

CATFIRE



CFCIU-1

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DIGITAL

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CATFire – CFCIU-1 Communications Interface Unit

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS, FEATURES, FIRMWARE AND ITS FEATURES, SOFTWARE AND ITS FEATURES, DOCUMENTATION AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Errors and Omissions Excepted (E&OE).

Revision history

Revision	Changes
1	First; Support hardware version 3; Firmware version 7.
2	Change to location of CFWFS-1 app.

Familiarising yourself with the CFCIU-1



Extension interface

USB-B PC Interface



DO NOT CONNECT TO A COMPUTER NETWORK

Arming Lock/Unlock key switch.

Removable in LOCKED position only.

About your unit – intended usage



Keep children, pets and animals away from this unit.



Only competent adults should operate this unit.



Do not operate this equipment if you are unwell or under the influence of drugs or alcohol.

This unit provides wireless communication to the CFTFU-X16 and other firing units in the CATFire family.

The unit connects to a Windows 10 computer and, through the CATFire App CFWFS-1 (available from our web site) you can monitor, control and fire your display.

Throughout this manual when we mention pyrotechnics we are also referring to fireworks.

Windows 10 Electrical Connection

The unit connects to your Windows 10 computer using a USB-B connection lead.

The supplied lead is 2 metres long. You can use your own lead up to 5 metres in length, but you must ensure that you use a premium quality fully shielded USB cable, and in this scenario the cable should also include ferrite chokes on each end of the lead.



Buzzer

The unit contains a buzzer to provide audible signals to you.

When the unit is powered up (by connecting the USB cable to your Windows 10 computer) the buzzer will sound for a short while before falling silent.

If the buzzer does not fall silent there is a problem.

Be sure to remove the arm lock key switch before connecting to the Windows 10 computer, if the key switch is in the unlocked position when powered up the unit will emit a continuous buzzer tone and will not function.

If the key switch has been removed but, when powered up, the unit still emits a continuous buzzer tone it may have detected an anomaly in its internal state and is resetting to defaults. Try a power cycle of the device up to two more times, if the condition does not clear contact Trinity Digital for further advice.

Extension interface

The unit contains one RJ45 connections labelled EXT on the unit.

This is not an ethernet communications interface, rather a proprietary interface to which you can connect additional CATFire family devices to the unit.

Antenna connection

At the rear of the unit you can connect the supplied 868MHz antenna to the RP-SMA port.

Alternatively you can use a 'remote' antenna mounted higher on a wooden pole (don't use metal) and a longer RG-174 shielded lead no longer than 10 metres to connect to this unit, this will provide for better communications reliability and range.

Such an external antenna must be a dipole type or have its own suitable ground plane.

Arm lock

On the front of the unit is a lock, the key can only be REMOVED in the LOCKED position.

This lock is used to prevent the Windows 10 App going into ARMED state, you should remove this key (i.e., locked) except when intending to arm the system using the App.

Once the key is inserted and turned (i.e., unlocked) wait at least 5 seconds before attempting to arm the system from the App as there is an 'unlock delay' to the switch. Locking the switch is instant.



When locked (i.e., key removed), arming is prevented using the Windows 10 App.

However it is not an arming enable/disable function.

Once unlocked, and system is armed via the App, locking this key switch once more will not disarm.

Arming and disarming is under App control.

How this unit works

This unit uses electronics and software to allow the Windows 10 App to communicate to the firing units.

The USB cable provides the unit with power and communications to the Windows 10 App.

This unit is not weatherproof and so must be protected from the elements.

It is intended to be used from -20 to 60 degrees Celsius with 90% relative humidity non-condensing.

It is not impervious to damage from things like explosion, fire or misuse, and as with any electronic or software product, could malfunction.



Never use a unit that looks damaged or is behaving in a way you are not expecting it to. Turn it off and walk away from the danger immediately.



The unit must not be used in an area where static electricity is expected or present.



The unit must not be used when an electrical storm is expected or present.



Always REMOVE the arm lock key unless intending to arm the system.



Keep radios, mobile telephones and external power sources away from the unit and pyrotechnics.

Cleaning your unit

Clean the units with a soft slightly damp cloth that has been rinsed in a weak soapy washing up solution.

Do not get the unit wet.

Features of your unit

1. Stackable enclosure.
2. Arm lock/unlock key switch, removable in the locked position only
3. Informational buzzer
4. RJ45 proprietary extension interface
5. USB-B connection to the Windows 10 computer, power and communications over this line.
6. Advanced 70 channel hopping radio with 800m range line-of-sight with encrypted communication
7. Event logging
8. Firmware update capability

Radio

This unit communicates with the firing units using a 70 channel, hopping radio system.

Encryption is provided for additional security.

The unit can transmit comfortably to 800m line of sight.

Antenna



The antenna is a grounded and sensitive device. Never allow wiring or other metal objects to come into contact with the antenna, short circuit or other malfunction could occur.

The antenna as supplied is an 868MHz dipole omni-directional antenna.

The antenna should be fixed to the threaded port finger tight only, do not overtighten.

The antenna should always be pointed vertically upwards.

If the unit is positioned other than horizontal and flat on its base, the antenna can be gently rotated, the hinged joint allowing for the antenna to always be put into the upright position.

Radio communication

For best communication you should ensure that the antennas on every CFTFU-X16 and the CFCIU-1 interface unit are pointed upwards.

Where practical ensure that every antenna is at equal elevation and clearing any obstructions on site (racking etc.). Ideally units should be raised from ground level – this helps to maximise range and clear any unlevel ground between the CFCIU-1 and the CFTFU-X16's that may obstruct signals.

Tip: CFTFU-X16 units do not need line of sight between each other as they do not communicate with each other. The communication is between the CFCIU-1 and the CFTFU-X16 units.

Keep within the communication distances specified for CATFire (800m line of sight).

Where obstructions are inevitable (trees etc.) radio range will be reduced. Metal and structures such as buildings can block the signals altogether so avoid these.

For more information on radio communication refer to our document “Understanding radio communication” downloadable from our web site or contact support@trinitydigital.co.uk to obtain a copy.

Windows 10 App – Connection

Ensure the key is removed from the CFCIU-1 unit and then connect the CFCIU-1 to your Windows 10 computer using the USB cable.

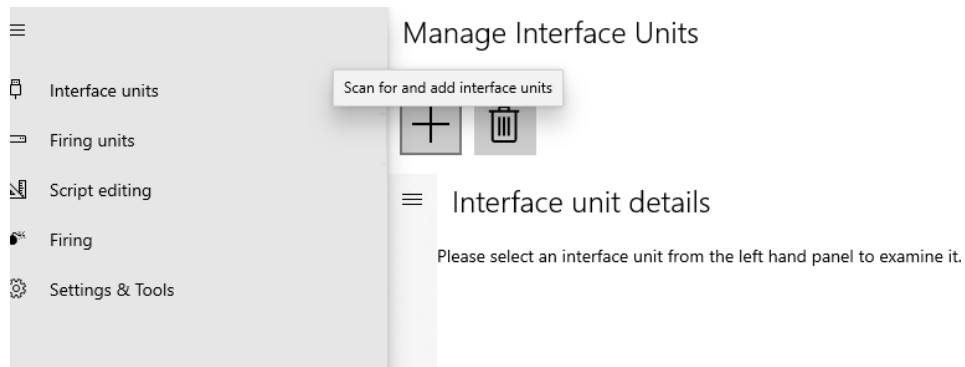
The CFCIU-1 will emit a tone then fall silent.

NOTE: On first connection the Windows 10 computer may need to install drivers, this will be automatic. Ensure your computer is connected to the Internet so it may download suitable drivers without any difficulty.

Open the Windows 10 CATFire App.

Navigate to the “Interface Units” section of the App.

Click the PLUS (+) button to detect the connected device and add it into the App.



The CFCIU-1 will be detected and added into the App, clicking on the CFCIU-1 in the list will bring up its properties as shown here.

The screenshot displays the CATFire software interface. On the left is a sidebar menu with the following items: 'Interface units', 'Firing units', 'Script editing', 'Firing', and 'Settings & Tools'. The main window is titled 'Manage Interface Units' and contains a sub-menu with 'CFCIU-1'. Below the sub-menu are several control icons: a plus sign, a trash can, a refresh icon, a search icon, a refresh icon, a volume icon, and a power icon. The main content area shows the 'Status' tab for 'CFCIU-1' with the following information:

- Firmware version: 7
- Serial number: 4294967295
- Communications quality: ● Excellent
- Arm lock state:
- Power supply state: CIU Supply Power OK (4.8)
- Extension state: Disconnected / Extension Power OFF
- Radio state: Ready
- Last join operation result: Idle
- Firmware upgrade state:

End of life

Recycling

Sadly, this product will not last forever, wear and tear will eventually bring about its end of life.

This product contains precious earth metals and other recyclable material.

You should dispose of the product in accordance with your local authority rules on recycling electronic devices – please do not dispose of this product in general waste.

Alternatively, you may return your end-of-life equipment to Trinity Digital for correct recycling. Please contact support@trinitydigital.co.uk or call +44(0)1782 977500 to do so before returning equipment so that we may track its recycling properly.





Guarantee

The Guarantee is provided by Trinity Digital, the owner of the CATFire® brand.

Terms and conditions

These terms and conditions do not affect your statutory rights.

You must register your product within 14 days of purchase to receive this guarantee, please contact support@trinitydigital.co.uk or call +44(0)1782 977500 to do so.

Have your product model and serial number to hand including the date and place of purchase. If the product is a gift, register the intended owner details.

This product carries a 12-month parts and labour guarantee against defects in workmanship.

These terms and conditions are only applicable within the United Kingdom and is subject to provision(s) that your product:

1. Has been used solely in accordance with the instruction manual.
2. Has not been subject to misuse or accident; modified or repaired by anyone other than our own service engineers.
3. The product is in the United Kingdom.
4. The product has been registered and the person claiming is the registered owner.

If you wish to make a claim contact support@trinitydigital.co.uk or call +44(0)1782 977500.

Please provide the model number, the serial number, and a description of the fault. When emailing you can also provide images or video footage of the issue you are experiencing.

Trinity Digital will, at its discretion, repair or replace the unit.

Please do not send anything to Trinity Digital without first contacting us, nothing can be accepted without prior authorisation, this is so we can track the product and its problems properly.

Declaration of conformity

- UKCA: Electrical Equipment (Safety) Regulations 2016
- UKCA: Radio Equipment Regulations 2017
- 2014/30/EU Electromagnetic Compatibility
- 2014/53/EC Radio Equipment Directive
- 2011/65/EU RoHS
- 2012/19/EU WEEE

Trinity Digital hereby certifies that the product

CATFire CFCIU-1

Conforms to the essential requirements of the above listed regulations and directives on this day Friday 1st January 2021.



Mr. Gareth Williams.

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