

**ICL Pathway**

**100 Trial Surveys Report**

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**Document Title:** 100 Trial Surveys Report

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**Abstract:** This report details the results of the 100 offices surveyed to analyse the impact of new options for preparing the post offices for the national rollout.

**Status:** Report

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## 0 Document control

### 0.1 Document history

Version	Date	Reason
1.0	02/03/98	Report issued
2.0	04/03/98	Qualifying terminology used throughout the document

### 0.2 Release authority

Barrie Davies	Implementation Manager		
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### 0.3 Associated documents

Reference	Version	Date	Title	Source
IM/REQ/005	1.0	24/02/98	Horizon Counter Infrastructure Rollout - Survey Requirements Specification	M. Fisk

### 0.4 Abbreviations

WTplc	Workplace Technologies plc
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### 0.5 Changes in this version

Second issue qualifying terminology used throughout the document.

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## 1. Introduction

The post implementation review of Horizon in the release 1b post offices, undertaken by POCL, suggested that certain Horizon components were not most efficiently located for frequent and repetitive use. As a result POCL commissioned an ergonomic study of the Horizon equipment in use at certain post offices in the South West Region and from this review provided parameters to ICL Pathway to be used when installing equipment.

As it was unknown whether this change would have a material effect on the cost of preparation work, a joint effort has been undertaken to survey 100 outlets following the new parameters. This report provides a breakdown of the results into the following categories:

- standard office preparations
- standard office preparations with stands or shelves
- office modifications (re-survey for screen/counter modifications)
- no solution offices
- impact of additional options

In addition this report covers any other issues that have been raised during this exercise.

## 2. Scope

The 100 post offices visited have been specifically chosen as a representative sample of the POCL estate. 80 were chosen from the offices currently operating the Horizon platform (Live offices). The remaining 20 represent the larger branch offices and those already with automation i.e. ECCO outlets.(New offices) <sup>1</sup>

For the purpose of this exercise it has been assumed that we are visiting the office for the first time. The prices quoted reflect the total cost incurred to prepare the office in accordance with the ergonomic parameters and where necessary, previous documentation has been reviewed to determine the extent of work already undertaken. If previous work is part of the proposed solution the associated cost is included in the total office cost. Where it is not it is excluded.

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<sup>1</sup> 4 offices were excluded from the Release 1B rollout as the cost of office modification was too great. This means that the most expensive offices to prepare are missing from the 80 sampled. The average cost of preparing these 4 offices was £4186.27 before the ergonomic parameters were imposed.



For example, in the majority of offices the cost of Image monitor stands have been removed as they will become redundant when the final solution is implemented. In offices where they will be utilised for another purpose, the cost has been included.

Likewise, it should not be assumed that the costs associated with the 80 existing offices reflect the cost of upgrade to the ergonomic standard. In some instances extra costs will be incurred in rectifying work already undertaken.

The cost of resurvey visits have been included where appropriate.

The Site Survey Requirements document, (Ref. [1]) was modified to reflect the parameter changes and this together with the survey and resurvey processes were agreed by both parties prior to the surveys taking place. In addition five different types of monitor / keyboard stands, some of which are still undergoing ergonomic evaluation, were considered. For all outlets that required a re-survey or offices, where no solution could be found, the following additional options were considered:

- POCL approved seating
- a flat screen monitor
- extension of the reach parameters defined in the ergonomic study

The use of a separate smart card reader was to be considered but this was discounted during discussions on agreeing the Site Survey Requirements document as its use created further operational difficulties.

The impact of using these additional options is covered in section 7.

### 3. Management Summary

Of the 100 offices surveyed, 18 were classified as no solution offices. With an estate of 19,088 offices (excluding Cash Remittance Units) this would equate to 3,435 offices nationally.

For the remaining 82 offices costs have been split into:

- Site preparation costs including stands - **Cost X**
- Additional costs - **Cost Y**
- Additional electrical costs - **Cost Z**

Cost apportionment to allow the compilation of summary costs is defined in Appendix A, but it is understood that reapportionment of some costs may take place following joint discussions.

No of offices	Cost X (£)	Cost Y (£)	Cost Z (£)	total cost (£)
82	93,165.17	75,515.54 <sup>2</sup>	4,702.81	173,383.52 <sup>3</sup>

This gives an average cost per office of:

Cost X (£)	Cost Y (£)	Cost Z (£)	total cost (£)
1,136.17	920.93	57.36	2,114.46

By subtracting the no solution offices from the total estate of 19,088, the remainder of the estate which could be modified to accept Horizon is 15,653. This would give a total cost of:

No of offices	Cost X (£)	Cost Y (£)	Cost Z (£)	total cost (£)
15,653	17,784,469.01	14,415,317.29	897,856.08	33,097,642.38

<sup>2</sup> The resurvey cost for the 18 no solution offices are not included in this figure. If the costs had to be charged for 18% of the estate, the figure would be significant.

<sup>3</sup> An error was found in the calculation of cost at 1 office. There were 2 offices with similar name and FAD code and joinery costs were included for both. The error totalling £1,011.23 has resulted in a reduction of £234,782.40 over the estate of 19,088 offices.

Recognising the inherent complications with this argument, propagating the average cost across the whole estate would yield the following figures:

No of offices	Cost X (£)	Cost Y (£)	Cost Z (£)	total cost (£)
19,088	21,687,212.96	17,578,711.84	1,094,887.68	40,360,812.48

Costs quoted exclude Value Added Tax.

There has been no contingency allowed for any inconsistencies in the sample chosen.

No allowance has been made for any potential savings which could be expected from competitively tendering for the shopfitting work.

## 4. Surveys

### 4.1 The survey teams

Due to the tight timescales involved in providing this report it was necessary for the survey and resurvey processes to be conducted in a single visit.

The survey teams consisted of a Pathway surveyor with responsibility for completion of the survey process, and a POCL surveyor to consider counter and screen modifications where a resurvey was necessary. It was also felt that joint attendance provided a check and balance to the process and would reduce the chance of solutions being more involved than absolutely necessary.

It should be noted that neither attendees were qualified joiners and as a result some solutions proposed could later be found to be either more expensive than estimated, or impractical to achieve. Similarly there were some solutions which involved relocating safes within the secure area of the Post Office. The prices quoted for this task covers the cost of moving the safe. Any additional costs relating to structural work to strengthen floors has not been included.

### 4.2 Training

All but one surveyor had no previous experience in conducting surveys on Post Office premises. A one day training course for both ICL and POCL staff was conducted at ICL Kidsgrove. It was felt by both parties that with the amount of information to be conveyed, a 3 day training course would need to be undertaken by any Surveyor involved in the National Rollout.

To supplement the training given, the survey teams were accompanied for the first 3 days by managers from within both ICL Pathway and POCL, to ensure that the process was understood and adhered to.

### 4.3 Survey review

Every completed survey pack was reviewed on receipt and checked to ensure compliance to the ergonomic parameters. It was then categorised as detailed in the following section, and costings obtained from the following sources:

Work involved	Action
Joinery work	Referred to WTplc for quotation.
Screen modifications	Referred to POCL to cost screen parts. Referred to WTplc for labour quotation.
Relocating safes	Referred to POCL for quotation.
Relocating alarm circuits	Referred to POCL for quotation.
Electrical work	Costings supplied by WTplc

As the process used by the Surveyors for considering monitor and keyboard stands was based on the size of counter and did not consider the purchase price of the stand, the review also considered whether there was a more cost effective solution where stands were utilised. The prices quoted in this document reflect this reduction.

It should be noted that the estimates of joinery work were based on the narrative reports provided by the Surveyors. The actual prices quoted may have to be revised once a formal joinery survey is undertaken.

## 5. Results of the Survey

### 5.1 Outlet Categories

The results of the surveys have been broken down into the following categories:

- **Category A** - offices which can be installed without any modifications. No resurveys required.
- **Category B** - offices that require the provision of items such as shelves and stands. No resurveys required.
- **Category C** - offices that require modifications to the counter, which includes screen, parcel hatch and joinery modifications. In all cases a resurvey is required.
- **Category D** - offices where either no solution could be found or the proposed solution was unacceptable to the postmaster.

Category	Live Offices	New Offices	Number of counter positions	Total
A	1	2	17	3
B	23	10	105	33
C	42	4	91	46
D	14	4	43	18

The X, Y & Z costs that are attributable to Categories A, B & C are shown in a matrix at Appendix A.



## 5.2 Cost Breakdown

Preparation costs per office are as follows:

No of Counters	No of Offices	Average Cost X per office (£)	Average Cost Y per office (£)	Average Cost Z per office (£)
1	30	685.97	656.19	80.81
2	24	791.24	1,031.41	NIL
3 <sup>4</sup>	15	1,647.51	1,633.30	25.32
4	3	1,619.86	811.19	NIL
5	2	2,173.62	1,077.70	NIL
6	1	2,210.19	NIL	NIL
7	2	2,414.53	168.85	189.87
8	4	2,588.37	305.81	284.81
16	1	2,284.11	426.60	379.74

Preparation costs per counter are:

No of Counters	No of Offices	Average Cost X per counter (£)	Average Cost Y per counter (£)	Average Cost Z per counter (£)
1	30	685.97	656.19	80.81
2	24	395.62	515.71	NIL
3 <sup>4</sup>	15	549.17	544.44	8.44
4	3	404.97	202.80	NIL
5	2	434.73	215.54	NIL
6	1	368.37	NIL	NIL
7	2	344.94	24.13	27.13
8	4	323.55	38.22	35.60
16	1	142.76	26.67	23.74

<sup>4</sup> The average cost of 3 counter positions may appear skewed as 1 office required the counter replaced with an SP2000 counter at a cost of £19,755.84. The figure has however been included as its exclusion would skew the overall cost of upgrading the estate.

<sup>4</sup> See above.



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The total cost per office type for each Region is as follows:

	North East				
Office type	No of Counters	Cost X (£)	Cost Y (£)	Cost Z (£)	Total (£)
SPSO	38	35,194.96	29,685.65	250.09	65,130.70
MSPO	3	6,297.74	1,292.33	379.74	7,969.81
BO	2	4,925.71	764.30	759.48	6,449.49
FPO	1	2,706.01	139.10	379.74	3,224.85
	44	49,124.42	31,881.38	1,769.05	

	South West				
Office type	No of Counters	Cost X (£)	Cost Y (£)	Cost Z (£)	Total (£)
SPSO	33	33,372.29	25,202.96	2,554.02	61,129.27
MSPO	2	3,713.03	18,253.00	NIL	21,966.03
BO	3	6,955.43	178.20	379.74	7,513.37
FPO	0	NIL	NIL	NIL	NIL
	38	44,040.75	43,634.16	2,933.76	

This gives a national average per office type of:

	Average Cost Per Office				
Office type	No of Counters	Cost X (£)	Cost Y (£)	Cost Z (£)	Total (£)
SPSO	71	965.74	773.08	39.49	1778.31
MSPO	5	2,002.15	3,909.07	75.95	5987.17
BO	5	2,376.23	188.50	227.84	2792.57
FPO	1	2,706.01	139.10	379.74	3,224.85

### 5.3 Stands

In addition to the shelves used to date, the survey also considered the following types of stands.

1. “Flipper / Kidsgrove” - a combined monitor and keyboard stand which reduces the footprint by raising the monitor over the keyboard. Estimated cost £64.<sup>5</sup>
2. “Dublin” - a combined monitor and keyboard stand which reduces the footprint by holding the keyboard under the screen in a sliding drawer. Estimated cost £76.
3. “Hodnet” (keyboard) - a keyboard shelf which allows the keyboard to extend over the edge of the counter. Estimated cost £19.
4. “Hodnet” (printer) - similar to the keyboard version but designed to hold the counter printer over the edge of the counter. Estimated cost £18.

### 5.4 Utilisation of Stands

Category	No Used	No of Offices
Flipper /Kidsgrove	20	5
Dublin	75	26
Hodnet (Keyboard)	28	15
Hodnet (Printer)	4	4

It should be noted that stands were required in 50% of the offices visited. If these devices were not available the majority of offices would require major modification.

The Dublin stand proved popular in offices where extending the counter depth would obstruct the cash drawer. It must be noted however that the use of this stand could increase the time taken to complete transactions as access to the drawer is restricted while the keyboard is being used and vica versa.

## 6. No solution offices

There were 18 offices where no solution could be found to enable the Horizon system to be installed according to the ergonomic parameters. These are covered in detail in Appendix B and have been categorised into 4 groupings as follows:

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<sup>5</sup> The cost of a flipper stand has been estimated as the same price as a Kidsgrove stand. This is because the actual cost of the flipper stand would be based on the quantity ordered. There is a high tooling up cost of around £40,000. The cost of production is relatively inexpensive. A formal quotation will be obtained based on the result of this exercise. If the cost exceeds £64 per unit the flipper stand will be dropped in favour of the Kidsgrove stand.

**1. SP counters** - As far as could be determined from the survey results, 5 SP counters were identified within the 100 offices. 4 had to be categorised as no solution. SP counters are the latest type of counter to be installed in offices. It is of a modular design and is intended to provide sufficient space for computer equipment. Deficiencies have however been identified in installation as follows:

- It has been found that in some offices where space is limited, the modular unit between each serving position has not been fitted. This means that more serving positions can be accommodated, but there is little room to locate computer systems.
- The depth of SP2000 counters has been set at 620mm to match the physical size of the keyboard and monitor. The operational depth of the keyboard and monitor with one directly in front of the other is 695mm. This means that unless sufficient width is available between serving positions a monitor stand will have to be employed to position the equipment. Even if sufficient width is available, its use can be constrained by the reach radius of 650mm from the centre of the serving position.
- 2 offices had SP2000 counters installed at a height of 1030mm. With the depth restriction of 620mm a monitor stand was essential to extend the depth but due to the height limit of 1320mm the only possible solution was to use Hodnet keyboard stands. This would however have impeded access to cash drawers.

**2. Ergonomics** - 4 offices were found to be in this category. The ergonomics report stipulated maximum and minimum heights for positioning Horizon equipment. It also detailed the maximum distance that frequently used items should be from the user. There were 3 offices where the computer equipment could be positioned within the counter area if this restriction was increased to 695mm or extended beyond the current restriction of the edge of the counter.

1 office could have been satisfied by the provision of flat screen monitors.

**3. Community Offices** - There were 2 offices within the sample where the Horizon equipment was located in the Living Room of a house. It has already been identified that separate guidelines need to be provided in these circumstances.

**4. Unacceptable solutions** - There were 8 offices where the proposed solution was unacceptable to the postmaster and alternative solutions could not be found without breaching the ergonomic constraints. The key issues which prevented agreement were:

- Encroachment into personal space.
- Encroachment into Retail space.
- Insufficient space to cater for the number of serving positions being used.

## 7. Additional Options

### 7.1 Result of the review of additional options

The results of the review were as follows:

Option	Number of counters	Number of Offices
Flat screen monitor	15	10
Seats	0	0
Extended Reach	4	2
Expanded Reach	3	1
Self Inking Date Stamps	0	0

### 7.2 Flat Screen Monitor

The use of a touch screen monitor reduces the operational depth needed. Our suppliers have identified a monitor which reduces the depth from 365mm to 200mm. However this monitor is slightly higher and wider than the standard monitor.

Our review identified only 10 offices that would benefit from the use of the new monitor. At 3 of these offices, the only saving was the cost of using a Dublin stand.

The total cost for the 10 offices which could be offset against the cost of providing flat screen monitors was £6,315.37 (See Appendix C)

The additional cost of £250 per flat screen monitor would have to be met from the above figure.

In addition development, testing and integration costs would be incurred which would be passed on to the customer.

### 7.3 Seats

It was proposed that by using POCL approved seating the operators body could be raised to allows the centre of the monitor screen or the top of the operational height of the equipment to be raised to 1410mm from the floor. (Without a chair the maximum height from the floor is 1320mm).

There were no offices which were found to benefit from this option. In the smaller offices there was insufficient space to locate a chair. In the larger offices, chairs were already provided or there was already sufficient counter space available.

### 7.4 Extending the Reach Parameters

The offices in question were no solution offices and as such the issues are detailed in section 6.

### 7.5 Expanding the Reach Parameters

This office was also a no solution office and is covered under section 6.

### 7.6 Self Inking Date Stamps

There were no occasions where the provision of self inking date stamps saved space as the postmaster would include these items in his working space area.

## 8. Other Findings

- In 9 of the 20 new offices the number of counter positions differed from the figures supplied. At 8 offices the requirement increased, at 1 it reduced. The net increase was 9 counters i.e. the total number of counters increased from 104 to 113.
- There was a large variation in the amount of working space demanded by certain postmasters. Unless a procedure is put in place to ensure that this is kept to a minimum, there could be a large number of screen alterations forced on us due to individual postmaster preferences.



**Appendix A - Matrix of applicable cost types against site category.**

Category A	X	Y	Z
	Survey	Electricity Board Tail Connection	TT Earthing <20m
	Standard Preparation	New Distribution Board (over 10,000 offices)	TT Earthing 20m- 40m
	New Distribution Board (upto 10,000 offices)		SWA Distribution Board >40m
	Henley Block		
	Grommet Hole Cover		
	Earth Bonding <20m		
	Earth Bonding 20- 40m		
	Equipment Bonding - Counter		

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Category B	X	Y	Z
	Survey	Electricity Board Tail Connection	TT Earthing <20m
	Standard Preparation	Alarm Moves	TT Earthing 20m- 40m
	New Distribution Board (upto 10,000 offices)	Safe Relocation	SWA Distribution Board >40m
	Henley Block	New Distribution Board (over 10,000 offices)	Non Standard Electrical Works
	Scale Shelf - Secure Side	Non Standard Electrical Works	
	Scale Clips		
	Scale Shelf - Customer Side		
	Grommet Hole Cover		
	Monitor Stands		
	Standard Drawer Modifications [a]		
	Earth Bonding <20m		
	Earth Bonding 20- 40m		
	Equipment Bonding - Counter		
	Standard Equipment Shelves [c]		



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Category C	X	Y	Z
	Survey	Electricity Board Tail Connection	TT Earthing <20m
	Standard Preparation	Alarm Moves	Earthing 20m-40m
	New Distribution Board (upto 10,000 offices)	Safe Relocation	SWA Distribution Board >40m
	Henley Block	Screen Modification (Parts/Labour)	
	Monitor Stands	Counter Modification (Parts/Labour)	
	Scale Shelf - Secure Side	Re-Survey Costs	
	Scale Clips	Non Standard Drawer Modifications [b]	
	Scale Shelf - Customer Side	New Distribution Board (over 10,000 offices)	
	Grommet Hole Cover	Non Standard Shelving [d]	
	Standard Drawer Modifications [a]	Non standard electrical work	
	Earth Bonding <20m		
	Earth Bonding 20- 40m		
	Equipment Bonding - Counter		
	Standard Equipment Shelves [c]		

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Category D	X	Y	Z
		Survey	
		Re-Survey costs	

[a] Standard drawer modifications apply to work carried out to facilitate cable runs to existing standard counters.

[b] Non standard drawer modifications covers the movement/alteration of drawers following counter changes.

[c] Standard equipment shelving encompasses shelving that can be fitted by an electrician.

[d] Non standard shelving is custom shelving which has to be fitted by a joiner.

## Appendix B - Category D Sites

## SP Counters

FAD Code	Outlet Name	Issue
201328	Belford	SP2000 counter. Insufficient space for 2 counter positions.
324511	Warmley	New SP2000 counter. 3 counter positions. Counter height 1030mm, depth 620mm. Equipment cannot be fitted within reach parameters. Possible solutions are to lower counter to enable monitor stands to be used, increase counter depth to enable equipment to fit front to back, or increase reach radius to 695mm.
190504	Midsomer Norton	SP2000 counter. 4 counter positions. Counter height 1030mm, depth 600. Equipment could be positioned using Hodnet stands, but unacceptable to SPMR. Dublin stands would be accepted by SPMR but counter height would have to be lowered.
175329	Benwell	4 counter position office but imminent change to an SP2000 counter with 3 counter positions. Insufficient space to accommodate 4 systems.

**Ergonomics**

FAD Code	Outlet Name	Issue
211328	Lesbury	Insufficient space for single counter position. SPMR will not permit encroachment into retail space. Extending the reach radius to allow the SPMR to turn to his left to operate the system would resolve the issue.
175511	Brentry	Insufficient space for 3 counter positions. Standard counter with peninsular units at each position. Equipment could be fitted following extensive joinery work if the reach radius was extended beyond 180 degrees.
245329	Grange Park	Insufficient space for 3 counter positions. Could be resolved by counter / screen modifications if reach radius was increased to 695mm.
192503	Moorfields	Insufficient space for 3 counter positions. Counter / screen modifications would not improve the situation. Flat screen monitors would resolve.

**Community Offices**

FAD Code	Outlet Name	Issue
173328	Netherwitton	Community Office. Equipment located in Living Room.
192328	West Duddo	Community Office. Equipment located in Living Room.

**Unacceptable solutions**

FAD Code	Outlet Name	Issue
306329	Otterburn	Screen modifications could be undertaken but SPMR will not accept the counter printer being between the 2 speech units or any encroachment into his retail space.
156504	Bathwick St	An acceptable location for the office printer could not be agreed as the SPMR's preferred location was higher than the maximum height. Space was available below the counter but could not be used as it was reserved for his dog.
188328	Swarland	Counter / screen modifications could be undertaken but would encroach on retail space.
240523	Westgate St	Counter / screen modifications could be undertaken. SPMR content with current layout but ergonomic parameters are being breached.
206511	Danby House	Counter / screen modifications could be undertaken but SPMR will not accept the equipment being installed on the left hand side of the serving position.
324523	Whitehall	Insufficient space for 2 counter positions. Counter / screen modifications would not improve the situation.
254523	Primrose Hill	Insufficient space for 2 counter positions. Counter / screen modifications would not improve the situation.
222511	Greystoke Ave	Multiple Outlet. Insufficient space for 4 counter positions. Representative of Dillons considering refurbishment.

## Appendix C - Potential cost offset of flat screen monitors

FAD Code	Outlet Name	No of counters	Potential cost offset (£)
217523	Painswick Rd	1	76.00
316523	North Woodchester	1	1,221.20
251523	Hempsted	1	1,011.69
206523	Minsterworth	1	107.00
276523	St Briavels	1	76.00
281523	Viney Hill	1	76.00
217328	Shilbottle	1	642.95
178328	Pegswood Colliery	2	1,937.63
314329	Prince Consort Rd	2	522.22
394329	Winlaton	4	644.68
Total			£6,315.37