



Programme Guideline G16
Privacy Shields



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SIGN OFF / ACCEPTANCE

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1. Scope

This Guideline covers the requirements for Privacy Shields on PINpads. It includes discussion of the situations in which Privacy Shields are needed, the design and positioning of shields and the responsibilities for setting and enforcing policies for their use.

It refers to both attended and unattended points of sale, and also makes reference to Programme Recommendation 12 – Security at the Point of Sale.

2. Requirement

In the Northampton trial, a significant minority of customers expressed concern about the security of entering their PIN on a keypad in a public place. It is important to reassure customers that PIN entry is safe and that others cannot readily obtain their PIN; this is also important in order to maintain the position that entry of the correct PIN is irrefutable proof of the validity of the transaction.

PIN entry must be performed in such a way that cashiers, waiters, other customers and CCTV operators cannot see the PIN being entered. This requires a combination of PINpad design, PINpad placement, customer and cashier training, and enforcement.

However, experience from other countries where PINs are widely used suggests that privacy shields are often removed, particularly where they are very bulky or obtrusive, and that customers become used to using their hands or bodies to shield PIN entry. Privacy shields can also make it more difficult to see the screen or for less dextrous users to enter their PINs. They should therefore not be too large and in some situations it may be best to dispense with them altogether.

3. Design of Privacy Shields

PINpads for use at attended points of sale should have some type of Privacy Shield unless it can be shown that cashiers and other customers will never be in direct line of sight of the PINpad.

In designing privacy shields, several factors may be taken into account:

- Both the card itself and the cardholder's body may form part of the privacy shield. The closer the cardholder is to the PINpad, the less the need for a shield
- The cardholder's hand forms another essential part of the shield. PINpads that are larger than most users' hands (typically 65 x 100 mm) are more difficult to protect and will require a larger privacy shield
- Viewing from a narrow angle (less than 10 degrees to the plane of the keypad) it is almost impossible to determine which keys are being pressed. Conversely, if the angle of view is more than 45%, then the cardholder is likely to be very conscious of being overlooked.



Three grades of privacy shield may be identified:

A: Where the PINpad can easily be picked up, a minimal privacy shield may be fitted, providing protection principally from the sides and front. The card itself may form part of the privacy shield. It is recommended that such a shield should hide all keys from view at an angle of up to 25 degrees from the plane of the keypad, in an arc of at least 270 degrees from the centre of the '5' key. This means that the sides of the shield should normally be at least one quarter as high as the keypad is wide, and the "front", if not shielded by the card, should be at least a quarter as high as the keypad is long.

B: For more exposed situations, a larger privacy shield is recommended, with the height of the sides equal to half the width and that of the front equal to half the length, i.e. a viewing angle of 45 degrees. These dimensions correspond to those of many privacy shield standards used in other countries¹.

C: In unattended locations, it is strongly preferred that the keypad be inset into the front of the machine, with the keypad itself close to horizontal and a gap of at least 50 mm between the front of the keypad and the front of the machine. The height of the aperture should not be greater than the depth of the keypad (i.e. a viewing angle of 45 degrees).

4. Positioning of PINpads

In general, a privacy shield of some size should be fitted unless there is a reason why it is not required. This would only be true where it can be shown that neither the cashier nor other customers are ever in line of sight of the PINpad when it is in use.

It is therefore ideal if a PINpad can be positioned behind a fixed partition (e.g. the cash register), which shields it from the cashier's view. PINpads should generally be positioned on the side of the customer away from the queue, although care should be taken to ensure that it can be used easily by both right- and left-handed customers. If the queue is directly behind the customer, then the PINpad should be placed directly in front. At many points of sale, baskets or other obstacles can be placed to deter other customers from queuing where they can see the PINpad.

In many situations, it is desirable that the PINpad can be picked up and passed to someone unable to reach or use the PINpad comfortably, e.g. a wheelchair user or other disabled person, or simply a very tall or short person. When it is to be used on a counter, the PINpad should be positively located in a frame, or else have feet that will prevent it from sliding when the keys are being pressed.²

¹ And is believed to correspond to the Visa Offline Pin Entry Device Derived Test Requirements

² The choice of lead for attachment of the PINpad is also important. If the lead is too short, there is less flexibility as to where it is placed, and the PINpad cannot be passed to a wheelchair user. If it is too long, it may become tangled, or allow the PINpad to hit the floor when dropped.



Where the PINpad cannot or will not normally be picked up, it is still desirable from an ergonomic point of view that it can be rotated or tilted to suit the cardholder.

5. Cashier and cardholder communications

Most issuer communications with cardholders include warnings against entering a PIN where you feel that you are overlooked. This should be reinforced with a message that it is acceptable, or even desirable, to pick up the PINpad in order to provide shielding, or to use the other hand as a shield.

All retailers should include in their cashier training the topic of privacy shields; cashiers must understand the value of privacy shields and the implications of PIN entry being overlooked. Cashier training should include advice that many cardholders are sensitive about privacy, and cashiers should make those customers feel comfortable by encouraging them to pick up the PINpad, by averting their gaze during PIN entry and, in exceptional cases, by asking other customers not to stand too close to the cardholder during PIN entry.

Conversely, some customers are insufficiently careful during PIN entry and should be encouraged to enter their PIN discreetly.

6. Policy on privacy shields

Only acquirers can promote and enforce a policy on Privacy Shields. In most cases the use of a privacy shield is required by the APACS Protection Profile, and should only be removed if permitted by the PINpad's Security Target.

Where a terminal is delivered with a privacy shield, this should only be removed with the agreement of the acquirer. Cashiers should never remove privacy shields on their own initiative. Retailers who own their own equipment should specify the use of a privacy shield unless they can demonstrate to their acquirer that this would be inappropriate.

Acquirers should where possible ensure, through their merchant contracts, that they are able to take action against merchants who breach this policy.