

# SCS Connect Electronic Controller



SCS Connect Electronic Controller  
Technicians' Manual

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## 1 Service Procedures

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### **Exchanging a Refrigeration Unit**

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Open SCS Connect Track App and perform a manual scan on the designated cabinet before isolating it from the mains power supply. For manual scan instructions see “Track App” on page 13.

Follow all instructions documented in the appropriate Service Manual to ensure the exchange of the refrigeration unit is completed correctly.

Once the replacement refrigeration unit has been installed and tested, and is operating correctly, tell the customer that this cabinet is ready to be set up via the SKOPE-connect App.

If the customer is a Corporate customer see “SCS Setup” on page 10.

### **Swapping a Faulty Controller**

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Open SCS Connect Track App and perform a manual scan on the cabinet before isolating it from the mains power supply. For manual scan instructions see “Track App” on page 13.

Follow all instructions documented in the appropriate Service Manual to ensure the safe removal and replacement of the faulty controller. Return the faulty controller to SKOPE for analysis.

You will need to use the Field App to download the correct parameters file from the cloud, as replacement controllers are not supplied with SKOPE parameters.

Once the replacement controller has been installed and tested, and is operating correctly, tell the customer that this cabinet is ready to be set up via the SKOPE-connect App.

If the customer is a Corporate customer see “SCS Setup” on page 10.

## 2 Application Procedures

### App Access

Open the required app on your smart device. The app must be installed before opening.

#### SCS Connect Field App



For SCS Connect Field app installation, see Quick Start Guide PRN80176.

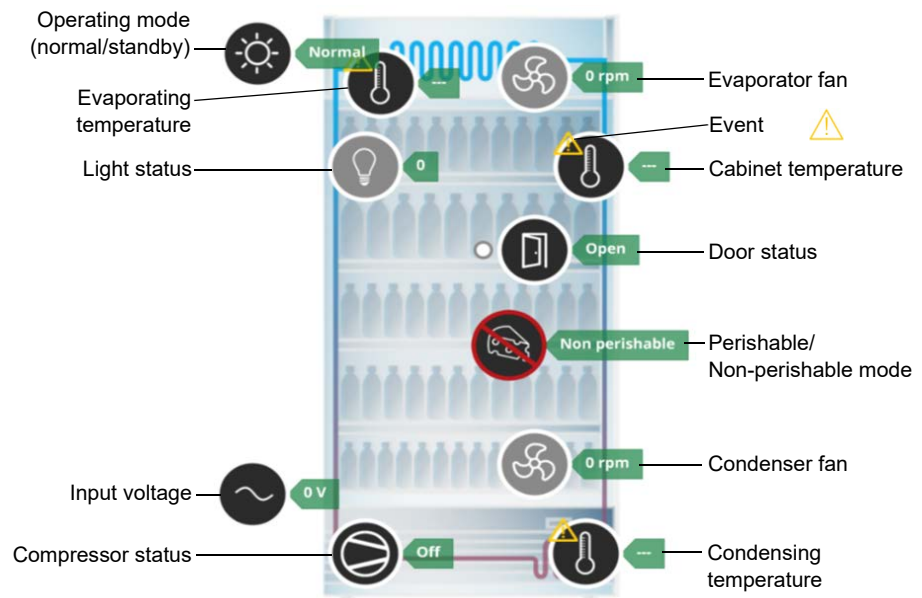
#### SCS Connect Track App



For SCS Connect Track app installation, see Quick Start Guide PRN80177.

### Field App

**Home Screen** The home screen gives you a live snapshot of the cabinet's operation, components and any alarms or events.



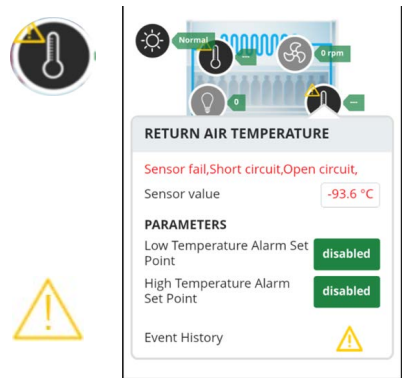
**Note:** Only inputs connected to, or components directly controlled by, the SCS Connect controller will be displayed upon the Home Screen. For example, if the condenser fan is directly driven from the compressor then the condenser fan icon will not be displayed on the home screen.

Events (Alarms or Faults) can be accessed directly from the home screen. This allows you to view details about the fault, as well as history of the recorded faults.

Tap on any component showing the small yellow triangle symbol to view the current event.

From the details screen you can see the possible cause, along with a current reading and any parameters that may be related to the fault.

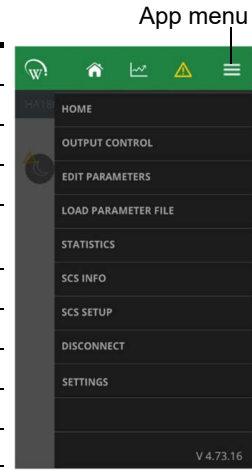
The event history for that component can be viewed by selecting the yellow triangle beside Event History.



**App Menu** The menu (three horizontal bars on the top right hand side) provides access to the first level of the app’s functions.

**App menu items**

Menu item	Description
Home	Returns to the home screen
Output control	Output control screen
Edit parameters	Access the parameters for editing
Load parameter file	Select a parameters file from local or cloud storage
Statistics	Review the controller’s statistics
SCS info	Details of the SCS controller
SCS setup	Set up and change asset information
Disconnect	Disconnect the app from the controller
Settings	App settings



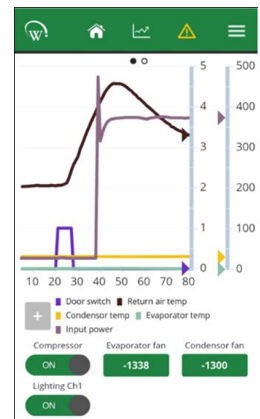
**IMPORTANT**

After any controller connection or modification has been completed, always DISCONNECT your device from the controller to confirm all changes.

**Output Control** Displays real time data when connected to the cabinet by allowing real time interaction with both inputs (probes, switches) and outputs (relays, PWM).

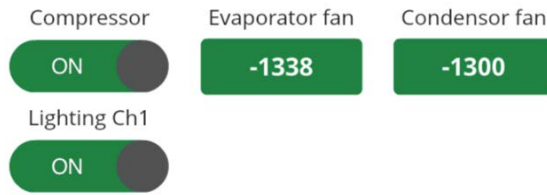
**Note:** Any selected output changes override any priorities in the controller, but are limited to a 2-minute time scale before resetting to their previous status.

You can add or remove inputs or outputs via the + button. This will add or remove a trace line from the live chart.



Only relays that are being used can be switched.

If the fan motor is a controlled speed motor, operating speeds are shown. The negative number shows counterclockwise rotation.



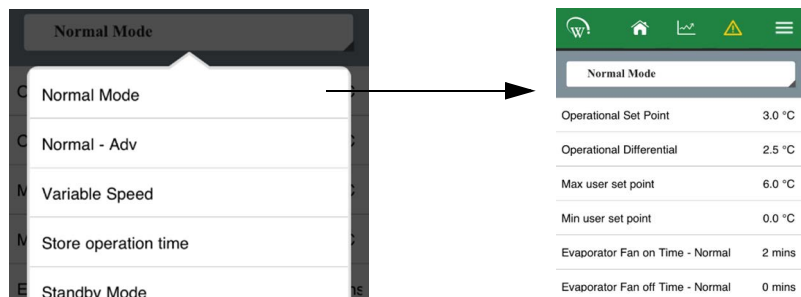
**CAUTION**

Do **NOT** switch the compressor on and off without allowing pressure to equalise in between. Switching on and off may cause permanent damage to the compressor leading to failure.

**Edit Parameters** Parameters are arranged in categories to help with navigation. Drop-down boxes give lists of available parameters – scroll up and down for the complete list.

Only parameters needed to operate the cabinet will be visible. These may differ between cabinet types.

Each category contains the parameters associated with that mode.



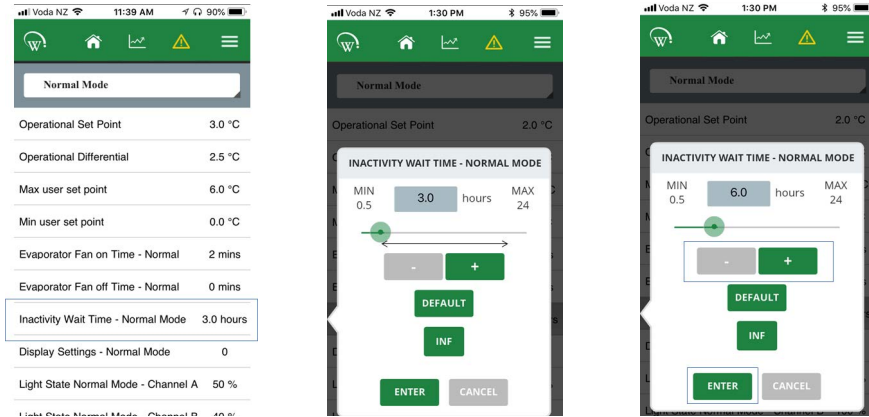
**Note:** If you change a parameter you must note details of all changes on all warranty or service documentation, including the original setting, the new setting and reasons why the change was made. Updates are not applied until DISCONNECT has been selected from menu.

To change a parameter, select the parameter and making the adjustment using the slider or the - and + buttons. Save the using the Enter button within the newly opened screen. The maximum and minimum allowances for each parameter are shown, along with a Default button.

**IMPORTANT**

Do **NOT** press the Default button.  
The Default button sets the parameter back to Wellington Drive defaults, not SKOPE defaults.

When a parameter is selected, a new screen opens allowing you to modify the parameter.

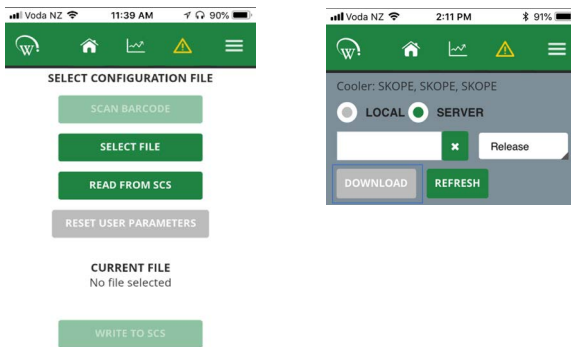


**Load Parameters**

When you are installing a new controller, or trying to diagnose a fault and there is a chance that the parameters may have been corrupted or modified, the Field App allows you to download the SKOPE factory parameters files stored in the cloud.

Selecting Load Parameter File opens the Select Configuration File page which shows the status of the currently selected file and gives the option of selecting a new file. Press Select File.

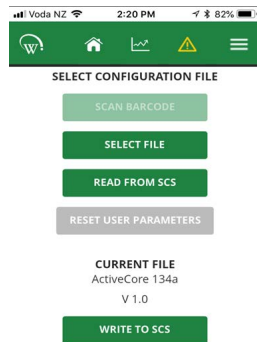
From this screen you can access the parameters file from either Server (the cloud) or Local (your device). You must only use released parameters files.



To ensure that you have the most recent parameters file SKOPE recommends you always download the latest release from the cloud. A data connection is required. If no data connection is available, download the correct parameters file, using the Download button, to your device (Local) before to travelling to the site. Once downloaded, select Local to check that you have the correct file.



From the Local list choose the required file to upload to the SCS controller. Check the “Current File” field to ensure the correct parameters file has been selected, then press Write to SCS.



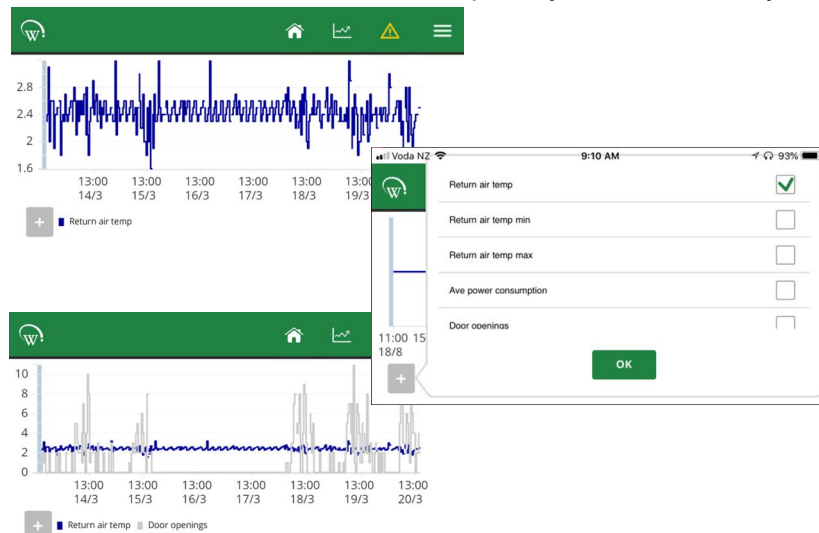
To delete a file from your device, select the parameters file from the list and press Delete.

**Note:** New parameters updates are not applied until DISCONNECT has been selected from the menu.

**Statistics** The statistics section allows you to view the last 7 days’ data from within the SCS Connect controller.

To see the data better, turn your device into landscape mode (on its side). You can add data points to review multiple points at once. Seeing operational trends or intermittent faults may help to diagnose problems.

Press the + button, then select the data points you wish to add to your chart.



**SCS Info** The SCS Info section contains information about the controller, including the firmware versions and key data about the cabinet:

- SKOPE Asset #
- SKOPE Serial # (the asset and serials numbers will be the same in most instances)
- Model of the cabinet
- Brand of the cabinet – the brand will vary if the cabinet belongs to a Corporate customer

If your role includes setting up cabinets for Corporate or Fleet customers, you may have access to Reset IDs (see “Reset Cabinet IDs” on page 12 for further details).

**SCS Setup** Corporate only.

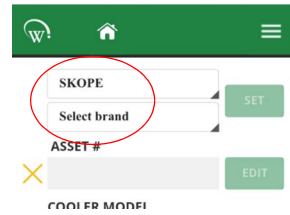
**Note:** General Market cabinets require the cabinet to be set up via the SKOPE-connect app, which the store owner or manager will have access to. Check to see if they have it on their device.

SCS Setup is only available in certain roles. If your role requires regular access to this procedure and you do not have access, contact SKOPE.

Linking an SCS controller to a refrigeration cabinet is a key part of allowing accurate data to be gathered for review and service assistance.

Select the appropriate owner and the brand.

The cabinet owner should always be set to SKOPE – this should come pre-set from the factory. The brand is the corporate customer who is using the cabinet. This is not set at the factory before delivery and must be set before placing the cabinet into the market.



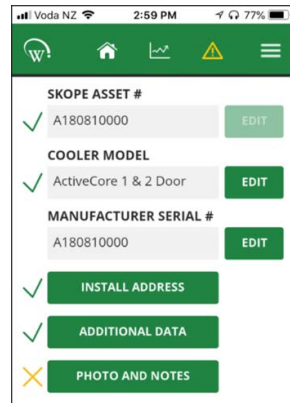
**IMPORTANT**  
Always select SKOPE as the cabinet owner from the drop-down box if not already set.

The list of available brands will appear once the cabinet owner has been set. Ensure you select the correct brand at this stage as an additional reset process will be required if it is set incorrectly.

When the owner and brand are successfully set, you can add the key details of the cabinet.

There are 6 sections in the SCS Setup page. The first 4 **must** be completed; the corporate owner may require all 6 to be completed.

Asset # may be either the Corporate Asset # or the SKOPE Serial #. You can enter this manually (Corporate #), or use the camera on your device to scan the bar-code on the serial label inside the cabinet (SKOPE #).



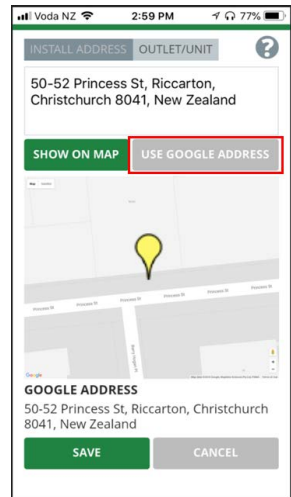
Serial number

Bar-code

**Cabinet Model:** Selectable drop-down box once the Asset # has been entered. This can be checked against the serial label inside the cabinet.

**Manufacturer Serial #:** Can be added by pressing the Edit button and using the camera on your device to scan the bar-code on the serial label inside the cabinet (the same process as for the Asset #).

**Install Address:** Manually type in the physical address of the location for the installed cabinet. Select Show on Map to see the actual location. If the shown Google Address is correct, press the Use Google Address button. This is recommended, as it ensures a consistent address format.

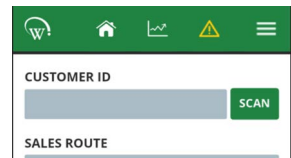


Select the Outlet/Unit tab, enter any available data and press the Save button.

**Additional Data:** If the corporate owner permits access via the SKOPE-connect app, then the Customer ID field must remain blank. If the corporate owner wishes to restrict this access, the SKOPE-connect access can be deactivated. See “Deactivate SKOPE-connect” on page 11.

Information stored in the Customer ID field may be hidden from view.

**Photo and Notes:** Optional. This may be required by the corporate owner. If these need to be added, take a picture of the store from the outside, as well as one of the entire cabinet once installed. These photos will be found in the photos app on your device and can be added one at a time. SKOPE recommends one for cabinet and one for the store.



**IMPORTANT**

Photos can't be removed once saved. Choose appropriate photos, as they will be visible to all people who have access to the reporting application.

Use the Notes for both the Cabinet and the Outlet for relevant information to help identify location of the cabinet, or things that may affect its performance or operation.

After information has been entered, disconnect from the controller to use the Track App to capture all relevant data.

**Deactivate SKOPE-connect** You will only need to enter information in this tab if the corporate owner does not permit access to the cabinet via the SKOPE-connect application that the store owner may have. If the corporate owner wishes to restrict this access, you need to add a Customer ID.

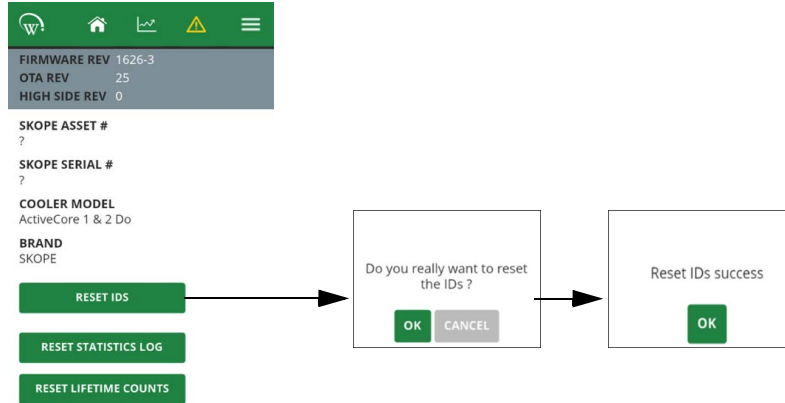
**IMPORTANT**

The customer ID field must be blank if SKOPE-connect access is required.

**Reset Cabinet IDs** Corporate only.

General Market cabinets do not require an ID reset. Follow this process to change the brand attributed to a cabinet after it has initially been set.

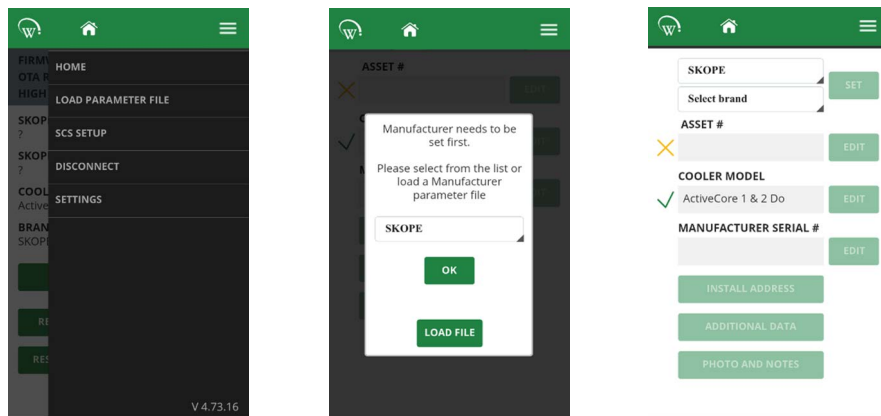
Open the SCS Info section from the menu. If you have the required level of access you will see the option to Reset IDs. Resetting the IDs will clear all manufacturer and owner information, and you will need to re-enter it.



After a successful ID Reset you will need to follow the SCS Setup process which will include an additional step to enter the Manufacturer information. Select the Menu.

The Menu screen will differ from normal. Select SCS Setup from the list.

**IMPORTANT**  
You must select SKOPE from the drop-down list.



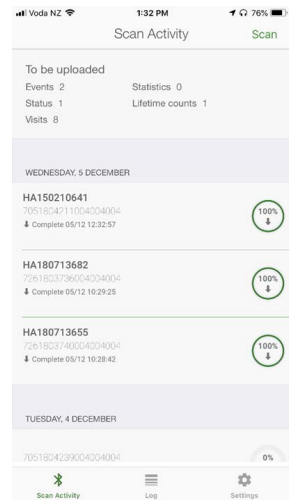
Once you have successfully set the manufacturer, you can continue the process of setting up brand and asset information. See “SCS Setup” on page 10.

## Track App

Bluetooth must be on to perform a manual scan with the Track App. Open the App and press the Scan or Connect Now button.

Data from the cabinet will be downloaded into your device and then uploaded to the cloud for future analysis.

**Note:** “Download completed” does not mean that the data has been uploaded to the cloud. The upload process requires data, and will be automatically completed when data coverage is available.



### 3 Alarms

#### Display

Any alarms that happen can result in warm product, and are logged. Some alarms can be cleared by the store owner, but others can only be cleared by a service technician.

ALr and the corresponding alarm number will alternate on the display



Alarm symbol

#### Alarm Codes

Display	Alarm Type	Description
dor	Door open	The door has been open for several minutes.
ALr2 ALr3	Over voltage protection Under voltage protection	The maximum or minimum allowable mains supply voltage has been exceeded. The cabinet has temporarily shut down to prevent damage and will restart once the supply voltage decreases or increases.
ALr8	Estimated product temperature below allowable range	The estimated product temperature has been below the allowable range for longer than the permissible time. Potential causes include an empty or partially filled cabinet, low ambient temperature.
ALr9	Estimated product temperature above allowable range	The estimated product temperature has been above the allowable range for longer than the permissible time. Potential causes include excessive door openings, door being left open, warm product loaded into cabinet.
ALr14	High condensing temperature protection	The system was operating at an elevated temperature and has temporarily shut down to prevent damage. Extended operation in this condition may result in increased energy consumption and a reduction in cabinet life. This alarm may be caused by very high ambient temperature.
ALr15	Excessive condensing temperature protection	The system was operating at an excessive temperature and has shut down to prevent permanent damage. This alarm may occur due to very high ambient temperature.
ALr17	Control probe failure	A critical system sensor has failed, and the cabinet can no longer operate.
ALr18	Electrical over-current protection activated	The compressor was drawing too much current and has shut down to prevent permanent damage.
ALr19	Failed to reach set temperature	The refrigeration system has been operating continuously for a long period without reaching the set temperature.

ALr20	Over-cooling product	The internal temperature is too low. The system has temporarily shut down until the temperature has returned to normal. This alarm may be caused by the set temperature being raised by a large amount.
ALr21	Excessive compressor cycling protection	The system has been turning on and off too frequently.
ALr22	Evaporator fan over-current protection	The current supplied to the evaporator fan motor is too high.
ALr23	Condenser fan over-current protection	The current supplied to the condenser fan motor is too high.
ALr24	Controller communication error	The controller has lost communication channels.
ALr25	Controller update failure	The controller update could not be completed.
ALr26	Controller hardware failure	The controller hardware has failed.
ALr27	Probe failure	A non-critical system probe has failed. The cabinet will continue to operate with partial function but requires service.
ALr28	No downward tendency	The temperature is no longer decreasing.
ALr29	Compressor cutting out	The compressor cut out on its internal protection or a pressure switch.
ALr30	Excessive automatic defrosting	The system is automatically defrosting too frequently.
ALr31	Compressor stall	The compressor is stalling on start up.

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