Post Office
Telecommunications

This leaflet describes prototype equipment at its present stage of development. In the light of further experience gained during the testing and development programme it may be necessary to modify the equipment described here. This information should therefore be regarded only as a preview of the equipment likely to be introduced during the next decade and should not be used as a basis for forward planning

Call connect system CDSS1

A customers digital switching system under development for the 1980s

Planned features of the CDSS1

The new 120 extension Call Connect System now being developed by the Post Office for introduction during the '80s has been designated the Customers Digital Switching System No. 1 (CDSS1).

Among the planned features are:

Maximum capacity, 120 extensions

Advanced technology

Time Division Multiplex

Stored Programme Control

Wide range of standard and optional facilities

Customer control of some features

Choice of dial telephones or MF4 keyphones

High reliability

Modularity to meet individual requirements

Touch sensitive operator's console

Alpha-numeric visual display unit

Equipment cabinet suitable for the office environment.

The objective

CDSS1, one of the first of the Post Office's new Call Connect Systems is intended to succeed most of the present range of rented PABXs. Our aim is to develop a cost-effective, flexible system capable of meeting the varying needs of business users in the '80s...and beyond.

Advanced electronics

The advanced technology used in the new system means that electronics and solid state circuitry will take over from the mechanical switching of the traditional PABX. This will result in significant changes to system control and switching practices enabling a wide range of facilities to be contained in a small equipment cabinet. Sufficient parameters have been set however, to ensure that the new system will be capable of inter-working with all types of Post Office exchanges and private circuits.

The equipment cabinet is little larger than a four-drawer filing cabinet, and just as acceptable to the office environment, particularly as the extensive use of solid state technology gives near silent operation. Its compact size and the engineering practices adopted mean that it can be quickly installed with the minimum of disruption.

Operator's console

The attractive operator's console, which may be sited at some distance from the equipment cabinet, breaks with tradition in that it will have very few moving parts All call-connecting and service features will be activated by means of touch-sensitive depressions in the otherwise smooth control surface. A 64 character alpha-numeric visual display unit is being incorporated to keep the operator up to date with the status of calls, connections, etc.

Flexibility

Flexibility is a major design objective for the CDSS1. A wide range of facilities is planned for the basic system and it is intended that these may be extended by the addition of optional facility packages. The provisional list on this page gives some idea of the wide range of facilities it is hoped to provide.

It is intended that the user will be able to modify some facilities and services as and when the need arises eg a particular extension's number and class of service may be changed and immediately become effective by a simple operation at the console.

The use of plug-in printed circuit boards will make it easy to tailor the equipment to individual needs, in terms of both facility packages and size of system.

Any maintenance to the equipment, for which high-grade components have been specified, will usually be effected quickly, by changing the appropriate printed circuit board.

Further development

It is our intention to develop alternative versions of the equipment to meet the special requirements of businesses like hotels and for those who do not need centralised operator services but prefer to answer calls and give assistance at designated extension answering points.

For the technical

The equipment under development uses pulse code modulation and microprocessor stored programme control techniques, coupled with a time division multiplex switch, whereby each connection is allocated time slots on a common highway within the system.

The provisional specification on page 4 contains further technical details; it is stressed that these may be altered as the development progresses.

Facilities

Examples of some of the planned facilities are:

MF4 keyphones and dial telephones

Automatic extension-to-extension and extension-to-exchange calls

Distinctive and immediate ringing on internal calls

Hold, enquiry and transfer on exchange or inter-PBX calls

Absent extension diversion

Diversion on no reply

Single digit access to exchange lines and PBX operator

Operator call-in on exchange and inter-PBX calls

Camp-on

Call-back

Extension group hunting

Group pick-up

Executive intrusion

Multi-party conference (1 × 8 party and 2 × 4 party)

Metering on selected calls made via PBX operator

Metering on exchange lines

Metering on individual extensions

Discriminatory call barring

Direct dialling-in (DDI) on inter-PBX calls

Direct dialling-in (DDI) on incoming exchange calls

Manager/Secretary (similar to Plan 107)

Incoming calls via the operator

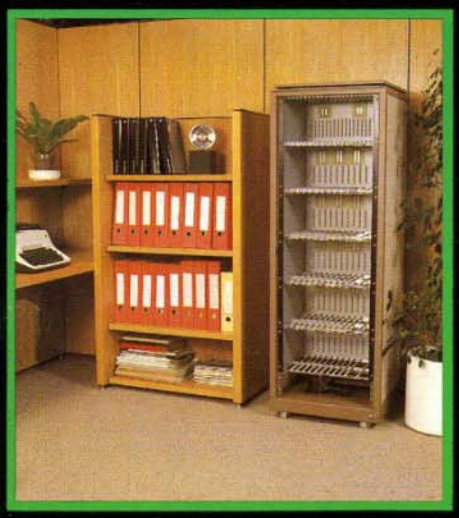
Designated extension night service

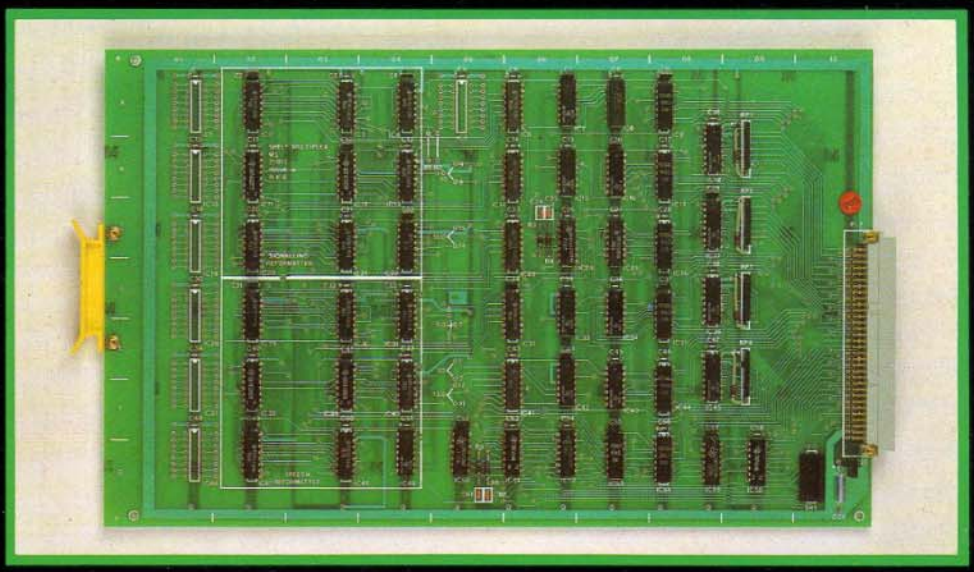
Dial answer night service

Emergency switching of exchange lines (manual or automatic)

Staff location

Recorded announcements





Technical details

Extension line	Min: 4. Max: 120. Unit Growth: 4
Exchange lines and PWs	Min: 2. Max: between 20 and 40 Unit Growth: 2
Traffic capacity	Better than .17 Erlangs per extension
Time slots	256 (equal to 128 both-way channels)
Coding	'A'-law PCM as per CEPT
Switching	Time switching with 256 ports
Switching speed	2.048 Mbits/second
Control	Common control using an 8-bit microprocessor
Extension wiring	2 wires plus earth (4 wires available for future development)
Extension instruments	Standard 10 pps or MF4 telephones or both
Exchange lines	Outgoing earth seizure Incoming 25Hz ringing
Private signalling	SSDC 5, SSDC 10, SSAC 13, SSAC 15
Power	240V 50Hz
Standby power	Optional extra
Construction	The system will use printed circuit boards and printed backplane wiring
Cabinet size	Height 1,639 mm Depth 595 mm Width 577 mm

CDSS1

Post Office Telecommunications

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