

AdvancedLive 4G/5G Connection Configuration

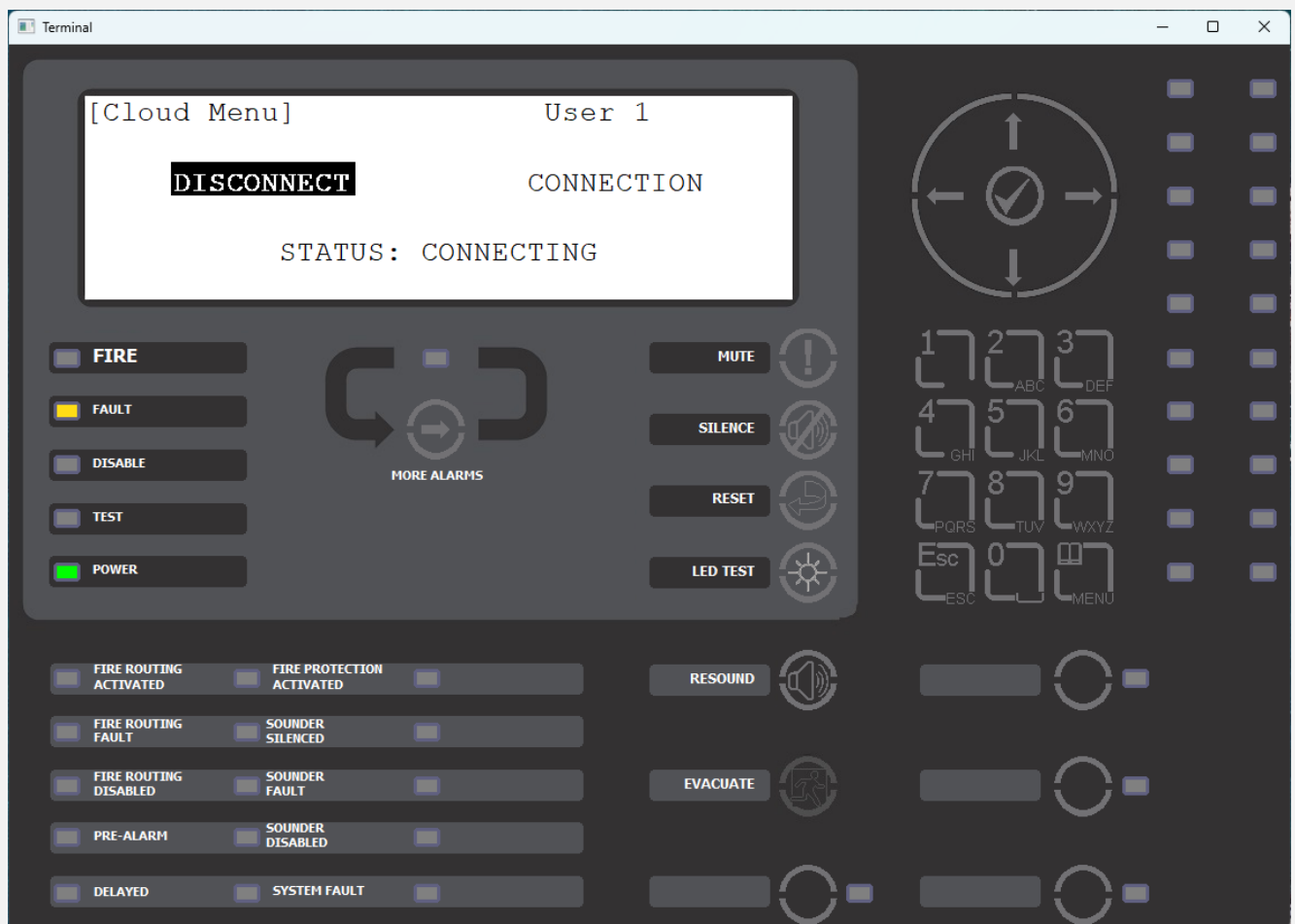


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1 Version History

Revision	Implemented By	Revision Date	Approved By	Approval Date	Reason for Update
01	Paul Taylor	2026-09-16			Initial Release

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Advanced Electronics Ltd
The Bridges
Balliol Business Park
Newcastle-upon-Tyne
United Kingdom
NE12 8EW

Tel: +44 (0) 345 894 7000
Web: www.advancedco.com

2 Introduction

AdvancedLive connected fire panels are designed to automatically establish and maintain a secure connection to the AdvancedLive cloud platform.

Should the internet connection become unavailable, the panel will automatically attempt to reconnect when connectivity is restored. To prevent excessive connection attempts from overwhelming network infrastructure, the panel implements an exponential backoff algorithm that progressively increases the delay between reconnection attempts.

In most installations the default reconnection behavior operates without issue. However, certain network environments, particularly those using cellular broadband technologies such as 4G and 5G routers, may experience delayed internet recovery following a network interruption. Under these circumstances, changing the starting exponential backoff interval can improve connection reliability and prevent the panel becoming permanently stuck in a connecting state.

3 Understanding the Issue

When a panel loses communication with AdvancedLive, it initiates a connection sequence designed to re-establish communications as quickly as possible.

A successful connection requires the following stages to complete:

- DNS Resolution
- TCP Connection Establishment
- TLS Secure Handshake
- WebSocket Connection Establishment

Under normal operating conditions, this entire sequence typically completes within a short period of time. However, if the internet connection is unavailable, and the network is unable to handle the panels requests, each connection attempt will fail at the DNS stage and the panel will gradually increase the delay before retrying using its exponential backoff algorithm.

The default reconnection sequence starts with very short retry intervals:

Attempt	Delay
1	1 second
2	2 seconds
3	4 seconds
4	8 seconds
5	16 seconds
6	32 seconds

7	64 seconds
8	128 seconds
9	256 seconds
Subsequent Attempts	Approximately 300 seconds

4 Why the Issue Commonly Occurs on 4G and 5G Networks

Traditional fixed broadband services often recover internet connectivity quickly following a brief interruption. By comparison, mobile broadband routers may require additional time to restore service after network loss, power interruption, carrier changes or signal degradation.

Before connectivity is fully restored, the router may need to:

- Re-register with the mobile network
- Re-establish the carrier data session
- Acquire an IP address
- Restore outbound internet connectivity

During this period the panel can begin attempting reconnection before the router has fully recovered.

Repeated failed connection attempts can occur while the mobile network remains unavailable. In some situations this may result in the panel exhausting multiple connection attempts during the network recovery window and failing to automatically recover. This behavior has been observed most commonly on installations utilising 4G and 5G communications infrastructure, but also observed on wired broadband service with slow recovery periods.

5 Symptoms

Installations affected by this issue may exhibit one or more of the following symptoms:

- The site was previously operating normally on AdvancedLive.
- The internet connection experiences an interruption or outage.
- Internet connectivity is subsequently restored.
- The panel remains showing "Connecting".
- The panel does not automatically reconnect to AdvancedLive.
- The site remains offline within AdvancedLive.
- A panel reboot restores normal operation.

Where these symptoms are observed, increasing the initial backoff interval can help prevent the issue from reoccurring.

6 Recommended Configuration Change

For installations that utilise 4G, 5G or other networks where internet services may take longer to recover, Advanced recommends increasing the exponential backoff starting point.

Setting the initial backoff interval to 32 seconds provides additional time for the router and underlying network infrastructure to become fully operational before the first reconnect attempt occurs.

This can significantly reduce the likelihood of repeated failed connection attempts immediately following a network outage.

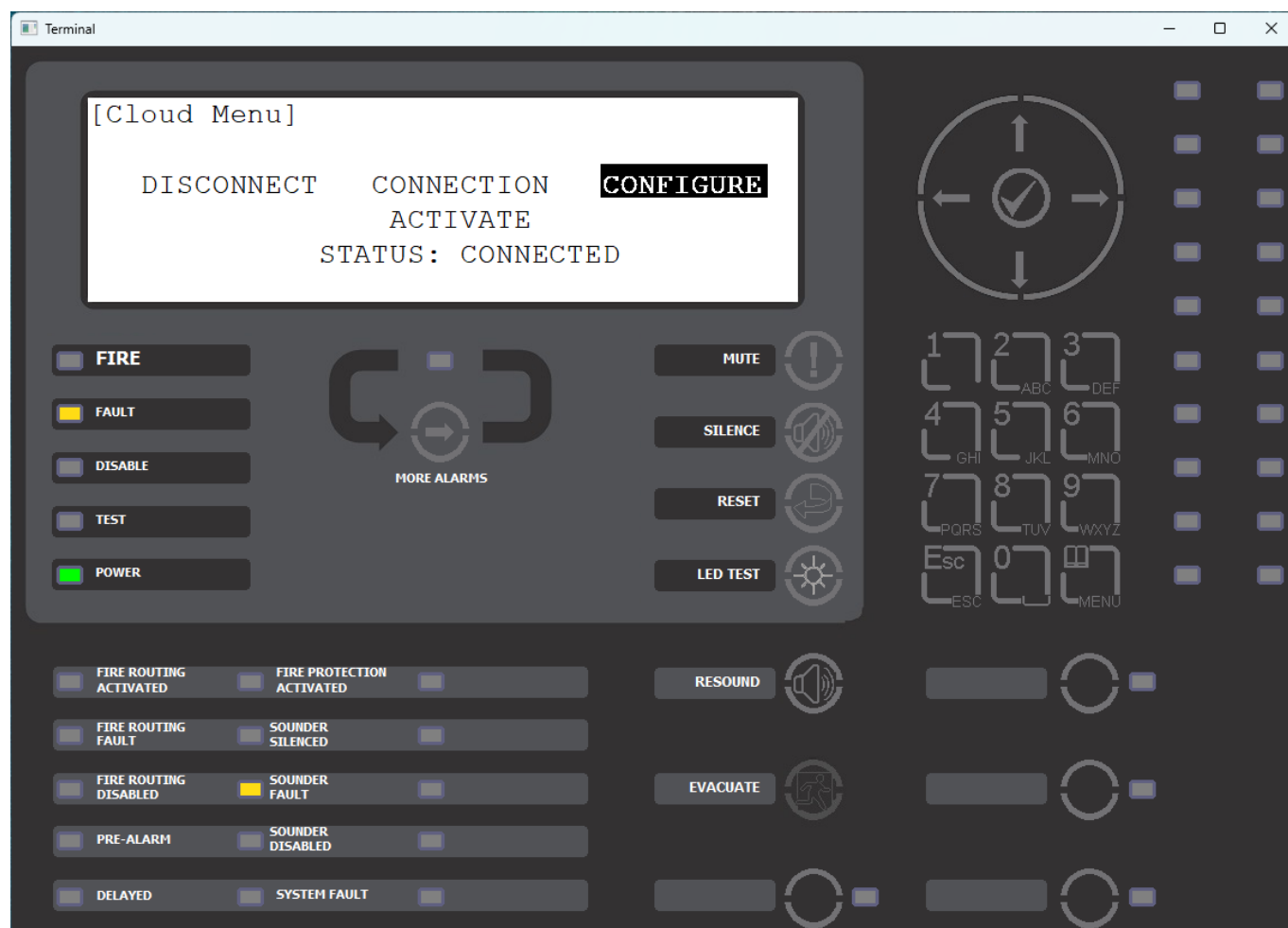
7 Configuring the Exponential Backoff Delay

7.1 Enter Level 3 Access

Enter Level 3 Access on the panel.

Navigate to:

Commission 3 → CLOUD → Configure

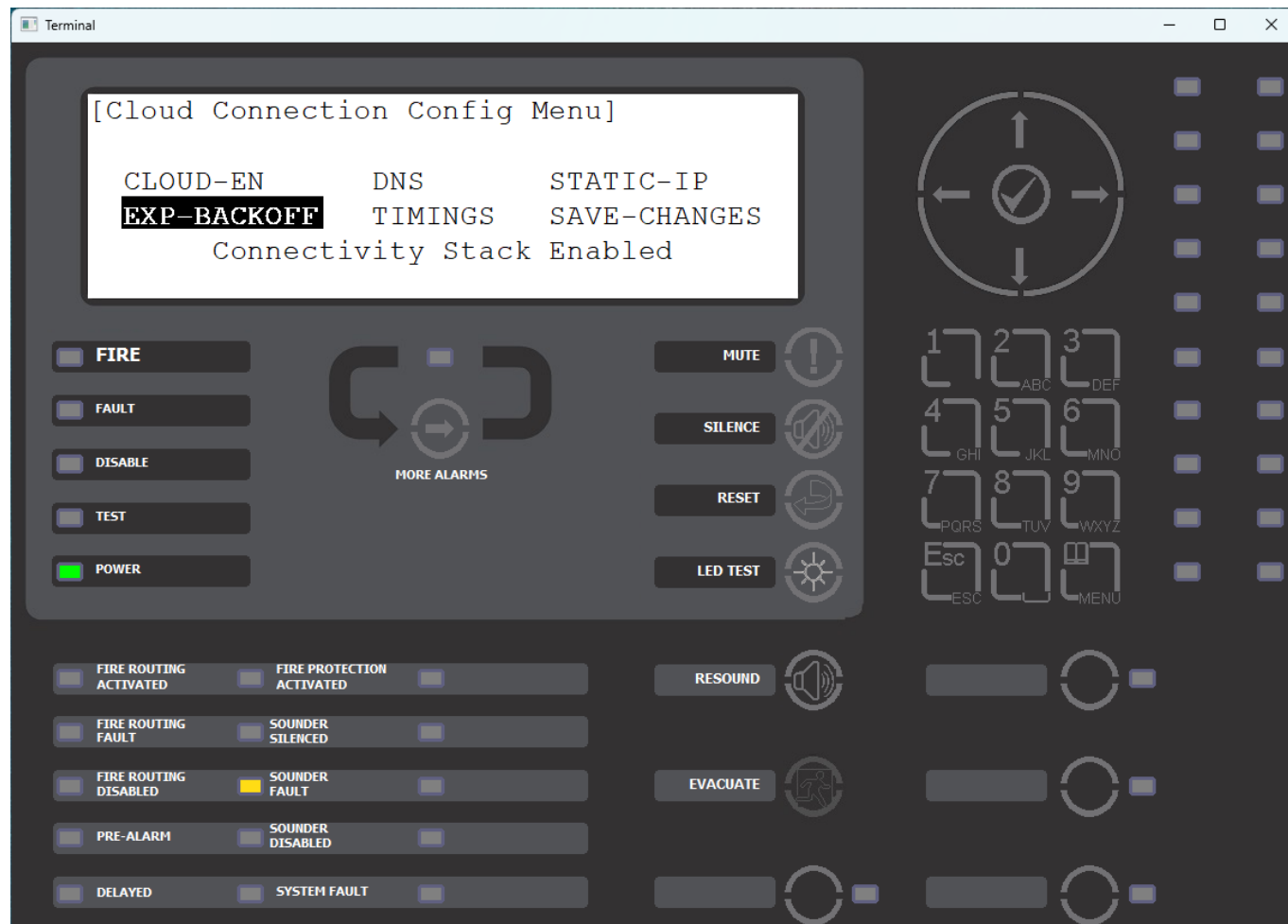


7.2 Open the Exponential Backoff Setting

Locate the parameter:

EXP-BACKOFF

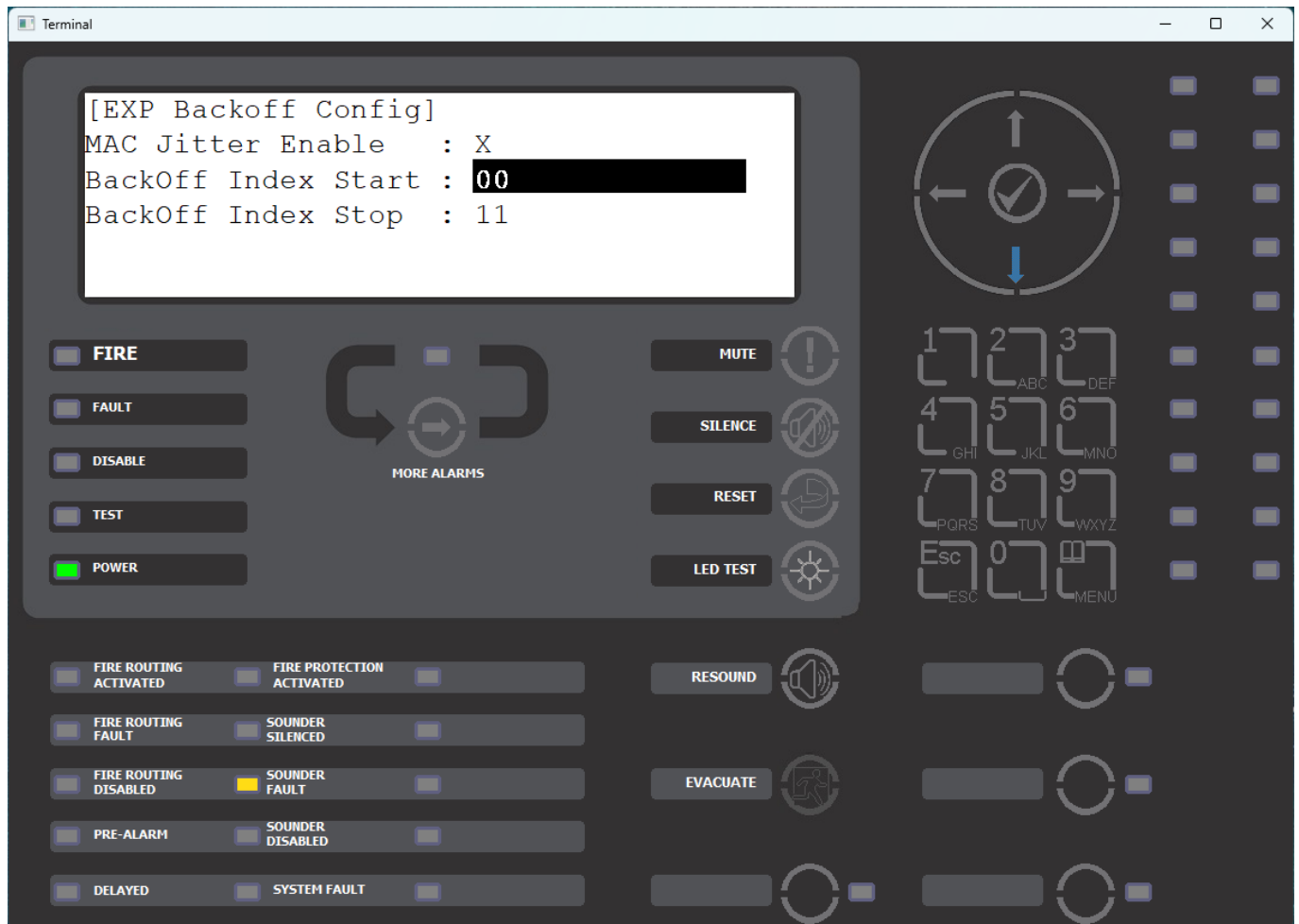
Press Tick to edit the configuration.



7.3 Locate the Backoff Start Index

Navigate to:

BackOff Index Start

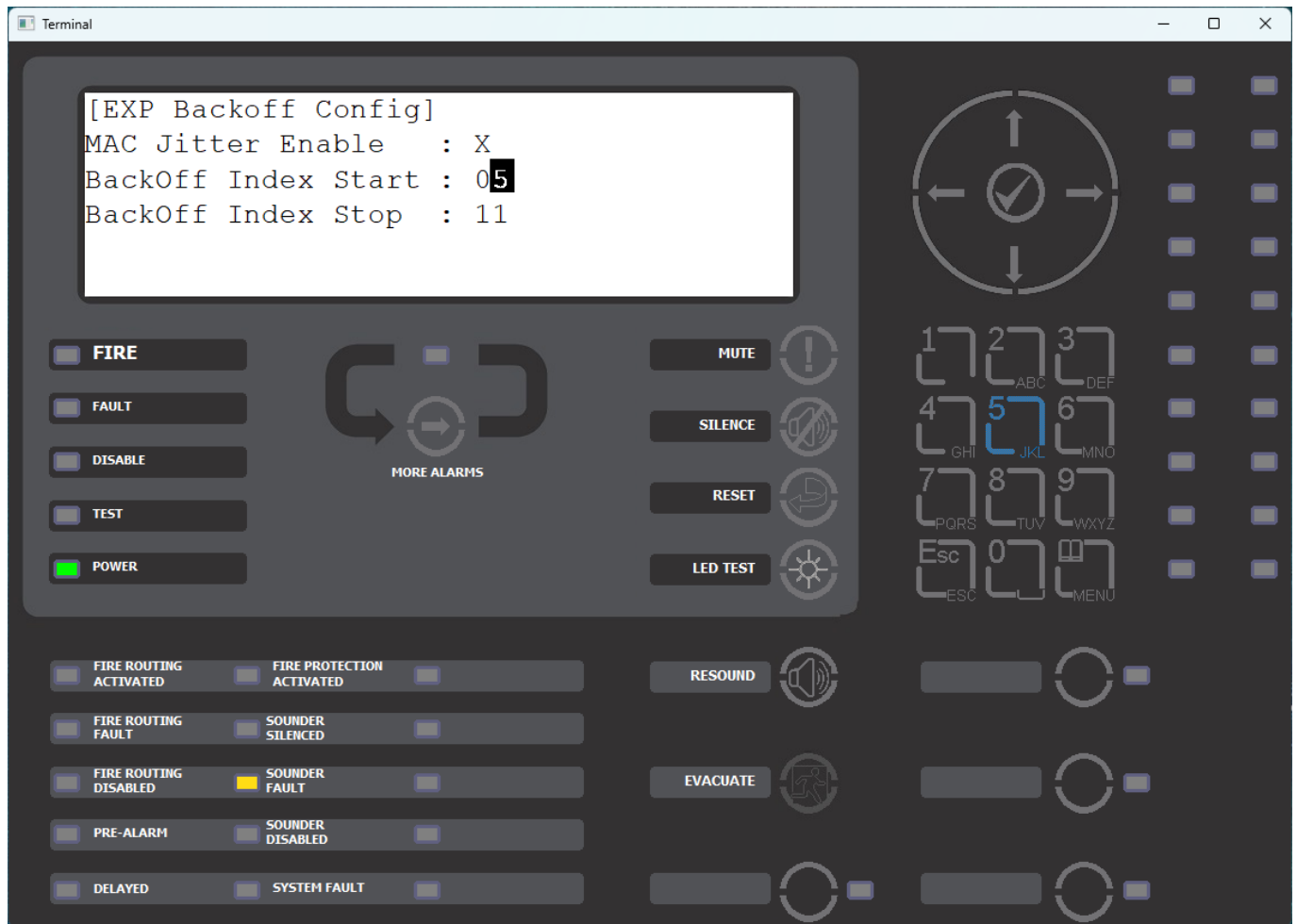


The value determines which exponential backoff interval is used for the first reconnection attempt.

7.4 Change the Start Index

Change the value to: 05

Press Tick to enter edit mode, and then enter [0] [5] from the numeric keypad



This causes the reconnection process to begin with a delay of 32 seconds instead of 1 second.

7.5 Verify the Backoff Mapping

The index values correspond to the following delays:

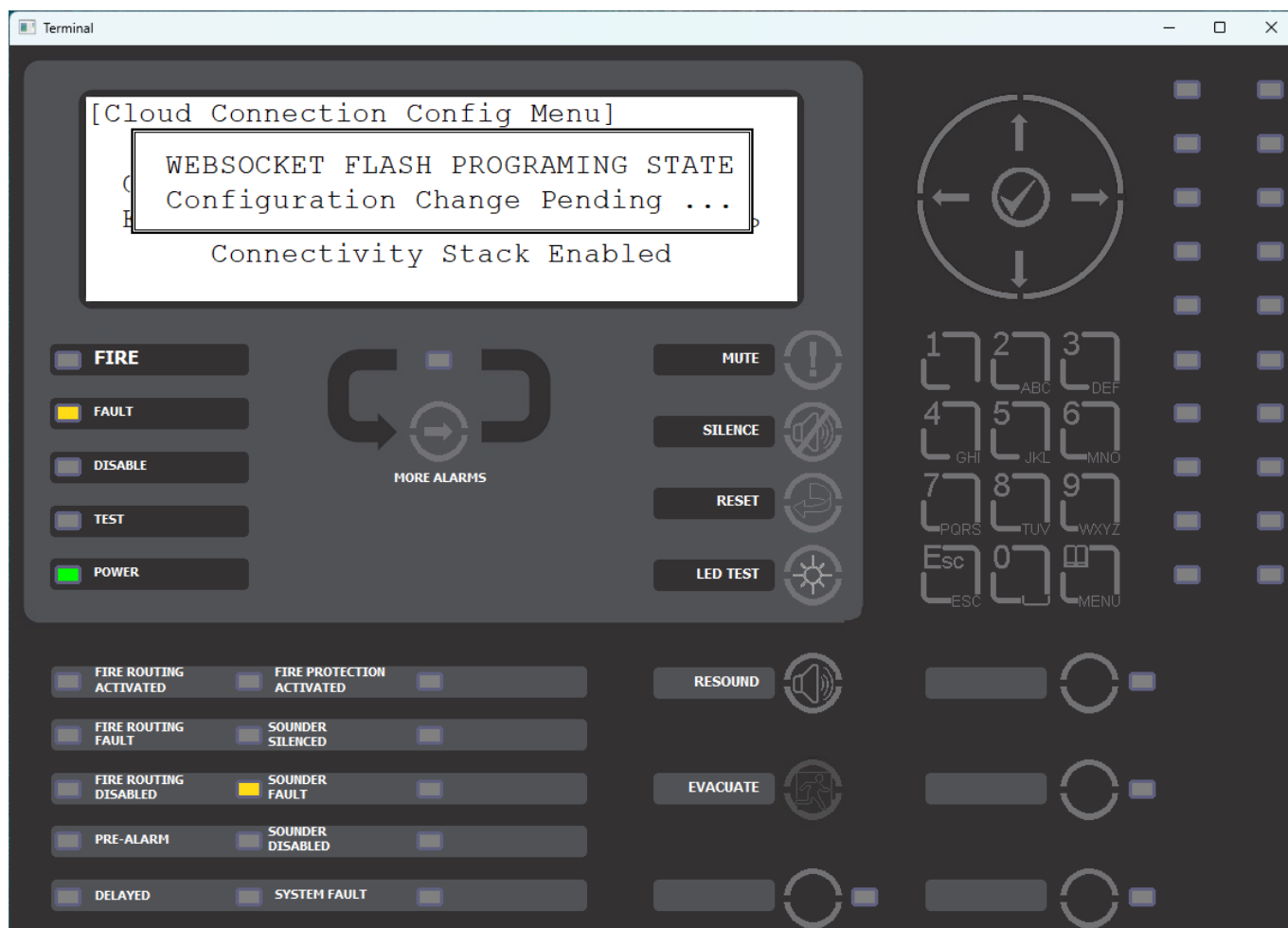
BackOff Index	Initial Delay
00	1 second
01	2 seconds
02	4 seconds
03	8 seconds
04	16 seconds
05	32 seconds
06	64 seconds

07	128 seconds
08	256 seconds
09+	Approximately 300 seconds

For most 4G and 5G installations, 05 (32 seconds) is recommended.

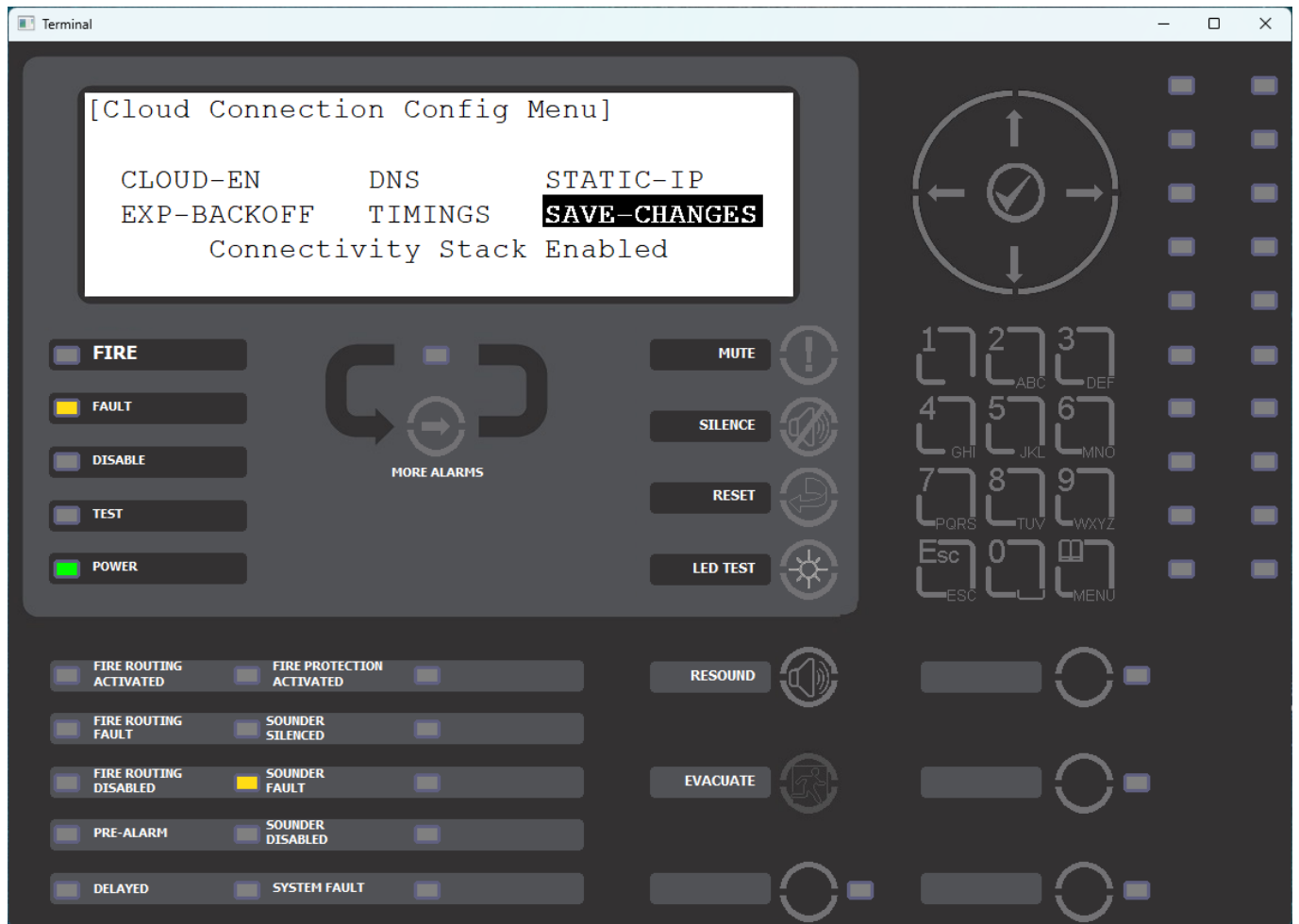
7.6 Save the Configuration

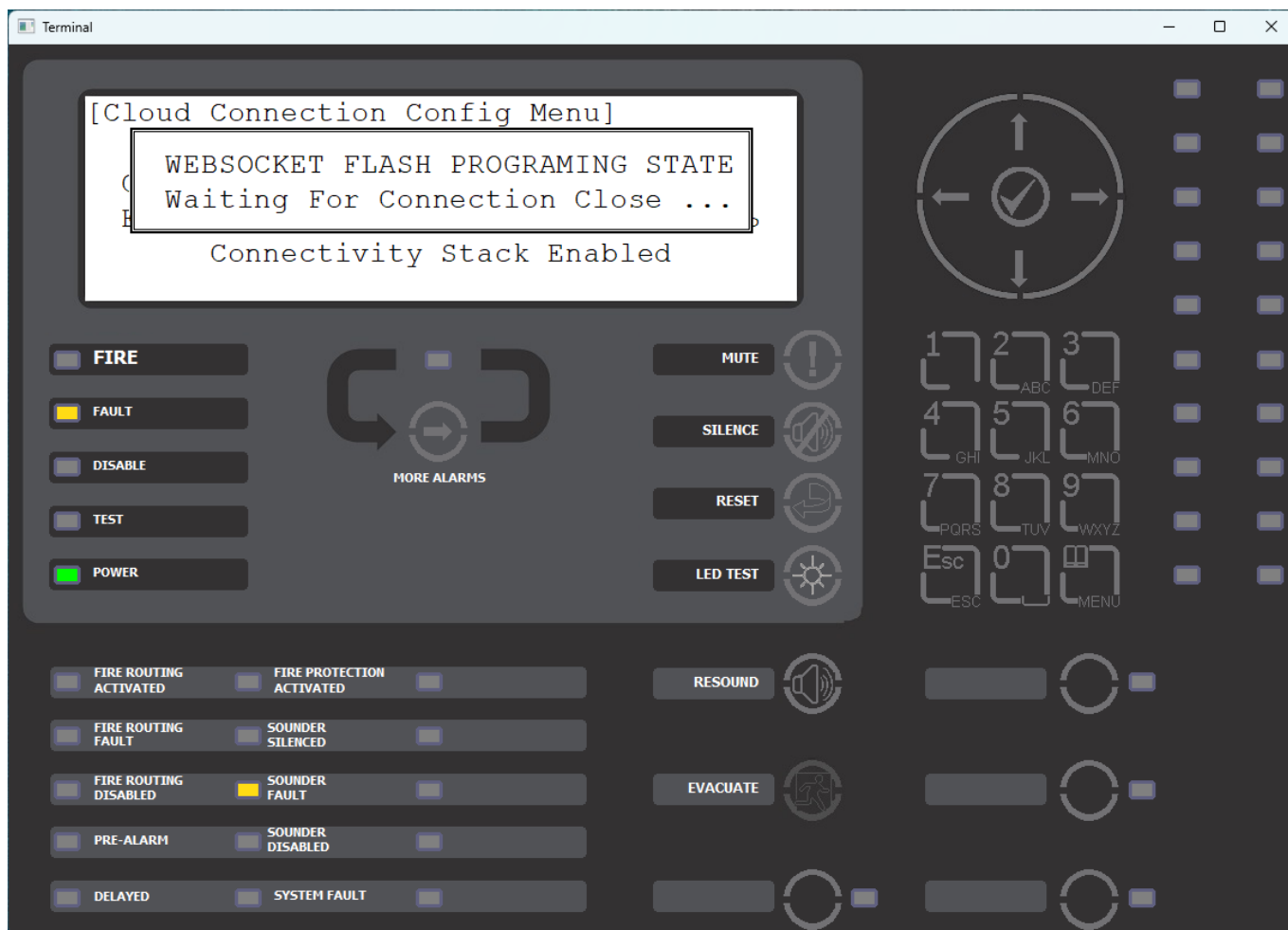
Press ESC to exit the EXP-Backoff Config menu. The panel will inform you that a Configuration Change is Pending:



Press ESC again, and then select:

SAVE-CHANGES





7.7 Reboot the Panel (If Required)

If the panel is currently displaying a permanent "Connecting" state, perform a panel reboot after saving the modified configuration.

Once restarted, the panel will utilise the updated reconnection strategy and delay the first reconnect attempt by 32 seconds following any future network interruption.

8 Additional Diagnostics

If connectivity problems persist after applying this configuration, further diagnostics should be gathered from the panel.

Connection status information can be reviewed from:

CLOUD → CLOUDINFO → IPSTATS

Additional detailed connection statistics are available from:

CLOUD → CLOUDINFO → CONNECTSTATS

These screens provide information regarding the current connection phase, reconnection attempts and active backoff interval, assisting Technical Support with further investigation.

9 Notes

- This configuration change does not affect normal operation while connected to AdvancedLive.
- The setting only affects behaviour following a communication failure.
- The recommendation is primarily intended for installations using 4G or 5G communications.
- The change may also provide benefits on sites with unstable WAN connectivity or frequent network interruptions.
- Sites that continue to experience connectivity issues should be referred to Technical Support for further investigation.

10 User Notes

Use this section to record site-specific information, panel settings or deployment records.

Doc Number:

Revision:

File Name: 0000-00-10



Advanced Electronics Ltd
Balliol Business Park, The Bridges, Newcastle upon Tyne NE12
8EW UK

Tel: +44 (0)345 894 7000

Fax: +44 (0)1670 707 222

Email: sales@advancedco.com

Web: www.advancedco.com