Pager Status Symbols – Instructions & Explanation

Information, self-test protocol and fault diagnosis for pager systems with repeaters

> **Important preliminary note**
>
> The status symbols **E** and **L** at the top of the pager screen only appear when at least 2 repeaters are in use. As soon as the **A**, **E** or **L** dots are visible at the top of the screen, press the relevant dot to display its content (the associated code or message). These icons serve solely as an indicative diagnosis when a fault is suspected. Staff do not need to monitor them continuously during day-to-day use.

1. Overview of the Status Symbols

E

Error Message

COMMUNICATION ERROR SELF-TEST / CALL

Appears when a repeater cannot be reached. This happens both during the automatic self-test and with every call.

Display example: `E03`
This means that repeater no. 3 could not establish contact with no. 4.

L

Link / Reception

SELF-TEST RETURN CONFIRMATION

Appears when the return signal from the highest repeater has been successfully received by the pager.

Display example: `C0C` (e.g. with 12 repeaters)
(Hexadecimal on screen).

A

Active Calls

TEST / ADMINISTRATOR FUNCTION

Shown on the left of the screen after activating calls on the pager. Displays timers of active calls.

Note: Not needed for regular users; disappears automatically.

2. How does the Automatic Hourly Self-Test work?

Every hour, the transmission system automatically runs a check across all linked repeaters to safeguard the network status.

How the Self-Test Chain Works

1. **Call Signal Upwards (Secured):**
   Every hour, repeater 1 passes a command on to the subsequent transmitters in the chain (e.g. 1 → 2 → 3 → 4 → … → 12).
   - This signal is checked for proper reception by the previous repeater.
   - If there is no response, the signal is retransmitted.
   - **Emergency protocol:** If no response is received, an emergency protocol takes effect that attempts to forward the call another 15 times at 4-second intervals.
2. **Call Signal Downwards (Return – Not Secured):**
   After reception, the highest programmed repeater (e.g. no. 12) sends a return command back to no. 1 (12 → 11 → 10 → … → 1).
   - This return signal is picked up by the pagers and displays the dot with the **L** (with code `C0C`, e.g. with 12 repeaters).
   - *Important:* The downward signal is unsecured and can occasionally be corrupted or lost due to environmental influences.

Call Signal Upwards (Secured + Emergency Retry)

`[1] → [2] → [3] → [4] → ... → [12]`

Return Signal Downwards (Signal to Pagers – 'L' Icon)

`[12] → [11] → [10] → ... → [1] → Pagers (L / C0C)`

Optimal Network Configuration

A serial chain of consecutive repeaters, in which only 2 consecutive repeaters are ever within each other's direct range, works best for an accurate indication of the network status.

3. What to do when an Error Message appears (Dot E)?

If the **E** icon appears on the pager together with a number, this indicates the last properly functioning repeater.

Message on Pager	Cause	Action Plan / Check
`E03`	Repeater 3 cannot find / reach repeater 4.	First go to **Repeater 4** and check: • Is the device switched on (power supply)? • Is the transmitter physically present and not relocated? • Is the antenna correctly connected and undamaged?
`E08`	Repeater 8 cannot find / reach repeater 9.	Immediately check the status and power supply of **Repeater 9**.

No Panic over an Occasional Deviation of the 'L' Icon

Because the downward return signal is unsecured, it can occasionally be lost due to noise or temporary interference. Does the 'L' icon fail to appear once? Then there is no reason to panic. Simply wait for the next hourly self-test to see whether the signal recovers.

4. Simultaneous Emergency-Button Calls & Signal Interference

When an emergency button is pressed and this signal arrives at several repeaters at the same time, many transmission signals overlap at that moment.

Important in Emergency Situations

- While an emergency button is being pressed, **no** reliable status conclusion can be drawn from the E/L icons due to the temporary signal overlap.
- For status evaluation, always wait for the next automatic hourly check.

System protection: You can raise the alarm with several emergency buttons at the same time. The built-in transmission protocol manages all simultaneous alarms properly. The system will not become blocked as a result.

5. Test Mode and Starting a Manual Self-Test

A. Enabling Test Mode on the Pager

Would you like to monitor reception directly on a specific pager during installation or maintenance?

- Activate the **Exx Cxx Tip On** test function in the menu to display the messages in large format on the screen.
- When enabled, status updates are shown in large format on the screen, accompanied by a clear beep at every status change.

B. Manually Starting a Self-Test of the Repeaters

You do not always have to wait for the automatic hourly self-test. You can initiate a self-test of the repeaters manually using two methods:

1. **Via the 400TX Transmitter Control Station:**
   Start the self-test procedure directly from the control panel of the main transmitter.
2. **Via a 2-Way Wrist Pager:**
   Open the **Alert** menu on the wrist pager and enter the following code: `123 D00 000`
   (Where `123` must be replaced by the specific system code of your installation.)

6. Quick Reference Card

Item	Key Value / Code	Function / Explanation
Minimum required	2 Repeaters	Icons E and L only appear from 2 active repeaters onwards.
Status Icon E	`E03` (example)	Fault at transmitter no. 4 (last working one was no. 3). Check no. 4.
Status Icon L	`C0C` (e.g. with 12 repeaters)	Self-test return signal received from the highest transmitter.
Status Icon A	Timer on screen	Active call timers (for test/administration only, disappears automatically).
Emergency protocol upwards	15x every 4 sec.	Automatic retry when a subsequent transmitter does not respond.
Manual test	`[System code] D00 000`	To be entered in the Alert menu on the 2-Way Wrist Pager.