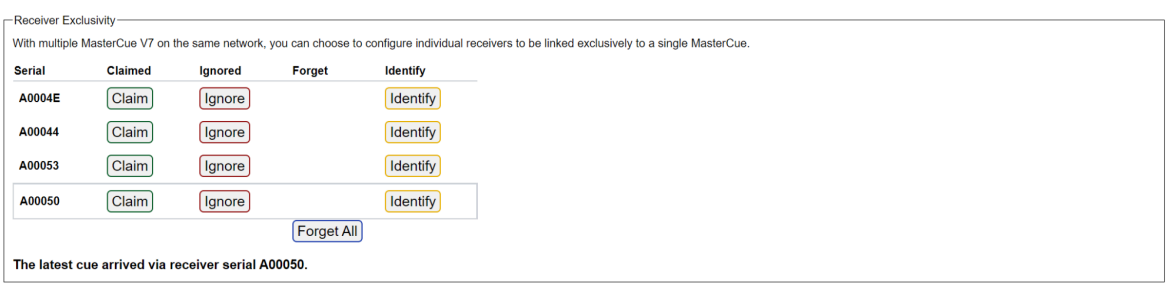
Any receivers left unclaimed will trigger all main units, this includes the use of MC3 on the system. (**note** - this still has to be confirmed if the MC3 can be claimed the same way - testing is required)

Here you can reset the function (should be a task at the fit up) and ignore the units you do not want to have control. Plus forget all.

Operation - acquiring the RF receivers.

-- Should all Main units be connected at the same time before we try this--

Open the Web page on the unit you are trying to associate RF receivers for this area.



Note, serial numbers will be different for your show.

A new section is seen if there are multiple systems on the network. For this V7 you can claim the i2RF Receiver units that belong to it locally. The other systems will be told to ignore them.

The RSSI for that ignored unit will disappear of the home screen

Ignoring Receivers

If you add receivers to the network you will need to teach all the main units to ignore that receiver.

Adding each new system/room to the system you will need to claim each receiver. In doing so and with all the other main units on the the same system, they will also know not to respond to those new receivers

Use Erase all to forget everything and return the unit back to factory defaults.

IMPORTANT

When in partition mode the Lamp and Wired button will behave differently when plugged to the Main MasterCue V7 or the i2RF receivers. It is important to have the Lamp and the Wired button plugged in the i2RF receivers to ensure they only react to the room settings.

Certificates of Conformity

EC Declaration of Conformity

The undersigned, representing

Manufacturer:	Hive Industries Ltd – Interspace Industries (brand name), Unit 1F Tewin Court, Tewin Road, Welwyn Garden City, Herts, AL7 1AU

Equipment Description: Interspace industries	MasterCue V7 RF System controls slide presentations in live events with control over ethernet or XLR cables.
Model Nos.	MasterCue V7, i2RF, i2WB and i2LP (including i2TX-S2 handsets)

Is in conformity with the following EC directive(s) including all applicable amendments:

Reference No.	Title:
2014/35/EU	Low Voltage Directive; Electrical equipment designed for use within certain voltage limits.
2014/30/EU	Electromagnetic Compatibility Directive
1999/5/EC	R&TTE Directive; Radio Equipment & Telecommunications Terminal Equipment. (Class 1 Sub-class 20) (covers EMC and ERM)
2011/65/EU	RoHS Directive; Restriction and use of certain hazardous substances in electrical and electronic equipment. (It has been demonstrated that the requirements of article 4 have been met).

And that the standards and / or technical specifications referenced below have been applied:

Safety	**EN 62368-1:2020** Audio/Video, Information and communication technology equipment – Part 1 Safety requirement.
EMC	**ETSI EN 301 489-1 V1.8.1** Electromagnetic compatibility for radio equipment and services common technical requirements. **ETSI EN 301 489-3 V1.4.1** EMC and ERM radio spectrum matters; specific conditions for short range devices. **EN 55032:2015 +A11+A1:2020 Radiated emission,** Class A. **EN 55035:2017+A11:2020 Conducted emissions,** Class A. **EN 61000-3-2:2006+A2:2009** Harmonic current emissions Class D **EN 61000-3-3:2008** Voltage changes fluctuations and flicker.
ERM	**ETSI EN 300 220-2 V2.3.1** EMC and ERM radio spectrum matters; short range devices covering essential requirements under article 3.2 of the R&TTE Directive. **ETSI EN 300 220-1 V2.3.1** EMC and ERM; short range devices; technical characteristics and methods of measurement.

Date 8th Nov 2022

(Signature)

Name Dave Humphrys Quality Manager

UKCA Declaration of Conformity

The undersigned, representing

Manufacturer:	Hive Industries Ltd – Interspace Industries (brand name), Unit 1F Tewin Court, Tewin Road, Welwyn Garden City, Herts, AL7 1AU

Equipment Description: Interspace industries	MasterCue V7 RF System controls slide presentations in live events with control over ethernet or XLR cables.
Model Nos.	MasterCue V7, i2RF, i2WB and i2LP (including i2TX-S2 handsets)

Is in conformity with the following EC directive(s) including all applicable amendments:

Reference No.	Title:
2014/35/EU	Low Voltage Directive; Electrical equipment designed for use within certain voltage limits.
2014/30/EU	Electromagnetic Compatibility Directive
1999/5/EC	R&TTE Directive; Radio Equipment & Telecommunications Terminal Equipment. (Class 1 Sub-class 20) (covers EMC and ERM)
2011/65/EU	RoHS Directive; Restriction and use of certain hazardous substances in electrical and electronic equipment. (It has been demonstrated that the requirements of article 4 have been met).

And that the standards and / or technical specifications referenced below have been applied:

Safety	**EN 62368-1:2020** Audio/Video, Information and communication technology equipment – Part 1 Safety requirement.
EMC	**ETSI EN 301 489-1 V1.8.1** Electromagnetic compatibility for radio equipment and services common technical requirements. **ETSI EN 301 489-3 V1.4.1** EMC and ERM radio spectrum matters; specific conditions for short range devices. **EN 55032:2015 +A11+A1:2020 Radiated emission,** Class A. **EN 55035:2017+A11:2020 Conducted emissions,** Class A. **EN 61000-3-2:2006+A2:2009** Harmonic current emissions Class D **EN 61000-3-3:2008** Voltage changes fluctuations and flicker.
ERM	**ETSI EN 300 220-2 V2.3.1** EMC and ERM radio spectrum matters; short range devices covering essential requirements under article 3.2 of the R&TTE Directive. **ETSI EN 300 220-1 V2.3.1** EMC and ERM; short range devices; technical characteristics and methods of measurement.

Date 8th Nov 2022

(Signature)

Name Dave Humphrys Quality Manager

Declaration of Conformity
RoHS2 Directive (2011/65/EC)

We, Hive Industries Ltd, located at Unit 1F Tewin Court, Tewin Road, Welwyn Garden City, Herts, AL7 1AU, United Kingdom, declare under our sole responsibility that the product(s) described in the table below to which this declaration relates is in conformity with the essential requirements and other relevant requirements of the RoHS Recast (RoHS 2) 2011/65/EU Directive.

Supplier: Hive Industries Ltd

Families of Products:

MicroCue3 – single and Pro-Kits, including handsets.
MasterCue V7 system, including handsets.

Scope
Hive Industries Ltd is committed to comply with the European Union's Directive 2011/65/EC, Restriction of the use of certain Hazardous Substances (RoHS). The RoHS Recast Directive restricts substances including lead, mercury, cadmium, hexavalent chromium, and certain halogenated flame retardants such as PBB. (Polybrominated biphenyls) and PBDE (polybrominated diphenyl ethers) in electrical and electronic equipment.

Materials and Substances
The following materials and substances that are listed are defined in the European Union's Directive 2011/65/EC, Restriction of the use of certain Hazardous Substances (RoHS). This Certificate of Conform is based upon analysis of the components and materials used in the manufacture of our products and is further supported by supplier-furnished material declarations.

Material/ Substance	RoHs Limits	Minimum Detection Limits (MDL)	Hive Industries Ltd compliant with RoHS Limits
Cadmium (Cd)	<100ppm	2ppm	Yes
Lead (Pb)	<1000ppm	2ppm	Yes
Mercury (Hg)	<1000ppm	2ppm	Yes
Hexavalent Chromium (CR)	<1000ppm	2ppm	Yes
Polybrominated Biphenyls (PBB	<1000ppm	2ppm	Yes
Polybrominated Diphenyl Ethers (PBDE)	<1000ppm	2ppm	Yes

The standard to which conformity is declared: EN50581:2012

D J Humphrys – Company Director

Date of signature

Hive Industries Ltd, Unit 1F Tewin Court, Tewin Road, Welwyn Garden City, Herts, AL7 1AU, UK
Registered in England No. 3252160 VAT No. GB 684 1390 22
WEEE Compliant – Producer Registration No. WEE/GG0052TQ
Tel 01462 600101
Email: moreinfo@hiveindustries.com

FCC COMPLIANCE INFORMATION STATEMENT
DECLARATION OF CONFORMITY

Manufacturer:	Interspace Industries
Responsible Party in the USA:	Interspace Industries LLC 72 Grays Bridge Road Suite 1-C, Brookfield CT 06804
Product:	MasterCue V7 RF System inc – Main unit, i2RF, i2WB and i2LP
Authorisation Procedure:	Declaration of Conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

We, Interspace Industries, have determined that the above named equipment has been shown to comply with the applicable technical standards. Furthermore, we warrant that each unit of equipment marketed is identical to the unit tested and found acceptable with the standards. The records maintained continue to reflect the equipment being produced within the variation that can be expected due to quantity production and testing on a statistical basis.

Interspace Industries LLC

Dave Humphrys
CEO
November 8th 2022

Interspace Industries Ltd72 Grays Bridge Road, Suite 1-C, Brookfield
CT 06804Tel 203-814-1879 email: moreinfo@interspaceind.com

Laser Handsets are not available with this bundle.

2. Summary of test results

The i2TX-L3 was tested to the following standards: -

FCC 47CFR Part 15C (effective date October 1st, 2011); Class DSC Intentional Radiator

Any compliance statements are made reliant on the modes of operation as instructed to us by the Manufacturer based on their specific knowledge of the application and functionality of the equipment tested. Whilst every effort is made to assure quality of testing, type tests are not exhaustive and although no non-conformances may be found, this doesn't exclude the possibility of equipment not meeting the intentions of the standard, particularly under different conditions to those during testing.

Title	Reference	Results
1. Conducted emissions	ANSI C63.10 §6.2	Not Applicable[1]
2. Radiated emissions	ANSI C63.10 §6.4 – 6.6	PASSED
3. Intentional radiator field strength	ANSI C63.10 §6.5.	PASSED
4. Occupied bandwidth and band edge	ANSI C63.10 §6.9.	PASSED
5. Frequency stability	ANSI C63.10 §6.8.	Not Applicable[2]
6. Periodic operation and emissions	ANSI C63.10 §7.4. – 7.6.	PASSED

[1] EUT does not operate from the AC power lines nor contain provisions for operation while connected to AC power lines.
[2] EUT is not operating in the 40.66 – 40.70 MHz band, therefore no limits are specified.

This report relates to the equipment tested as identified by a unique serial number and at the time it was tested. It does not relate to any other similar equipment and performance of the product before or after the test cannot be guaranteed.

Date of Test: 6th & 7th October 2011

Test Engineer: 

Approved By: 

Customer Representative: 

Cancer and Reproductive Harm
Www.p65Warnings.ca.gov

This warning is required by the state of
California to meet Proposition 65 requirements