

MIVOICE OFFICE 400

SYSTEM FUNCTIONS AND FEATURES

MITEL 415/430/470, SMB CONTROLLER AND VIRTUAL APPLIANCE AS OF VERSION R6.0
SYSTEM MANUAL



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System functions and features

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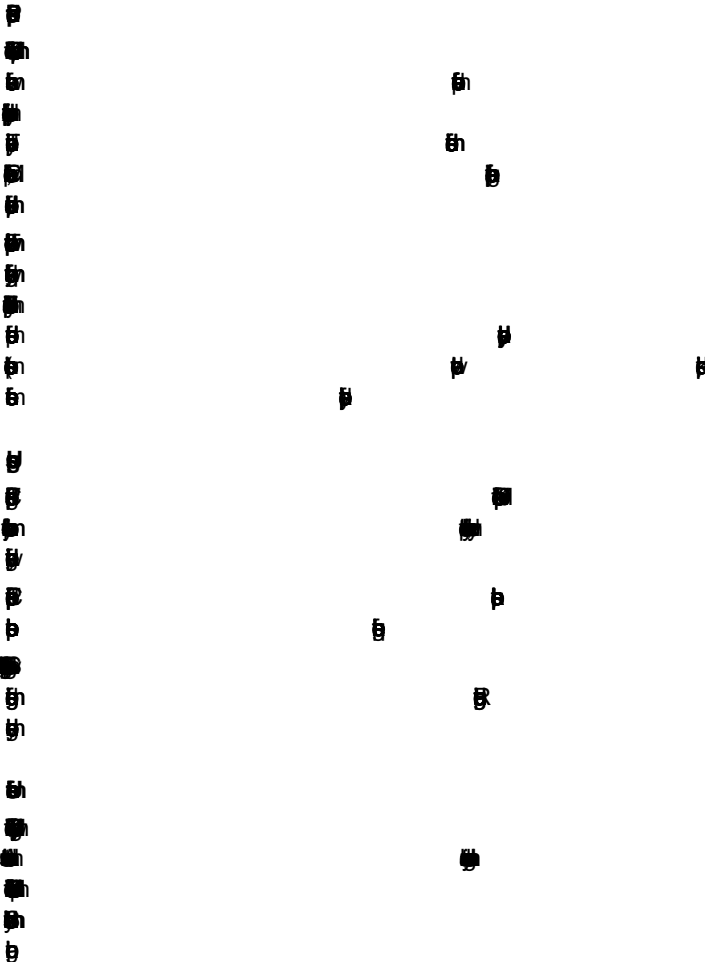
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1 Product and Safety Information

Here you will find information relating to safety, data protection and legal matters besides product and documentation information.



















Please read through the product and safety information carefully.

1.1 About MiVoice Office 400



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1. 3 Data protection

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1. 4 About this document




































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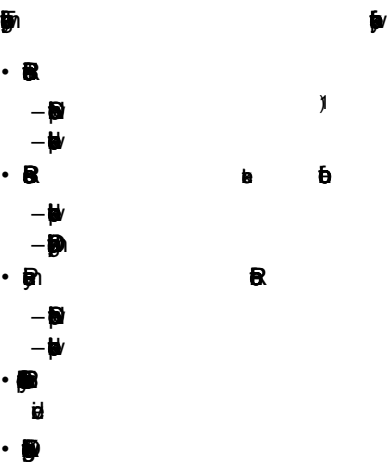
2 System interfaces

This chapter features the different types of digital and analogue network and terminal interfaces and points out a number of configuration particularities. The chapter ends with special interfaces for door intercoms and general bells.

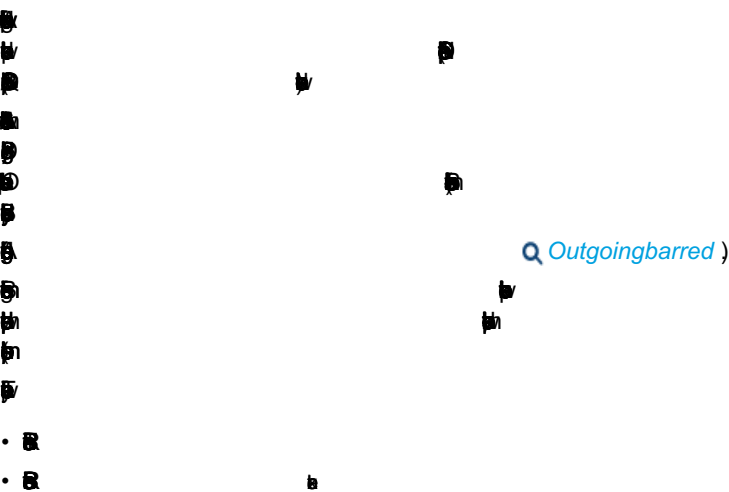
Tab. 1 System interfaces and channels

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1227 1228 1229 1230 1231 1232 1233 1234 1235 1236 1237 1238 1239 1240 1241 1242 1243 1244 1245 1246 1247 1248 1249 1250 1251 1252 1253 1254 1255 1256 1257 1258 1259 1260 1261 1262 1263 1264 1265 1266 1267 1268 1269 1270 1271 1272 1273 1274 1275 1276 1277 1278 1279 1280 1281 1282 1283 1284 1285 1286 1287 1288 1289 1290 1291 1292 1293 1294 1295 1296 1297 1298 1299 1300 1301 1302 1303 1304 1305 1306 1307 1308 1309 1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326 1327 1328 1329 1330 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340 1341 1342 1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355 1356 1357 1358 1359 1360 1361 1362 1363 1364 1365 1366 1367 1368 1369 1370 1371 1372 1373 1374 1375 1376 1377 1378 1379 1380 1381 1382 1383 1384 1385 1386 1387 1388 1389 1390 1391 1392 1393 1394 1395 1396 1397 1398 1399 1400 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410 1411 1412 1413 1414 1415 1416 1417 1418 1419 1420 1421 1422 1423 1424 1425 1426 1427 1428 1429 1430 1431 1432 1433 1434 1435 1436 1437 1438 1439 1440 1441 1442 1443 1444 1445 1446 1447 1448 1449 1450 1451 1452 1453 1454 1455 1456 1457 1458 1459 1460 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470 1471 1472 1473 1474 1475 1476 1477 1478 1479 1480 1481 1482 1483 1484 1485 1486 1487 1488 1489 1490 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513 1514 1515 1516 1517 1518 1519 1520 1521 1522 1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533 1534 1535 1536 1537 1538 1539 1540 1541 1542 1543 1544 1545 1546 1547 1548 1549 1550 1551 1552 1553 1554 1555 1556 1557 1558 1559 1560 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580 1581 1582 1583 1584 1585 1586 1587 1588 1589 1590 1591 1592 1593 1594 1595 1596 1597 1598 1599 1600 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623 1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648 1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661 1662 1663 1664 1665 1666 1667 1668 1669 1670 1671 1672 1673 1674 1675 1676 1677 1678 1679 1680 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690 1691 1692 1693 1694 1695 1696 1697 1698 1699 1700 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739 1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751 1752 1753 1754 1755 1756 1757 1758 1759 1760 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 |

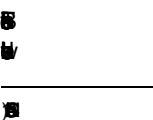
2.1 Network Interfaces



2.1.1 Basic Access Variants



2.1.1.1 Basic rate interface BRI-T



2. 1. 1. 2 Basic rate interfaces BRI-S external

Pro-

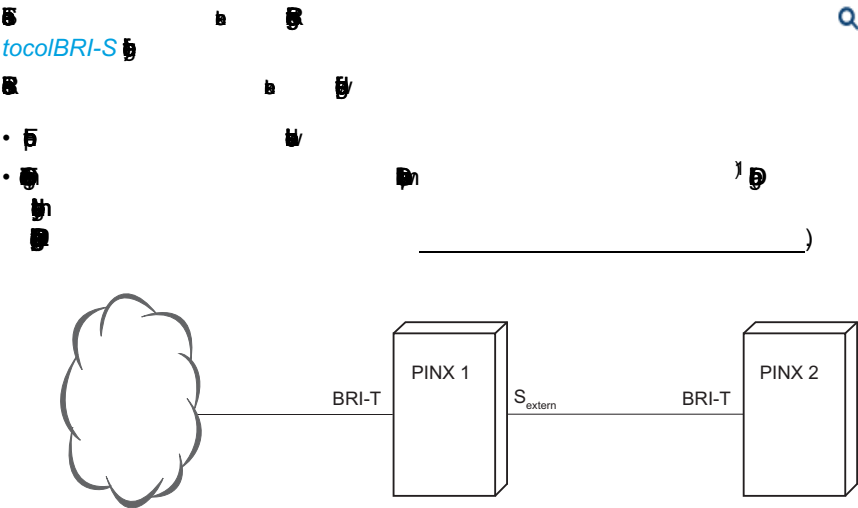


Fig. 1 BRI-S external in a private leased-line network: PINX-PINX connection

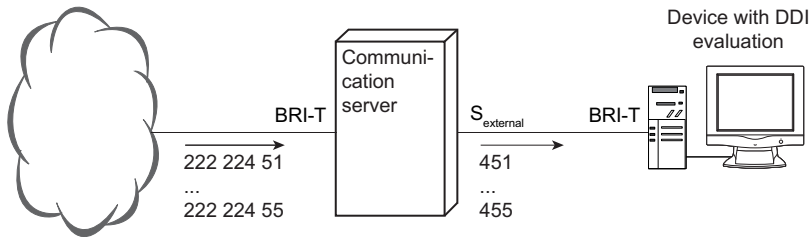


Fig. 2 BRI-S external in a DDI configuration

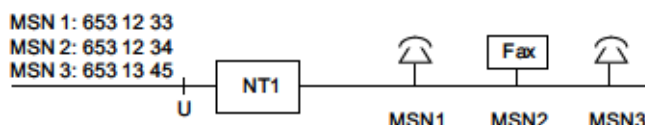


2.1.1.3 Point-to-Point and Point-to-Multipoint Connections

Basic accesses can be configured as point-to-point or as point-to-multipoint ([Q TEI Management](#) setting in the configuration of the network interfaces).

Point-to-Multipoint Connection without a communication server

The basic access in point-to-multipoint configuration allows a selective dial-up of the terminals connected in parallel using MSN, the Multiple Subscriber Number. Here the network itself provides a kind of direct dialling, so to speak.



NT1: Network Termination

MSN: Multiple Subscriber Number

Fig. 3 Single basic access in point-to-multipoint configuration



Note:

The fax with ISDN connection is implemented as a fax card in a PC.

Default setting:

Digital network interfaces are set on point-to-point configuration.

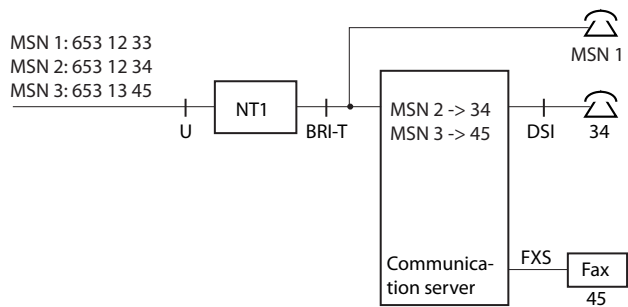


Fig. 4 Basic rate interface in point-to-multipoint configuration, with single-digit direct dial and parallel terminal

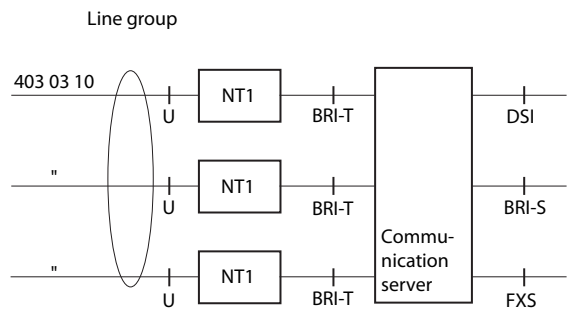


Fig. 5 Several basic accesses with line group in point-to-point configuration, without direct dial number

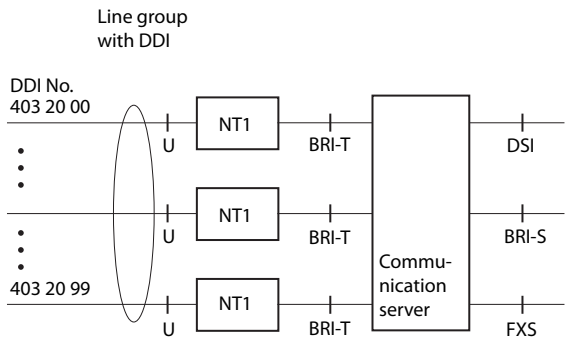


Fig. 6 Several basic accesses with line group in point-to-point configuration, with direct dial number

Layer2

Special.

2. 1. 2 Primary rate interface PRI (E1)

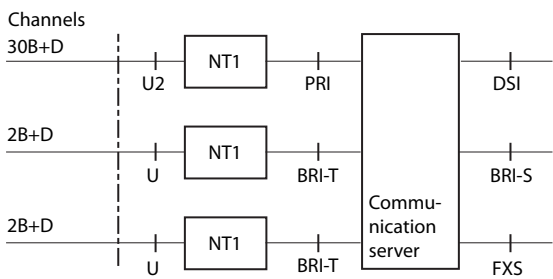


Fig. 7 System with basic and primary rate accesses

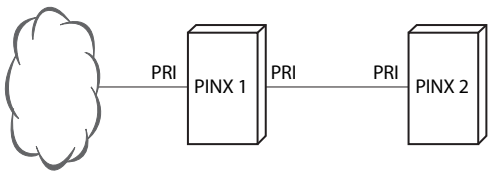
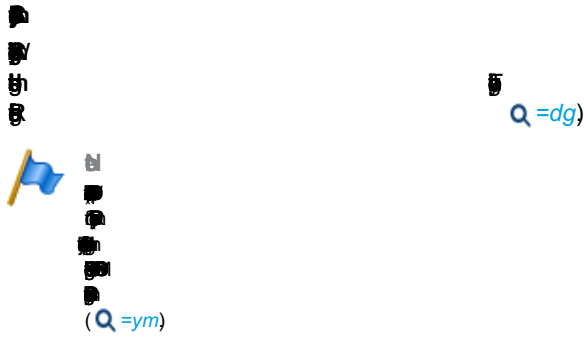
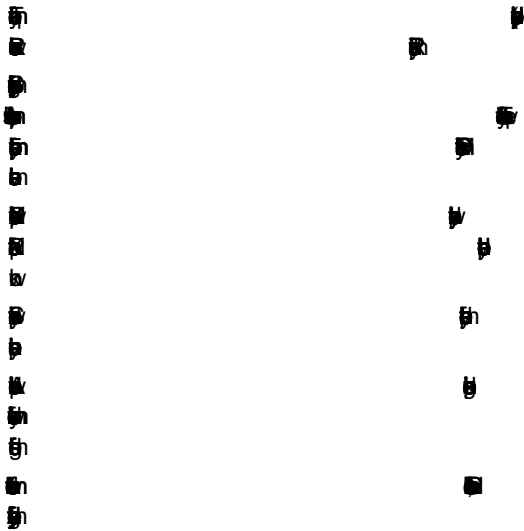


Fig. 8 Primary rate access in a private leased-line network: PINX-PINX connection



2. 1. 2. 1 Clock synchronization



2. 1. 2. 2 Digital down-circuit connection with QSIG

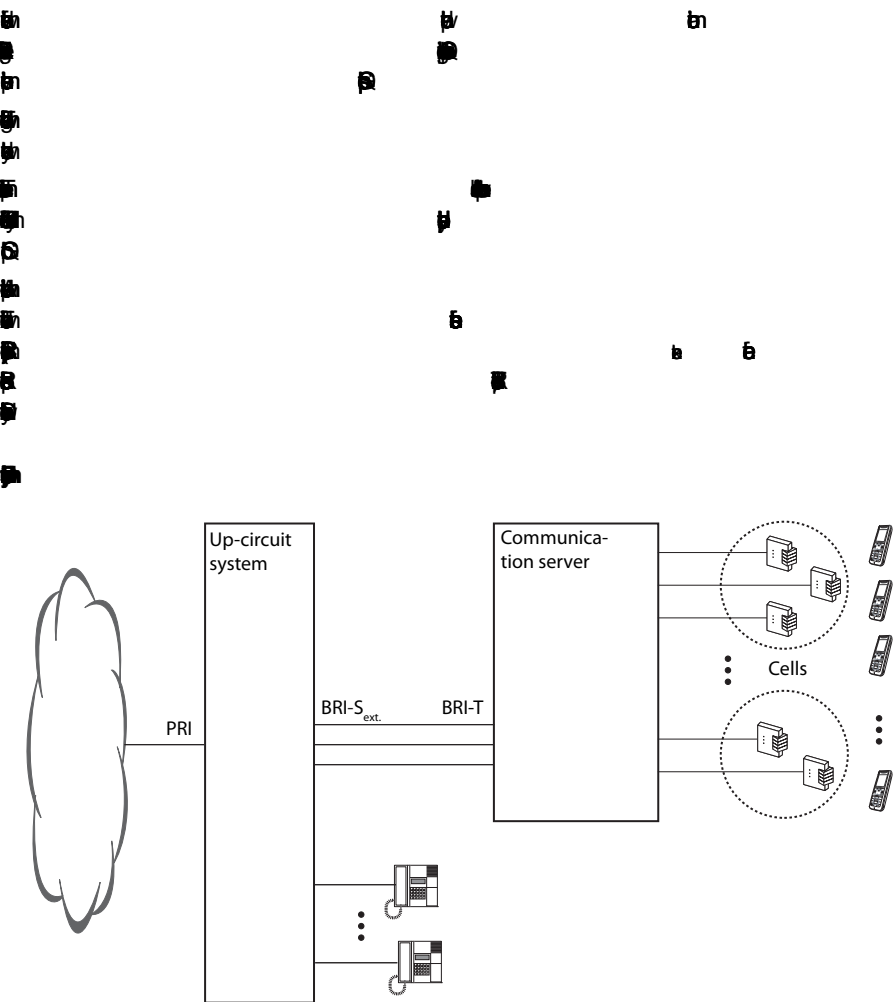


Fig. 9 Digital down-circuit connection with QSIG

2. 1. 2. 3 Direct Dialling Out (DDO)

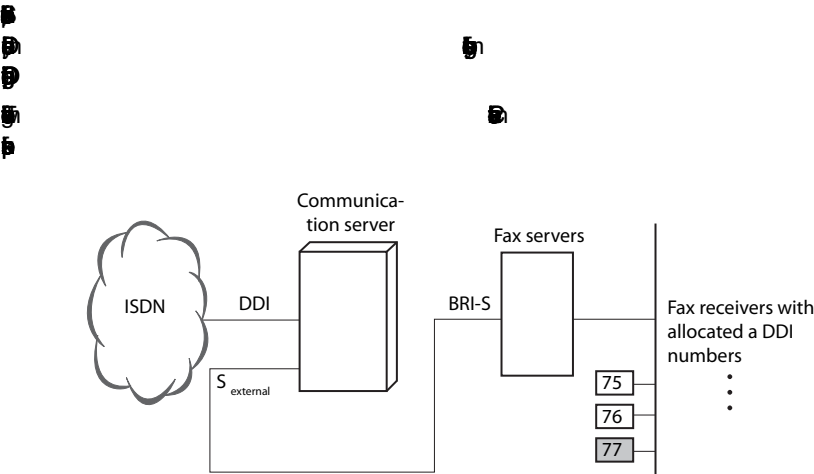
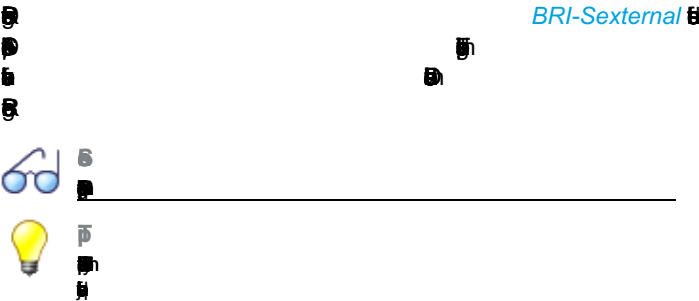


Fig. 10 Direct Dialling Out (DDO) to a fax server

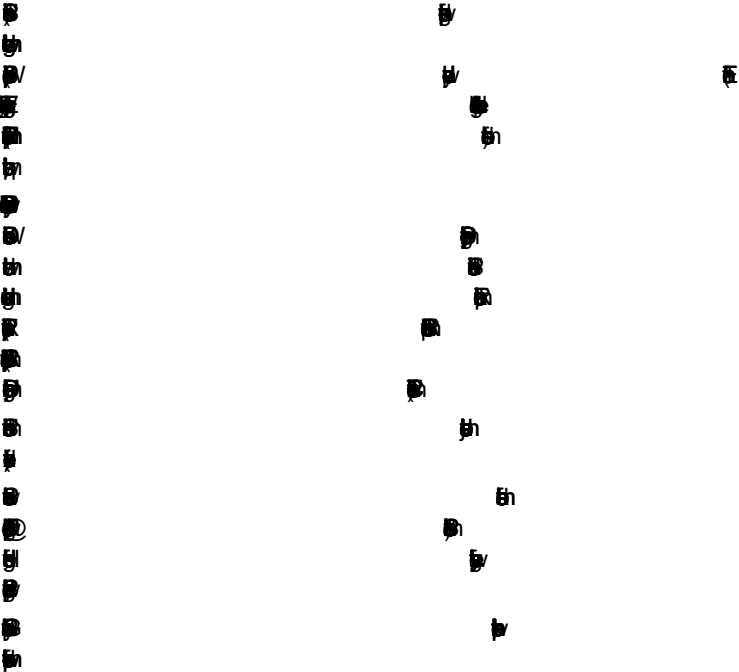


2. 1. 3 Primary rate interface PRI (T1)



2. 1. 4 SIP

2. 1. 4. 1 What is SIP?



System components

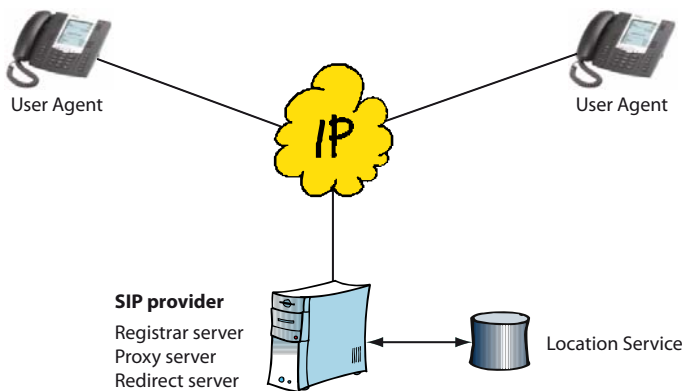
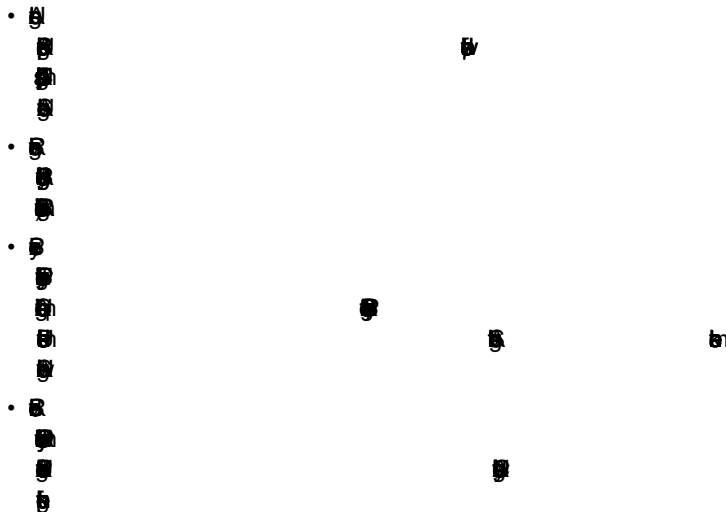


Fig. 11 SIP components



Types of connection setup

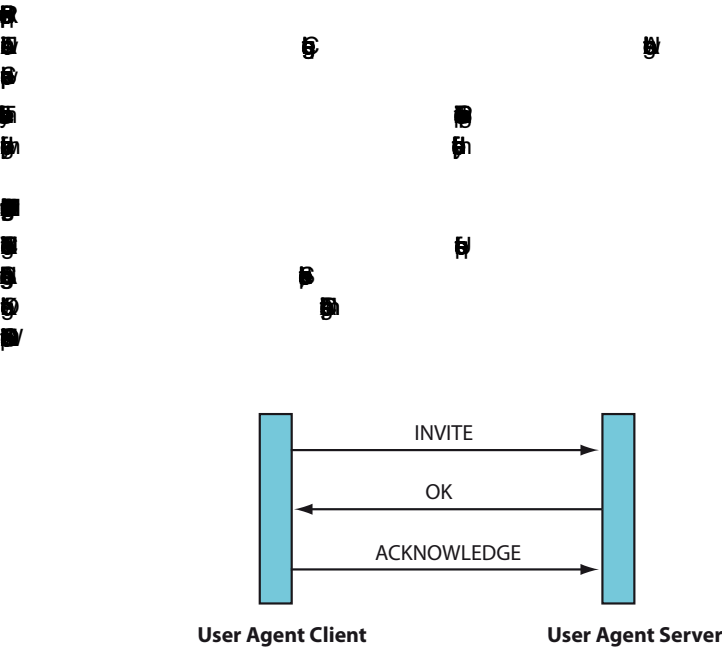
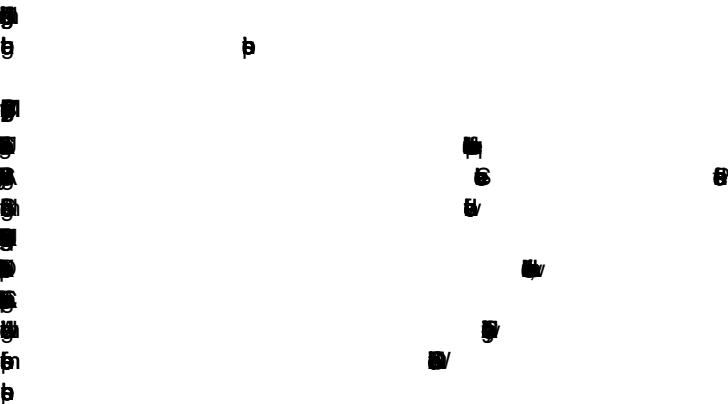


Fig. 12 Direct connection setup



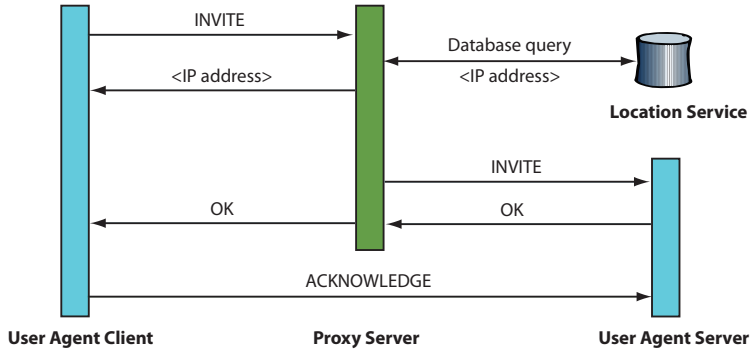


Fig. 13 Connection setup using a Proxy Server

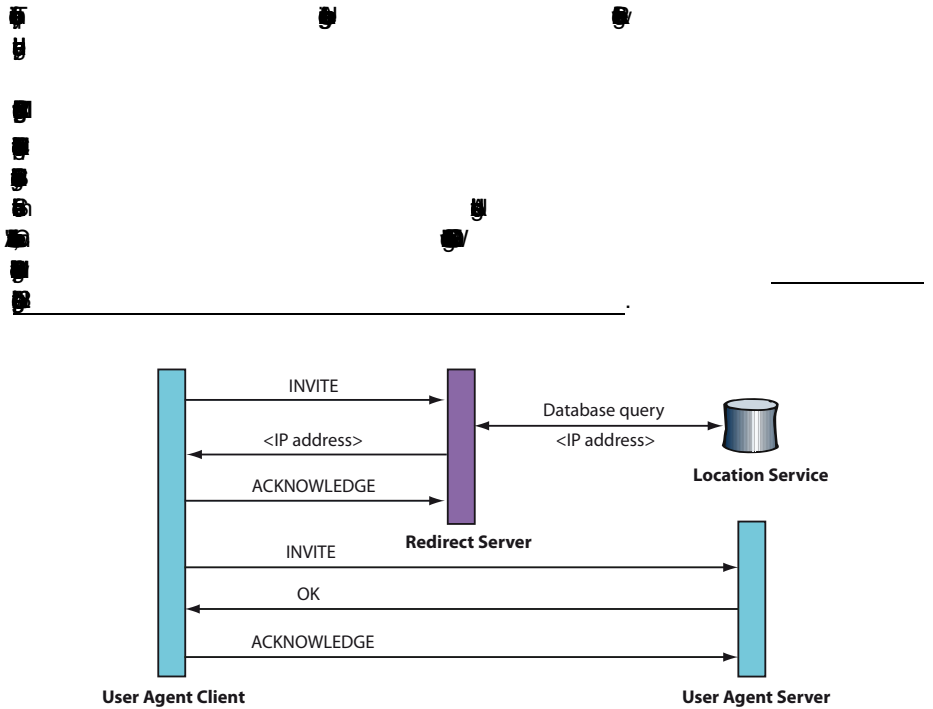


Fig. 14 Connection setup using a Redirect Server

2. 1. 4. 2 Security aspects with VoIP

Tab. 2 Security objectives

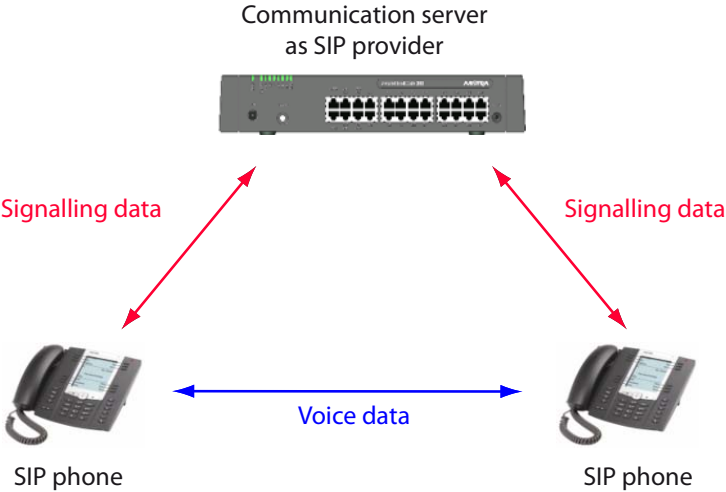


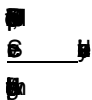
Fig. 15 SIP data streams

Tab. 3 Situation without encryption

- *VolPencryption*
 - *VolPmode*
 - *NTPservice*
 - A *SecureVolP*
- Certificate*
- SecureG.711* *SecureG.711/G.729*



2.1.4.3 SIP in MiVoice Office 400



- 謝 謝 謝 謝 謝 謝
- 謝 謝 謝 謝 謝 謝
- 謝 謝 謝 謝 謝 謝



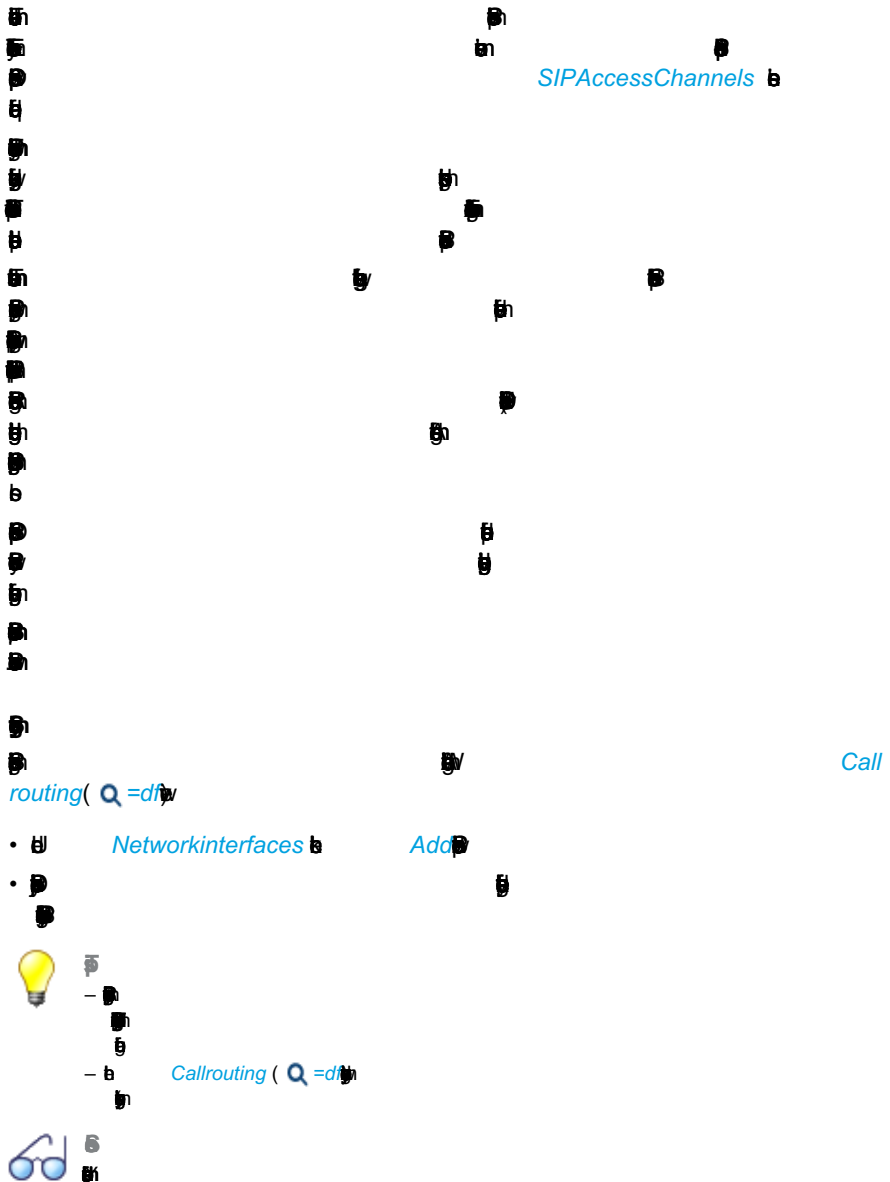
2. 1. 4. 4 SIP RFCs supported by MiVoice Office 400

Tab. 4 SIP RFCs supported by MiVoice Office 400

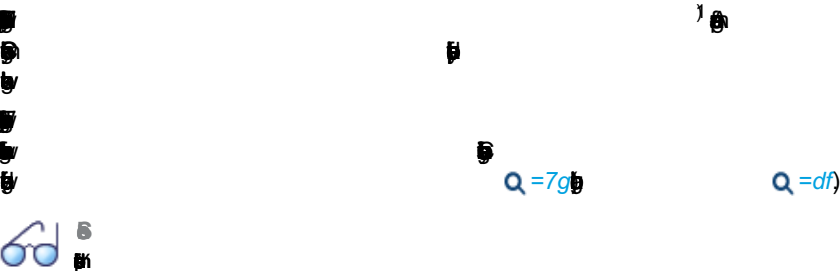
| R | S | S | S | S |
|----|---|---|---|---|
| 2 | A | ✓ | ✓ | ✓ |
| 3 | B | ✓ | ✓ | ✓ |
| 4 | C | ✓ | ✓ | ✓ |
| 5 | D | ✓ | | ✓ |
| 6 | E | ✓ | ✓ | |
| 7 | F | ✓ | ✓ | ✓ |
| 8 | G | ✓ | ✓ | ✓ |
| 9 | H | ✓ | ✓ | ✓ |
| 10 | I | ✓ | ✓ | |
| 11 | J | ✓ | ✓ | ✓ |
| 12 | K | ✓ | ✓ | ✓ |
| 13 | L | ✓ | ✓ | ✓ |
| 14 | M | ✓ | ✓ | |
| 15 | N | ✓ | ✓ | ✓ |

| R | F | FS | FS | FS |
|---|----|----|----|----|
| 6 | FS | | ✓ | ✓ |
| 5 | FS | | ✓ | ✓ |
| 8 | FS | | ✓ | ✓ |
| 7 | FS | | ✓ | ✓ |
| 2 | FS | | | ✓ |
| 6 | FS | | | ✓ |
| 8 | FS | | | ✓ |
| 9 | FS | | ✓ | ✓ |
| 9 | FS | | | ✓ |
| 2 | FS | | ✓ | ✓ |
| 2 | FS | | | ✓ |
| 9 | FS | | | ✓ |
| 3 | FS | | ✓ | |
| 6 | FS | | ✓ | ✓ |
| 2 | FS | | ✓ | ✓ |
| 2 | FS | | | ✓ |
| 5 | FS | | ✓ | ✓ |
| 8 | FS | | | ✓ |
| 2 | FS | | ✓ | ✓ |
| 6 | FS | | ✓ | ✓ |

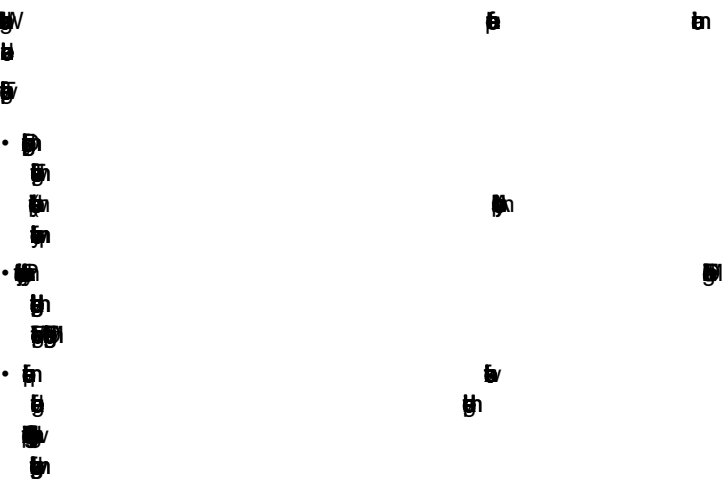
2. 1. 4. 5 SIP access



2. 1. 5 Analogue Network Interfaces



2. 1. 5. 1 Analogue down-circuit connection



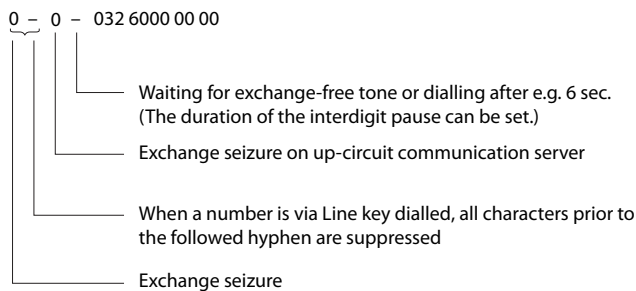


Fig. 16 Example of the exchange access prefix via up-circuit communication server



Q Exchangedigitbarring)

Q Behindcommunicationserver .



Q Dial

son

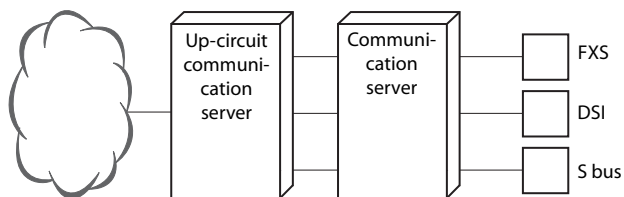
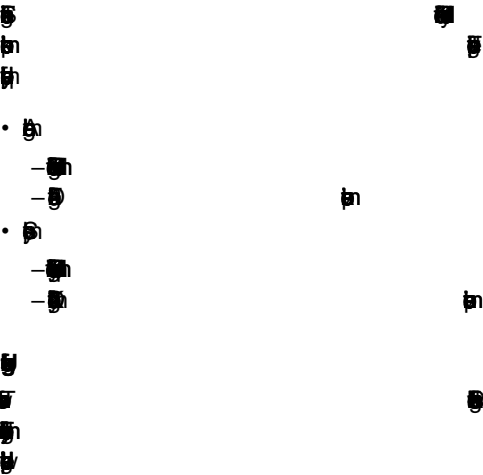
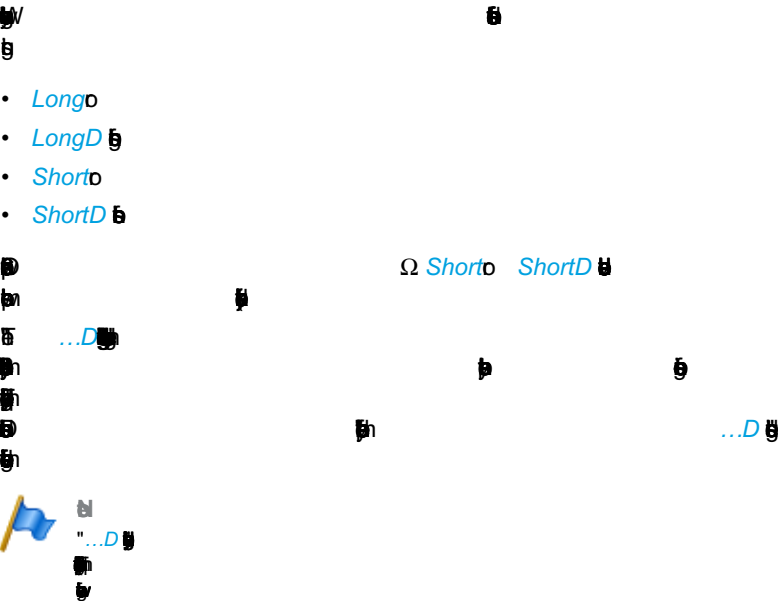


Fig. 17 Enquiry call behind communication server



2. 1. 5. 2 Attenuation on analogue network interfaces



2. 2 Terminal interfaces

2. 2. 1 Digital user-network interfaces

2. 2. 1. 1 Terminal interface BRI-S

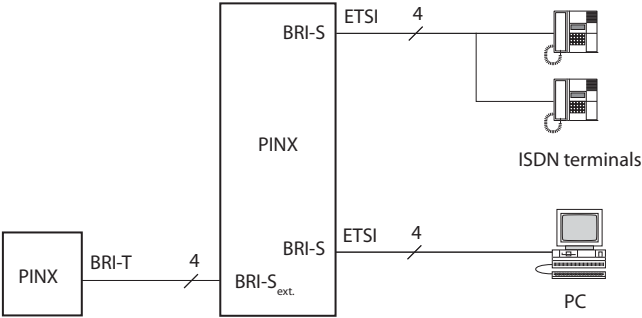
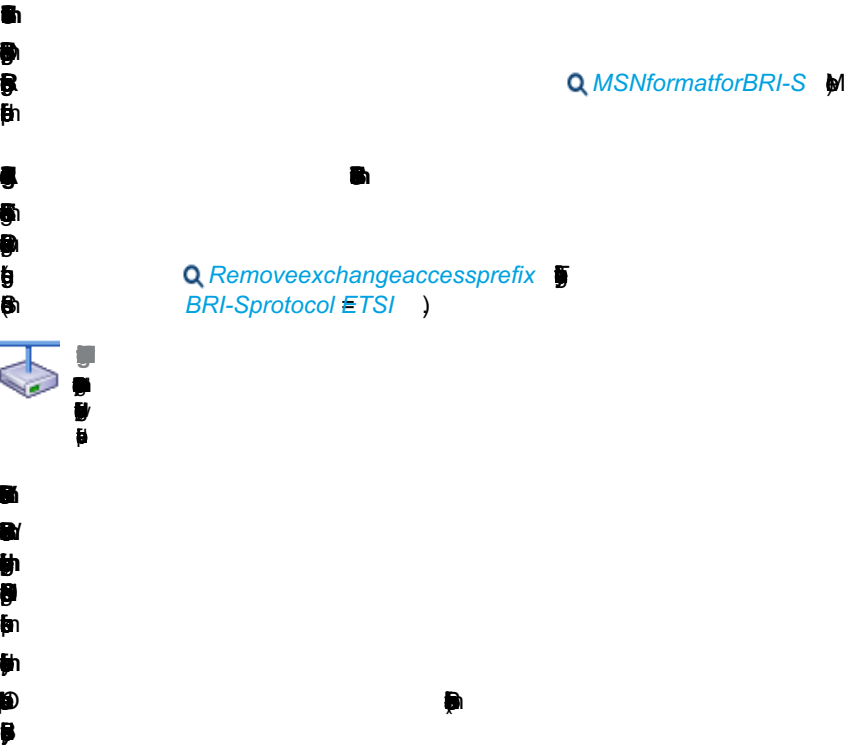


Fig. 18 Terminal interface BRI-S

[BRI-Sprotocol](#) in

- [ETSI](#)
- [BRI-Sexternal](#)



2. 2. 1. 2 DSI terminal interfaces

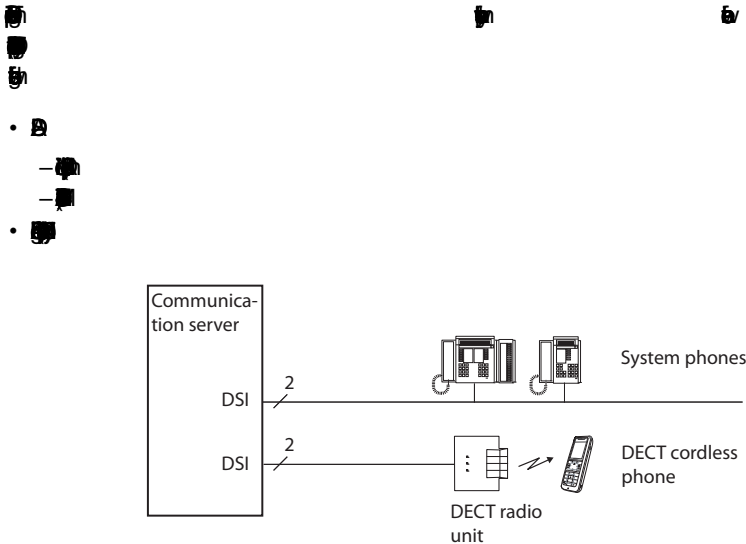


Fig. 19 DSI terminal interfaces

2. 2. 1. 3 IP terminal interface

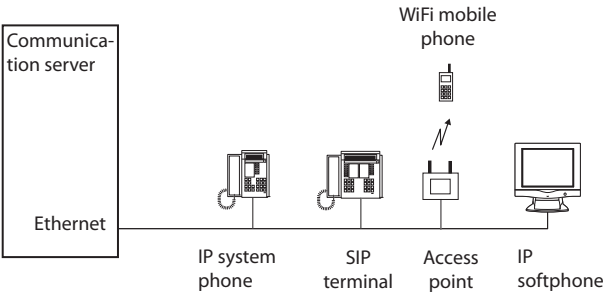


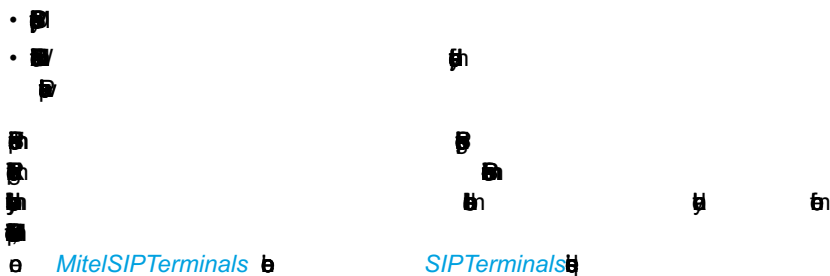
Fig. 20 IP terminal interface



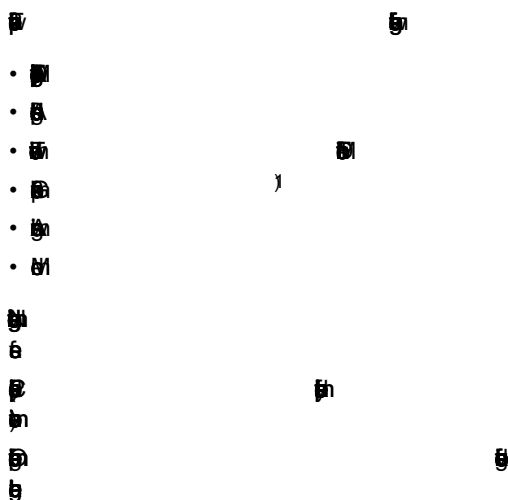
- IP
- IP
- IP



- IP
- IP
- IP
- IP
- IP
- IP
- IP
- IP
- IP
- IP
- IP



2. 2. 2 Analogue terminal interfaces



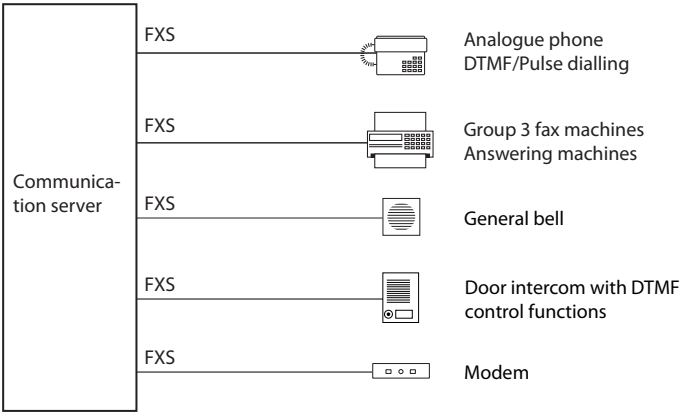


Fig. 21 FXS terminal interface

2. 3 Special Interfaces



2. 3. 1 Ethernet interfaces



-
-
-
-
-
-
-
-

2. 3. 2 Interface for door intercom system



-
-



2. 3. 3 Interface for General Bell



Codedcall



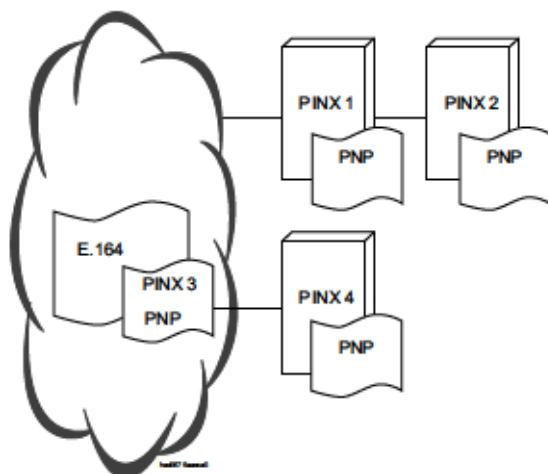
3 Numbering plan

This Chapter features the different types of internal and external numbering plans available in the various systems. It explains the differences between internal numbering plans for the private network and external numbering plans for the public network. It tells you what you need to know when creating numbering plans for each particular network.

3.1 Numbering Plan Identifiers

The numbering plan is used to analyse numbers and allocate them to an addressable destination. Two types of numbering plans (Numbering Plan Identification, NPI) are relevant to the system:

- The public network uses numbering plan identifier E.164, which is defined and standardized by the ITU-T.
- Private networks use numbering plan identifier PNP (Private Numbering Plan). The internal numbering plan of a communication server or PINX is also of the PNP type, as is the private numbering plan supplied by the public network provider.



PINX 3 is a virtual PINX (Centrex)¹⁾

Fig. 22 Numbering plan identifiers in the public network and in the PISN (in PINXs)

¹⁾ depends on the network provider

Tab. 5 E.164 types of number

| № | 6 | | | | № |
|---|-----|---------|-------|-----|---|
| 5 | | | | № 1 | |
| 6 | | | № № 1 | | |
| 6 | | С № № 1 | | | |
| 6 | | № № № 1 | | | |
| | Р С | № № 1 | | | |

Tab. 6 PNP types of number

| Q | 6 | 5 |
|---|----|---|
| 8 | R3 | |
| 6 | R0 | |
| 2 | R0 | |

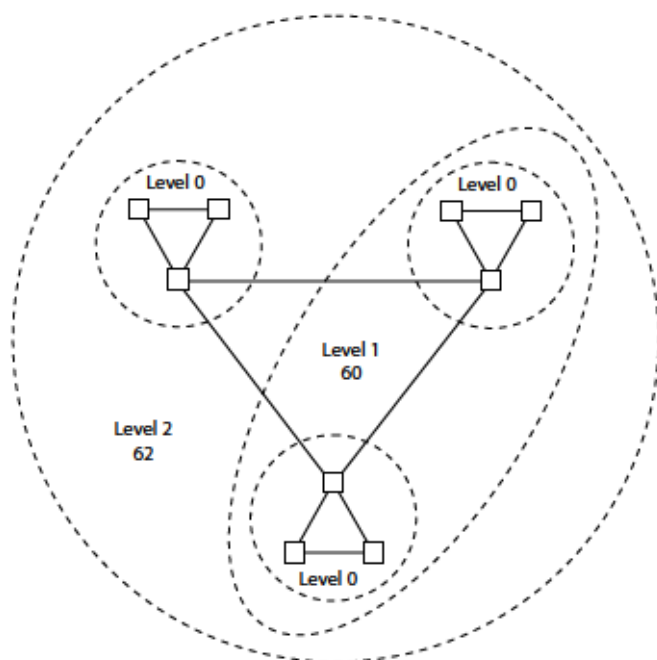


Fig. 23 Levels as per PNP definition

3.2 The System's Numbering Plan

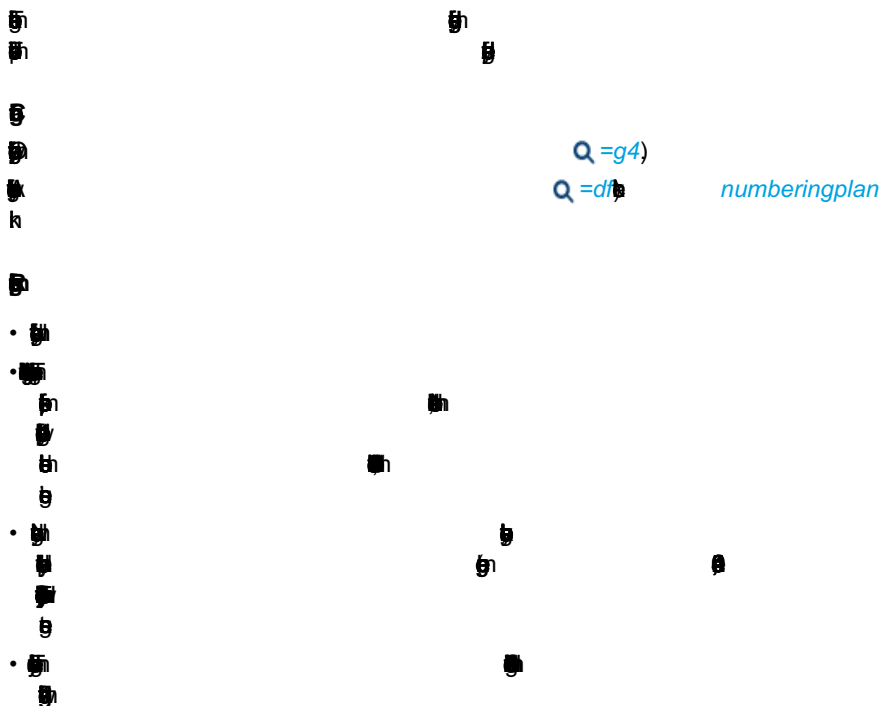
The system's internal numbering plan is the numbering plan used for a stand-alone communication server or a PINX in a private network. The numbers entered in the numbering plan are used both to dial up call destinations in the communication server and to execute control functions. Call destinations and functions are grouped into categories.

The internal numbering plan:

- Assigns number ranges to the categories.
- Allocates their numbers to call destinations and control functions, making them obtainable and executable respectively.

As far as the call destination numbers are concerned, the system's numbering plan is a PNP-type numbering plan.

3. 2. 1 Categories in the Numbering Plan







Tab. 7 Categories in the system's numbering plan with allocated numbers

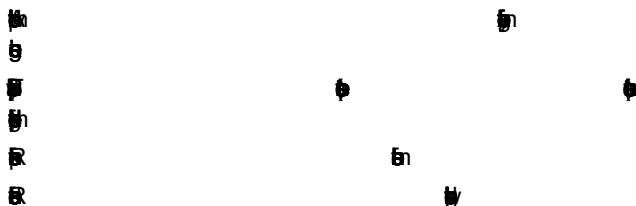
| ☎ | ☎ | ☎ | ☎ | ☎ |
|--------------------------|----------------------------|---|-----|----------------------------|
| ☎ | ☎ | ☎ | ☎ | ☎ |
| Exchangeaccess, business | ☎ ☎ ☎ ☎ | 0 | ☎ ☎ | ☎ ☎ |
| Exchangeaccess, private | ☎ ☎ ☎ | 0 | ☎ ☎ | ☎ ☎ |
| Operatorphone | ☎ ☎ ☎ | 1 | — | |
| Emergencynumber | ☎ ☎ ☎ ☎ ☎ ☎ | 2 | — | ☎ ☎ ☎ ☎ ☎ ☎ |

Numbering plan

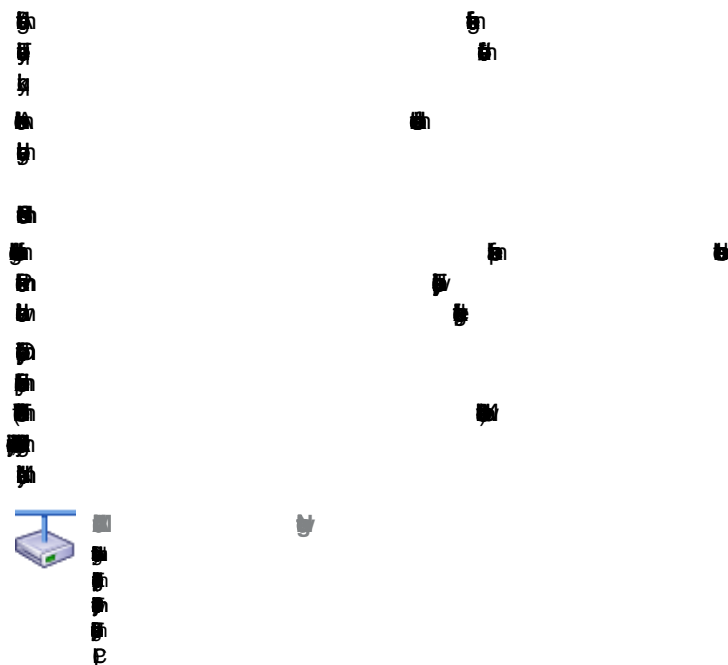
| Costcentreselection | Costcentreselection | Costcentreselection | Costcentreselection | Costcentreselection |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Users | Users | Users | Users | Users |
| Routeselection | Routeselection | Routeselection | Routeselection | Routeselection |
| Usergroup | Usergroup | Usergroup | Usergroup | Usergroup |
| MMCC | MMCC | MMCC | MMCC | MMCC |
| RemotemaintenanceaccessPPP | RemotemaintenanceaccessPPP | RemotemaintenanceaccessPPP | RemotemaintenanceaccessPPP | RemotemaintenanceaccessPPP |
| Voicemail | Voicemail | Voicemail | Voicemail | Voicemail |
| Abbreviateddialling | Abbreviateddialling | Abbreviateddialling | Abbreviateddialling | Abbreviateddialling |
| Doorintercomsystem | Doorintercomsystem | Doorintercomsystem | Doorintercomsystem | Doorintercomsystem |
| Controloutput | Controloutput | Controloutput | Controloutput | Controloutput |
| Calldistributionelement | Calldistributionelement | Calldistributionelement | Calldistributionelement | Calldistributionelement |
| PISUsers | PISUsers | PISUsers | PISUsers | PISUsers |
| Ownregionprefix | Ownregionprefix | Ownregionprefix | Ownregionprefix | Ownregionprefix |
| *-substitute | *-substitute | *-substitute | *-substitute | *-substitute |

- 1 
- 2 
- 3 
- 4 

3. 2. 2 Exchange Access Categories



3. 2. 3 Category for abbreviated dialling





3. 2. 5 Category for users

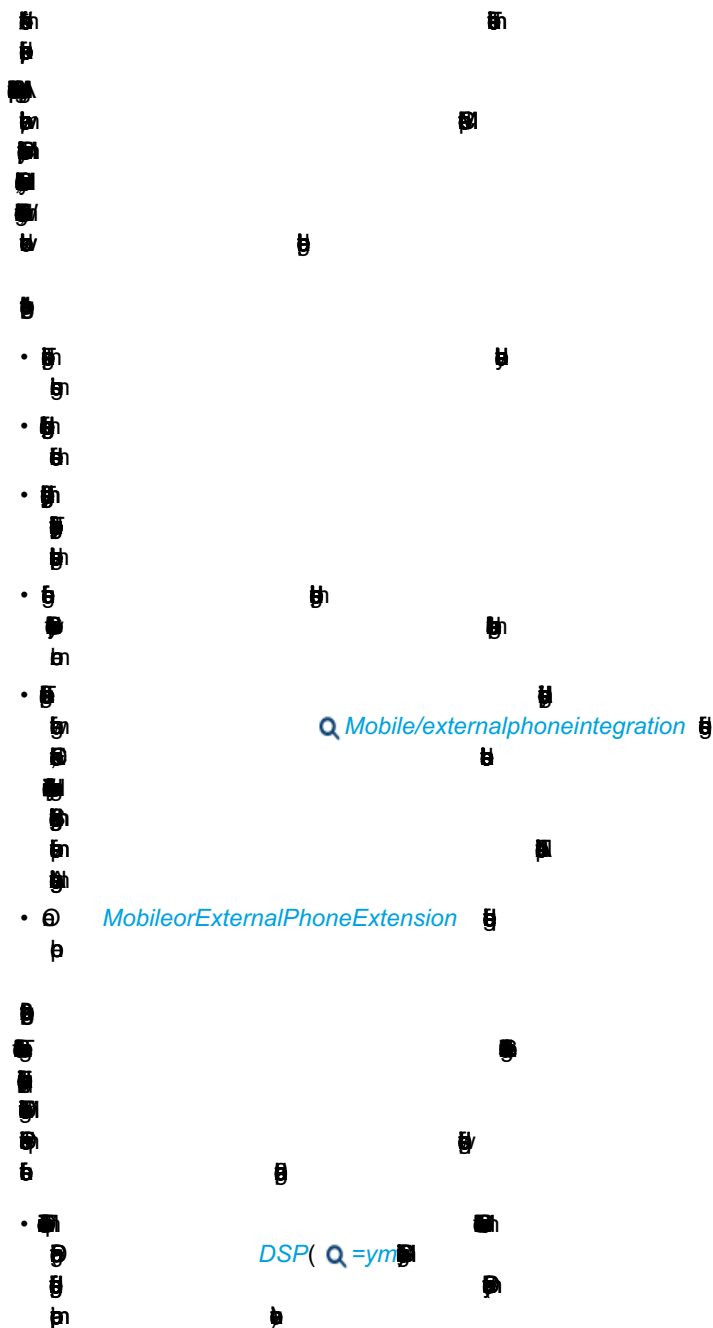
3. 2. 5. 1 Internal users










3. 2. 5. 2 Integrating mobile and external phones






Numbering plan












-  
 -  
 -  
- coming calls 



- 
 - 
 - 
- thentication)



- 
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- 
- 
- 
- 
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- 
- 

 Enhanced functionality 

 Allow enhanced functionality for direct in-

 Use CLIP for au-

 Allow CLIP authentication even if CLIP is not screened 

Numbering plan



Q=32

Sendredirectinginforma-

3. 2. 5. 3 Mitel Mobile Client / Mitel Mobile Client Controller



MMCExtension b

3. 2. 5. 4 Virtual terminals

101

102

• 103

• 104

105

• 106

107

• 108

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• 110

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• 112

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• 114

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116

• 117

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• 119

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• 121

122

3. 2. 6 PISN users

123

124

125

126

127

128

129 PISNuser

130

131

132

133

(134 =gv)

Numbering plan

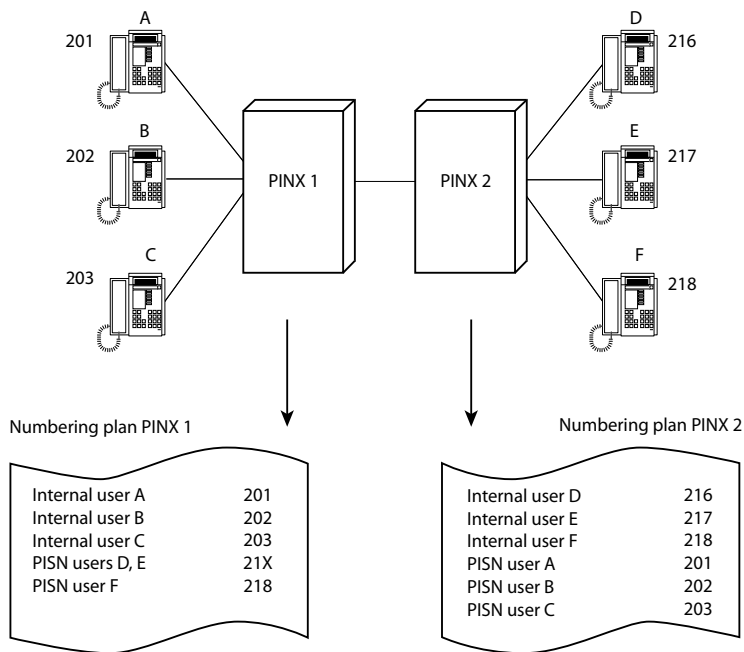


Fig. 24 PISN users entered with and without wildcards



b



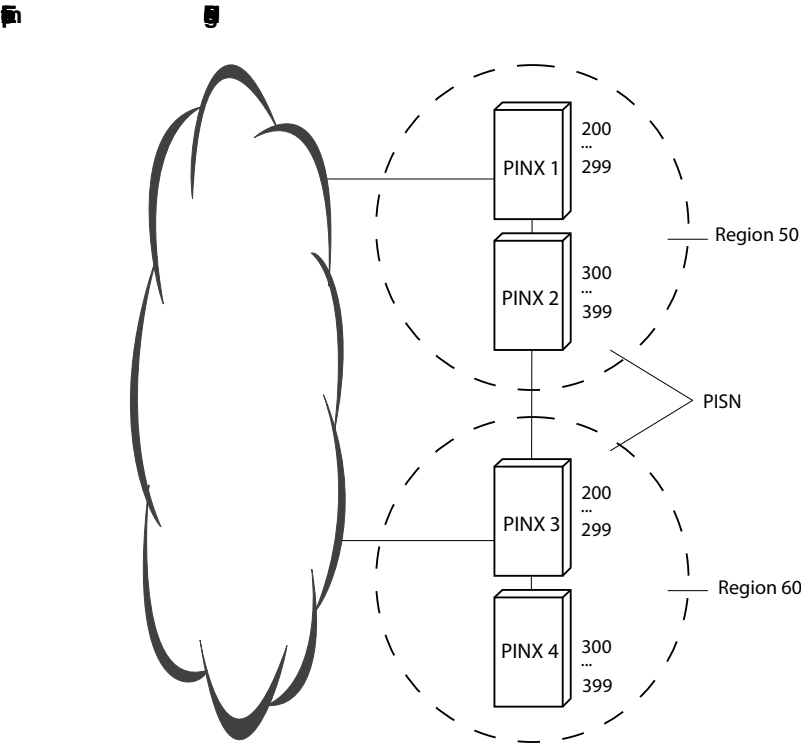
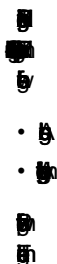


Fig. 25 PISN with two regions

Tab. 8 Entering PISN users in PINX 2

| № | № | № | № | № |
|---|---|---|---|---|
| № | 0 | 0 | 0 | 0 |
| № | 2 | 0 | 0 | 0 |
| № | 2 | 0 | 0 | 0 |
| № | 5 | 0 | 0 | 0 |

3. 2. 7 Separate Regional Prefix Category



3.2.8 Shared Numbering Plan

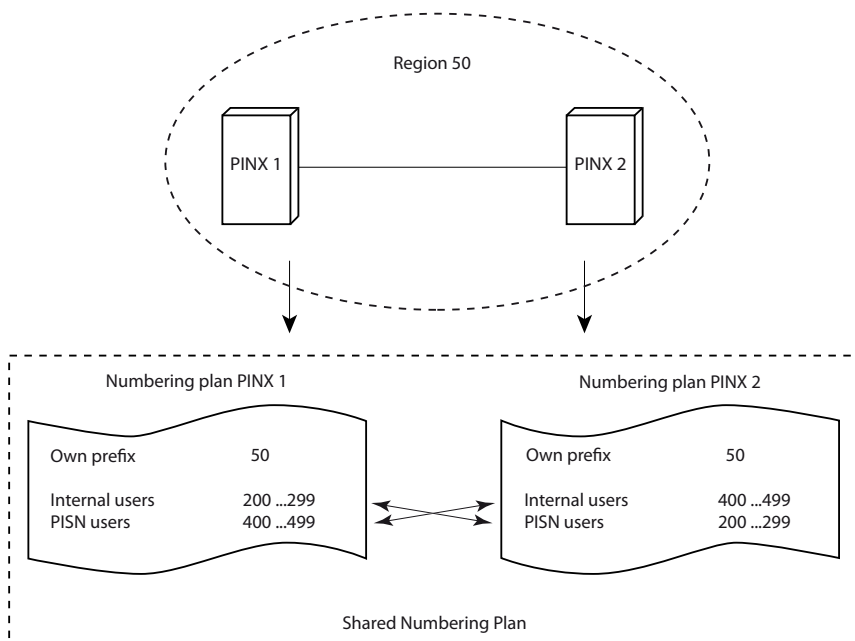


Fig. 26 Shared numbering plan: two PINXs share the numbers of a numbering plan.

3. 2. 9 PISN with different Regions

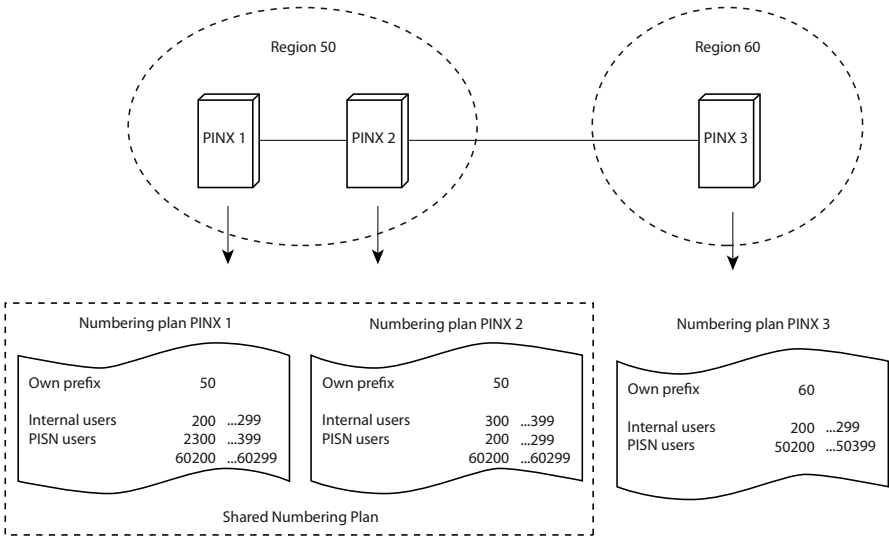


Fig. 27 PISN with 2 regions and shared numbering plan for Region 50

4 Identification elements

Correctly identifying and displaying a call is the essential requirement for adequately implementing the system's networking philosophy. This Chapter looks at how the origin of a call is identified using different ringing tone patterns and how the caller's number (CLIP) or name (CNIP) is displayed. It describes how CLIP and CNIP displays are created under different system conditions, how they can be influenced, and how to suppress the CLIP display.

A call is identified firstly by the type of acoustic ringing (i.e. ringing pattern) and, secondly, by the display on the terminal.

The default values are selected in such a way that the ringing patterns and displays appear correctly in most cases. Changes to the settings are necessary only in exceptional cases.

4.1 Internal and External Ringing Patterns

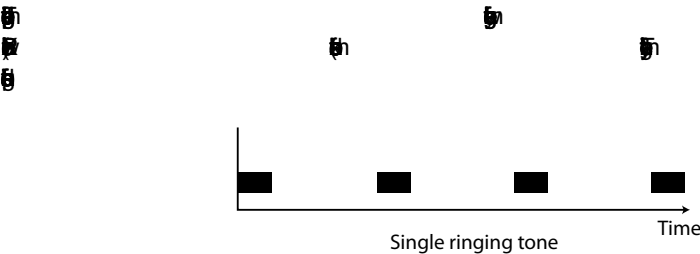


Fig. 28 Single ringing tone¹⁾

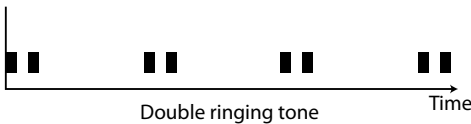


Fig. 29 Double ringing tone¹⁾



Identification elements

Q Ringpattern Singleringtone .

-
-

(=no melody.

Ringing pattern at enquiry destination Internal ringing



*Ringpattern*enquirydestination
 



Ringpattern = *Sin-*
gleringtone


[illegible]



See also:

"Numbering Plan Identifiers", page 50

4.2 Displaying Numbers (CLIP) and Names (CNIP)

During both the ringing phase and the call itself the caller's call number or name (or both) are shown on the terminal's display.

- The indication of the caller's phone number is referred to as CLIP (Calling Line Identification Presentation).
- The indication of the caller's name is referred to as CNIP (Calling Name Identification Presentation).

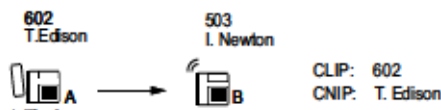


Fig. 30 CLIP and CNIP

When the destination user answers the call, the number or name of the destination user is transmitted and displayed to the caller:

- The indication of the number is referred to as COLP (Connected Line Presentation).
- The indication of the name is referred to as CONP (Connected Name Presentation).

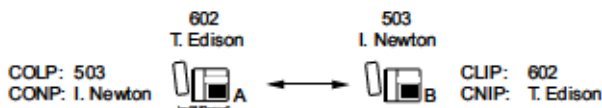
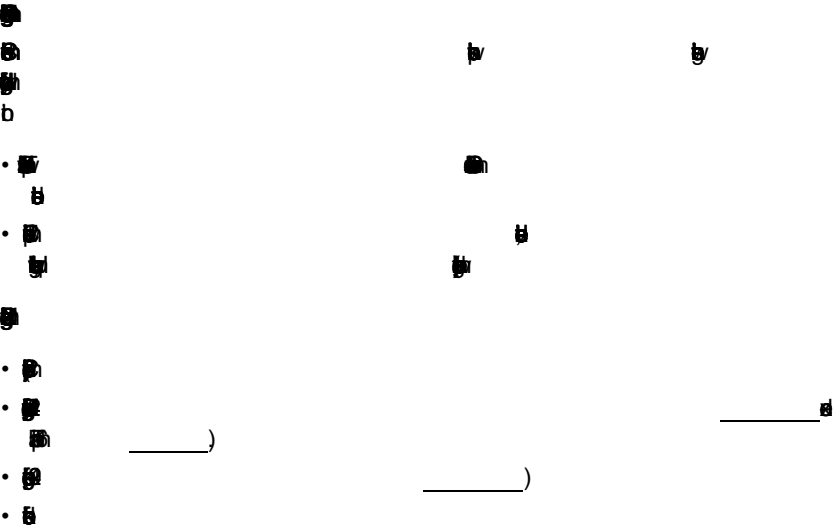
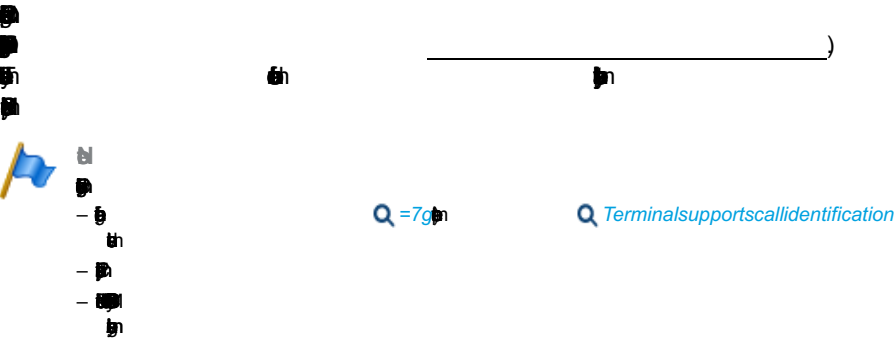


Fig. 31 COLP and CONP

These identification elements allow the use of other features such as logging unanswered calls on the destination user's call log; the destination user can then return the call by dialling the CLIP number.

These identification elements are available in digital networks and in some analogue networks. As CNIP and CONP are not supported by the public network, the system tries to replicate them by searching through the internal phone books for a number that matches the CLIP or COLP number. If there is a match, the name entered there is displayed (see "Replicating the Name Display in the Communication Server", page 73). CNIP and CONP are supported in the private network under QSIG. They are both accepted and do not need to be recreated in the communication server.

Identification elements



4. 2. 1 Displaying the CLIP



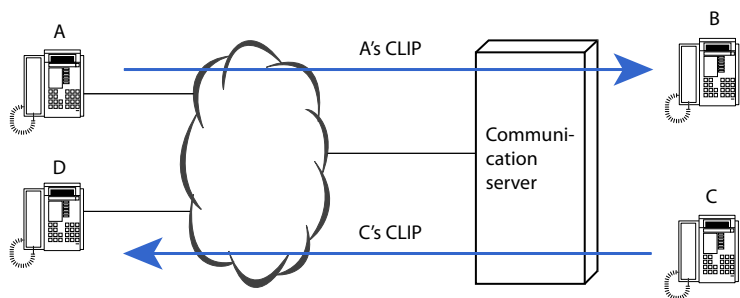
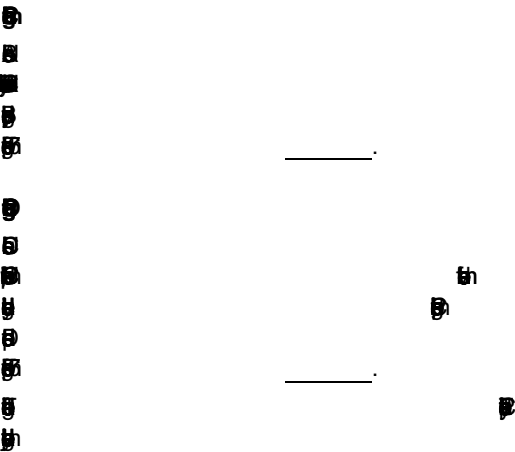


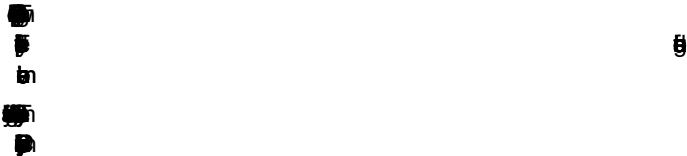
Fig. 32 CLIP of an incoming and an outgoing call



4. 3 CLIP with Incoming Calls



4. 3. 1 Analysing and Editing the CLIP





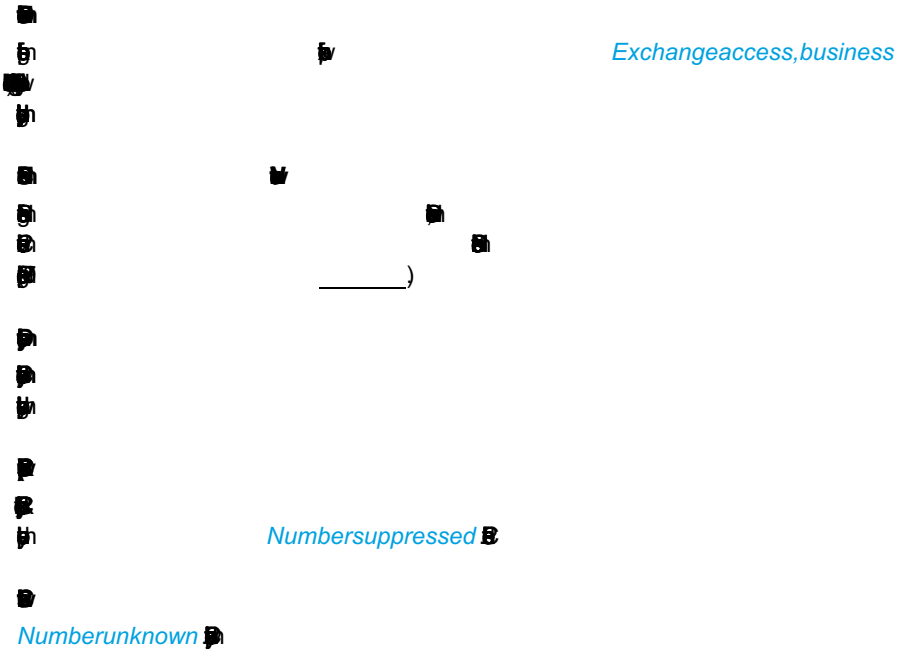
Tab. 9 Handling a CLIP number with NPI-type

| Unknown | 0 | Level 0. |
|---------|---|----------|
| | 1 | |
| Level 0 | 0 | |

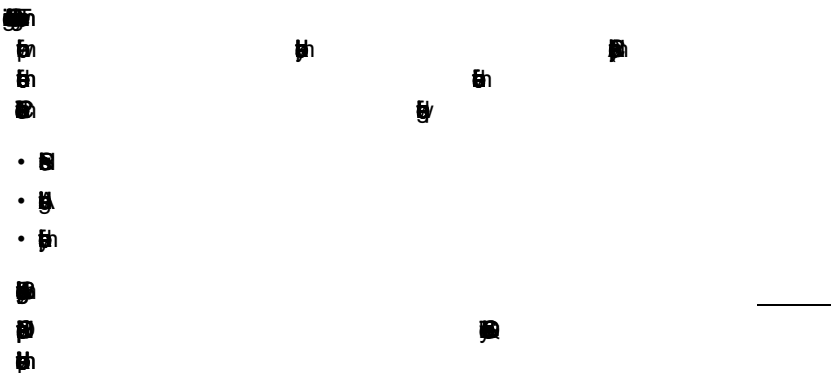
Tab. 10 Handling a CLIP number with NPI-type

| Unknown | 0 | International |
|---------------|---|---------------|
| | 1 | National |
| | 2 | Subscriber |
| International | 0 | National |
| | 1 | Subscriber |
| | 2 | |
| National | 0 | Subscriber |
| | 1 | |
| | 2 | |
| Subscriber | 0 | |

4. 3. 2 Presentation of the CLIP on the Terminal



4. 3. 3 Replicating the Name Display in the Communication Server



4. 3. 4 Flow charts for name identification (CNIP)

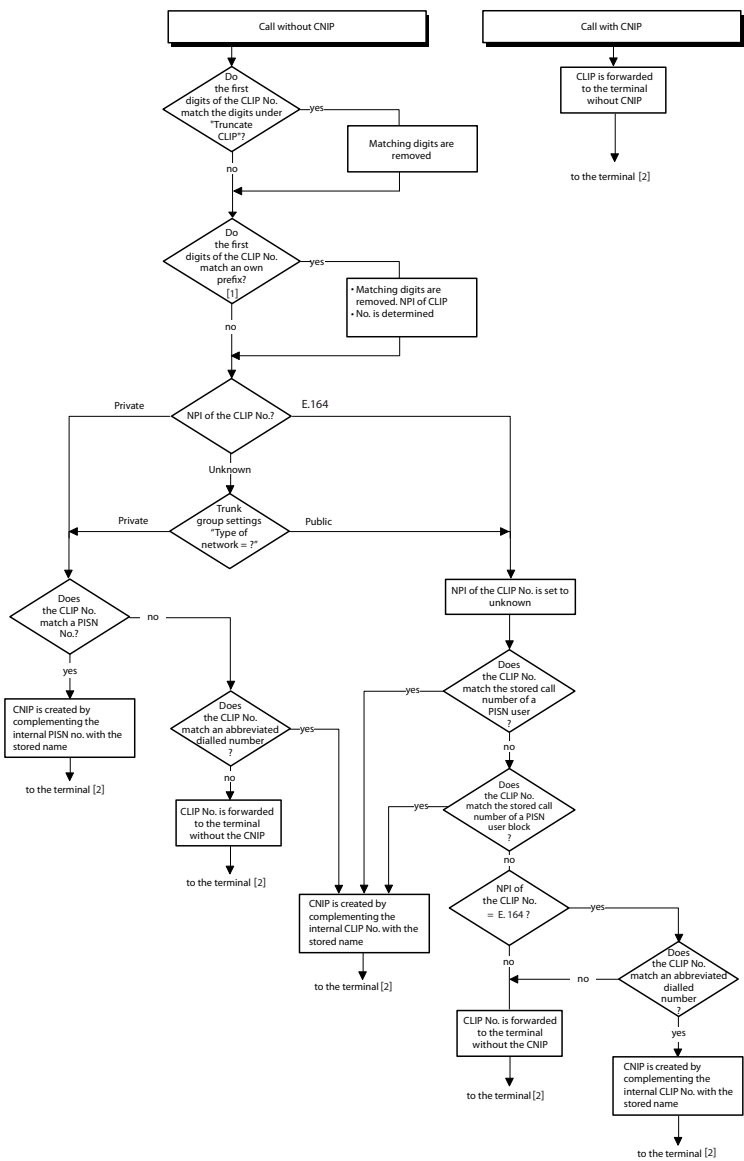


Fig. 33 Analysis and processing of an incoming call in the communication server

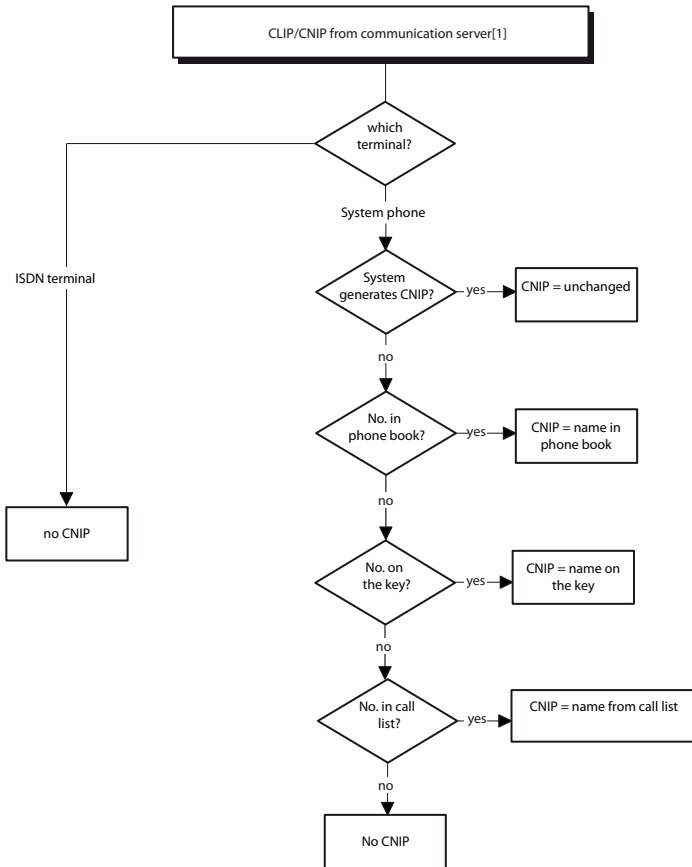


Fig. 34 Presentation of the CLIP / CNIP of an incoming call on the terminal

4.4 CLIP with Outgoing Calls

- **Environ**
- **Environ**

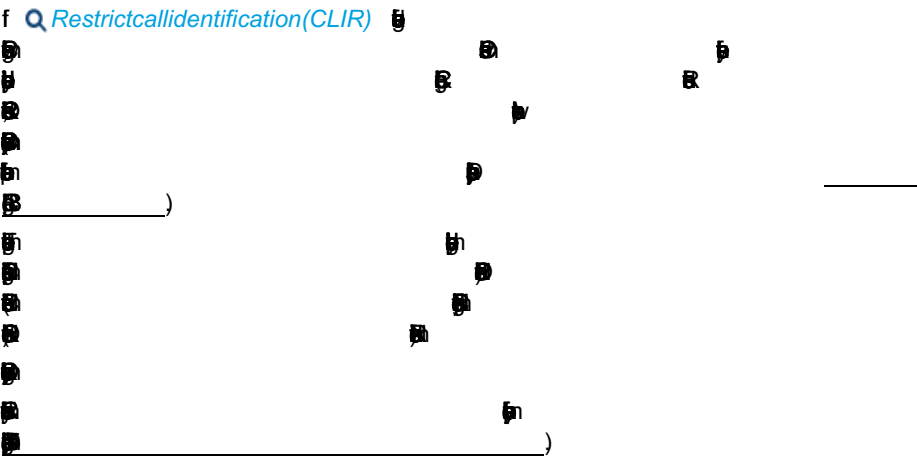
4. 4. 1 Creating the CLIP in the communication server

- Q = CreateCLIPNumber automatically

4.4.2 Entering a fixed CLIP

-

4. 4. 3 Suppressing CLIP / COLP (CLIR / COLR)



4. 4. 4 CLIP flowcharts for Outgoing Calls

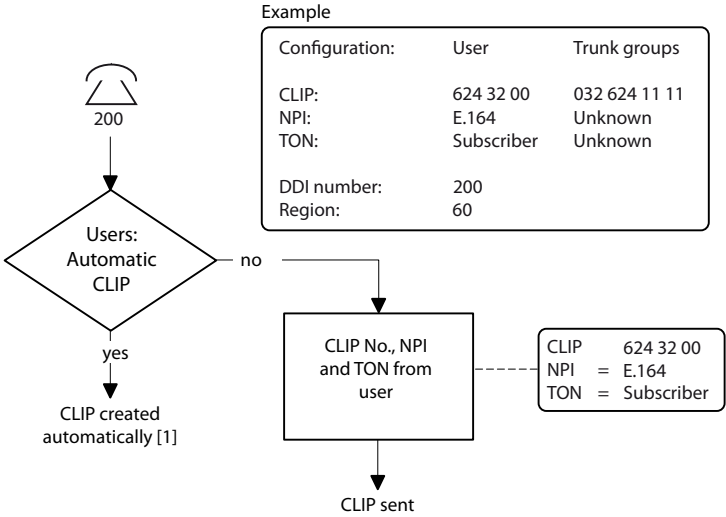


Fig. 35 CLIP of an outgoing call to an external user in the public network

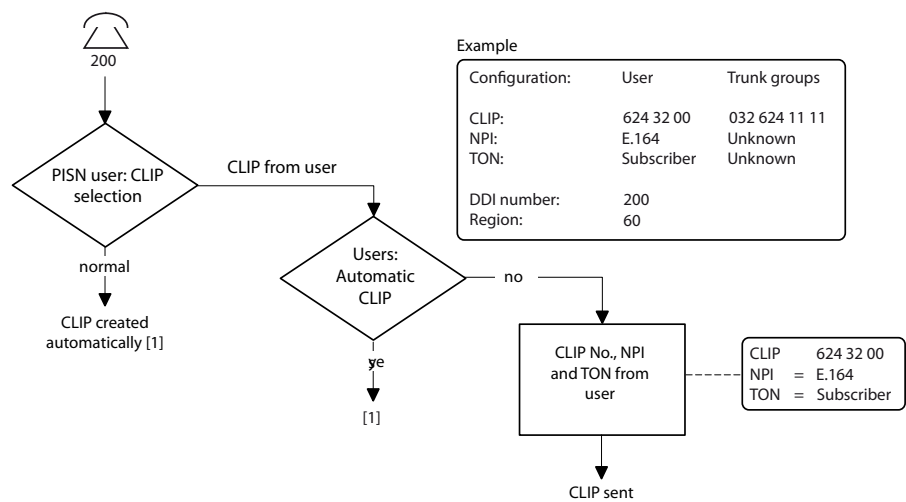
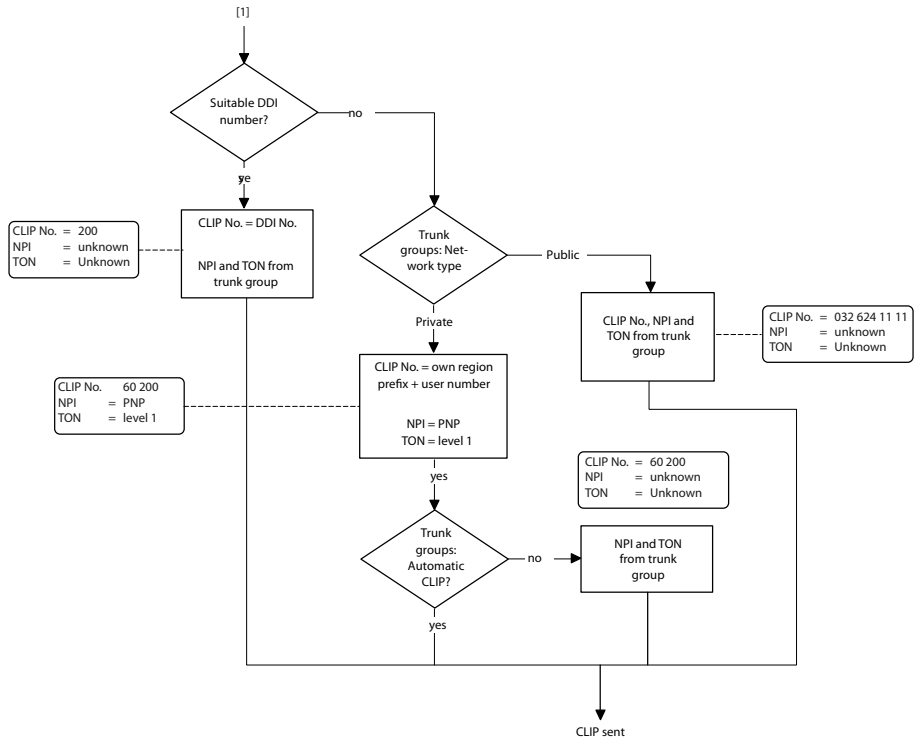


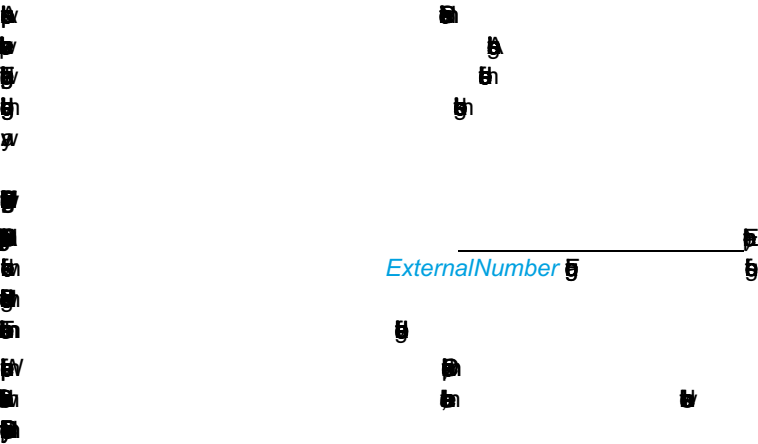
Fig. 36 CLIP of an outgoing call to a PISN user



1 6 6

Fig. 37 Creating an automatic CLIP for outgoing calls

4. 4. 5 CLIP Display with a Virtual Network PISN User



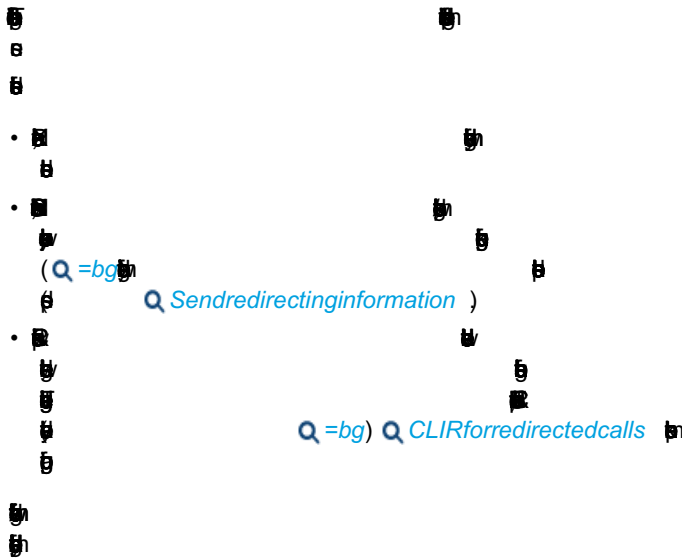
4. 5 Display for Call Forwarding Unconditional



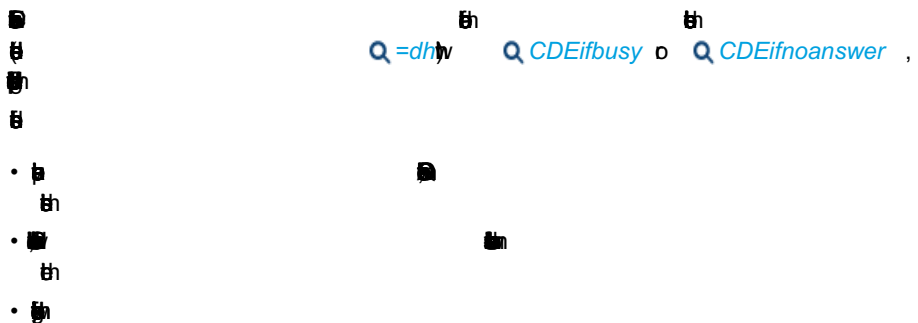
4. 5. 1 Information displayed to the called user



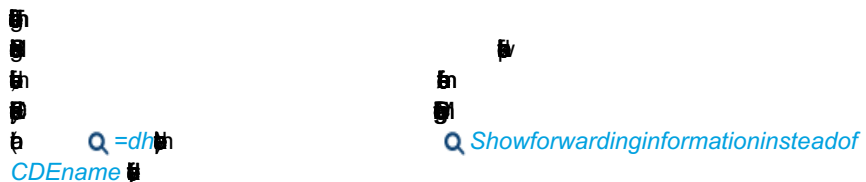
4. 5. 1. 1 Outgoing call with local call forwarding



4. 5. 1. 2 Incoming call with CDE overflow



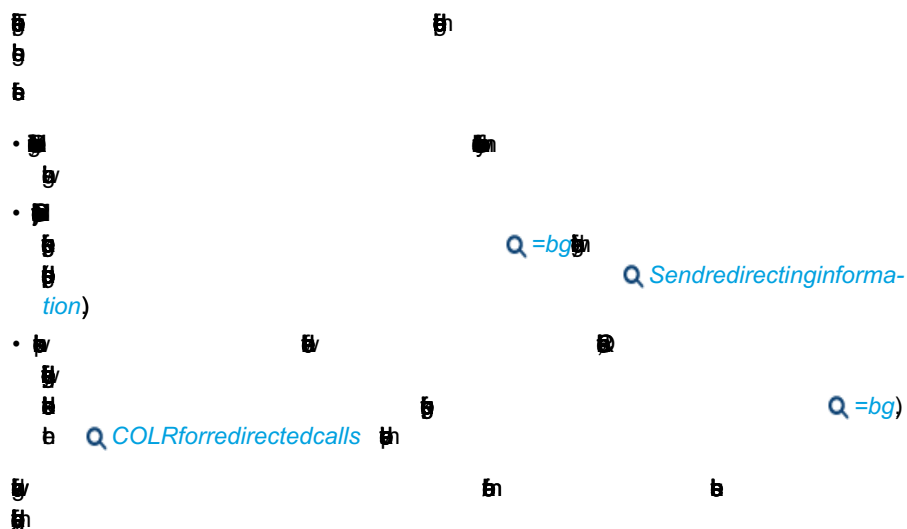
4. 5. 1. 3 Incoming call that is already redirected



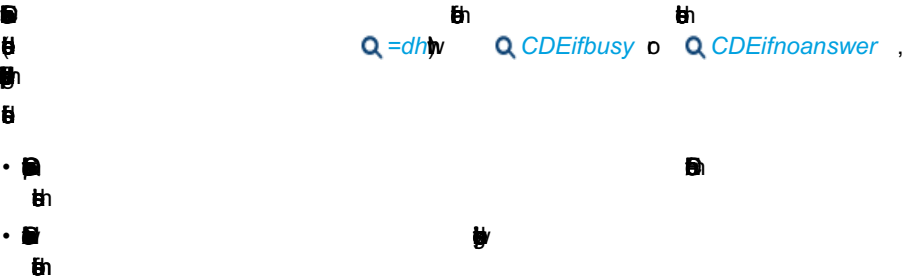
4. 5. 2 Information displayed to the calling user



4. 5. 2. 1 Incoming call with local call forwarding



4. 5. 2. 2 Incoming call with CDE overflow



4. 5. 2. 3 Outgoing call with non-local redirection



4. 6 CLIP / COLP Settings

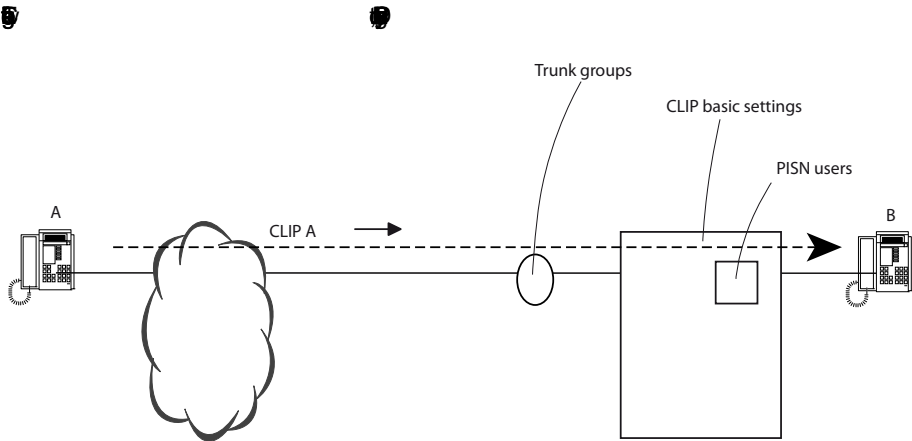


Fig. 38 CLIP incoming

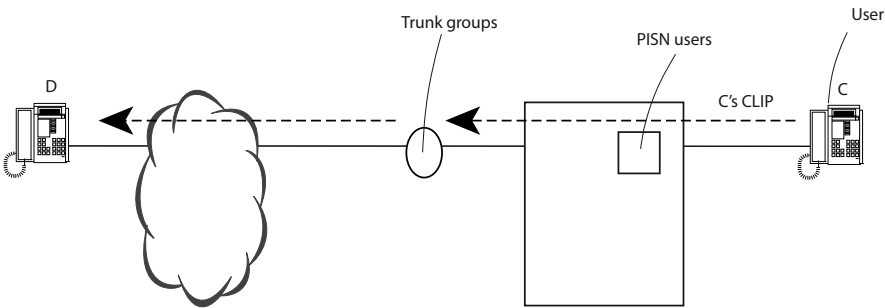


Fig. 39 CLIP outgoing

Tab. 11 CLIP related settings

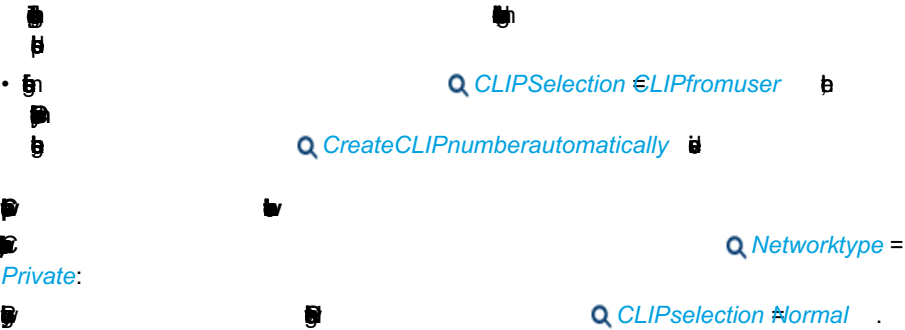
| | CreateCLIPNumberautomatically | | ✓ |
|--|----------------------------------------------------|---|---|
| | Restrictcallidentification(CLIR) | | ✓ |
| | CLIRforredirection | | ✓ |
| | Restrictcallidentificationwhileconnected(COLR) | ✓ | |
| | COLRforredirection | ✓ | |
| | Numberingplanidentifier(NPI) | | |
| | Typeofnumber(TON) | | ✓ |
| | CLIPnumber | | ✓ |
| | Callnumber | ✓ | |
| | CLIPselection (Normal, CLIPfromuser) | | ✓ |
| | RingNPI'Unknown' | ✓ | |
| | CreateCLIPNumberautomatically | | ✓ |
| | Restrictcallidentification(CLIR) | | ✓ |
| | CLIRforredirection | | ✓ |
| | Restrictcallidentificationwhileconnected(COLR) | ✓ | |
| | COLRforredirection | ✓ | |
| | Numberingplanidentifier(NPI) | | ✓ |
| | Typeofnumber(TON) | | ✓ |
| | CLIPnumber | | ✓ |
| | TruncateCLIP | ✓ | |
| | Sendredirection/redirectinginformation | ✓ | ✓ |
| | ECTinformation | | ✓ |
| | TransitCLIPformat | ✓ | ✓ |
| | Transitexchangeaccessprefix | ✓ | ✓ |
| | SendincomingCLIPforexchange-to-exchangeconnections | ✓ | ✓ |

| ID | Name | Status | |
|----|-------------------------------------------------|--------|---------|
| | | Active | Default |
| 1 | Internationalprefix | ✓ | |
| | Countrycode | ✓ | |
| | Nationalprefix | ✓ | |
| | Nationaldestinationcode | ✓ | |
| 2 | Ignorecallidentificationrestriction(ignoreCLIR) | ✓ | |
| 3 | Ownregionprefix | ✓ | ✓ |

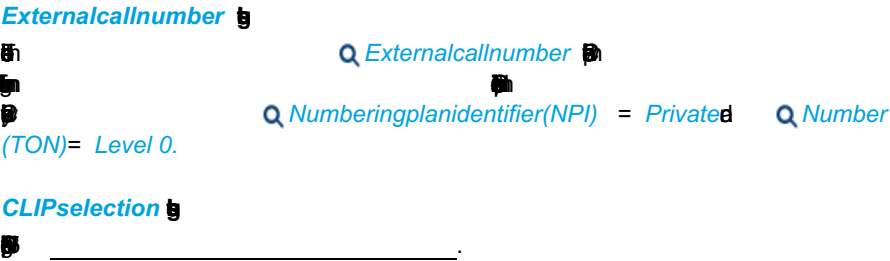
4. 6. 1 Users



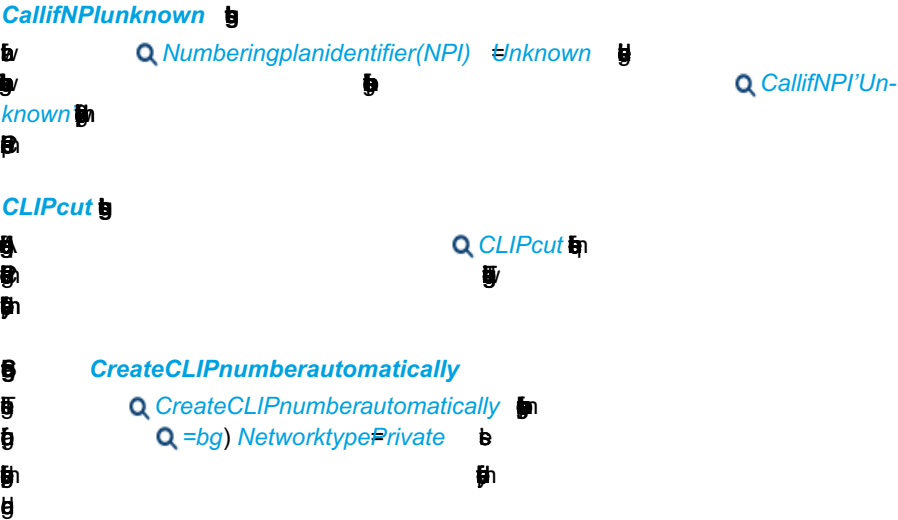
Identification elements



4. 6. 2 PISN user



4. 6. 3 Trunk group





Numberingplanidentifier(NPI) , Numbertype(TON),CLIPnumber



ECTinformation



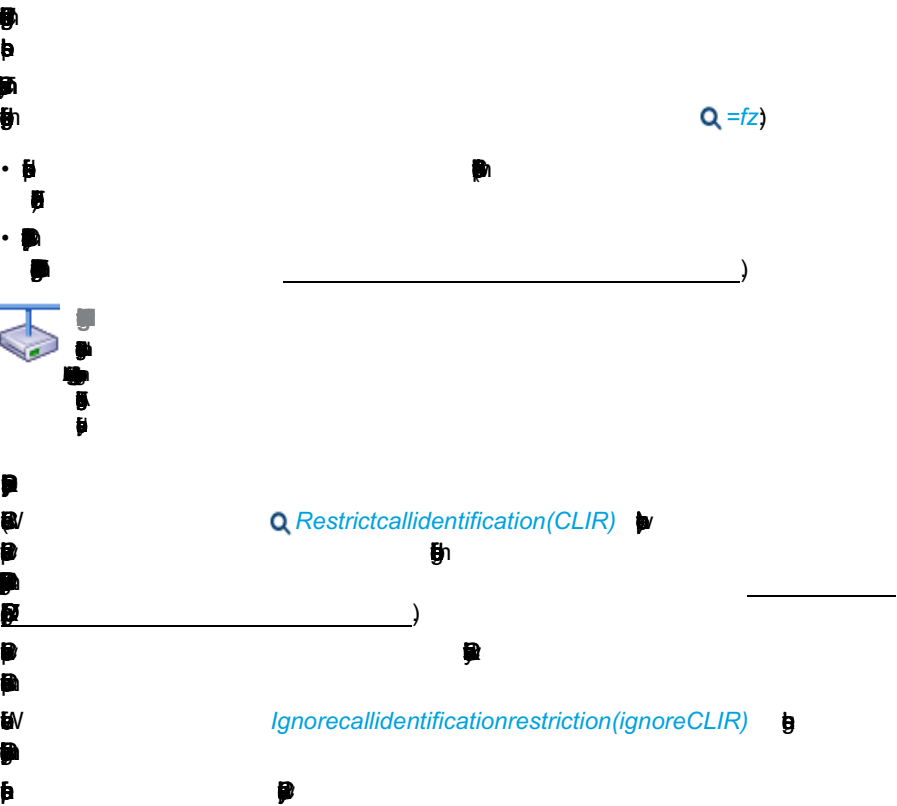
ECTinformation



information.

ECTinfor-

4. 6. 4 CLIP/CLIR settings



4. 6. 5 Numbering plan



4.7 Examples of CLIP Displays in the PISN

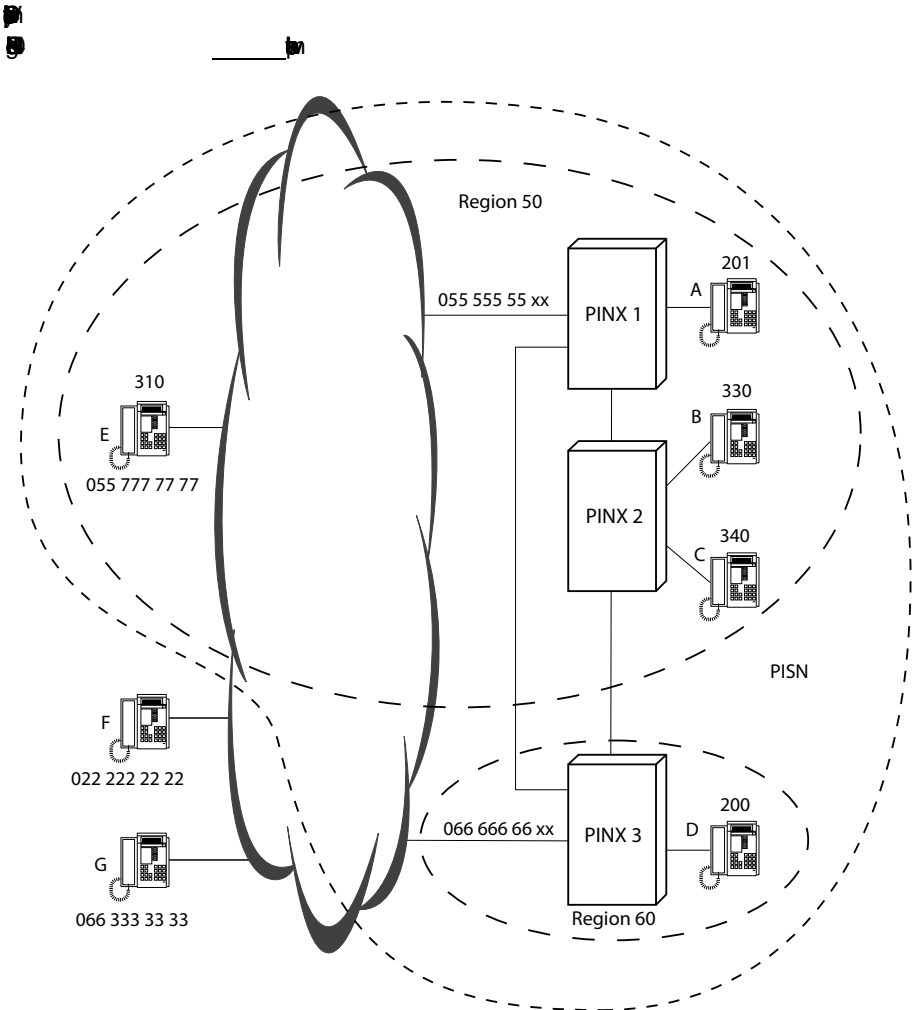


Fig. 40 Sample network: PISN with two regions and one virtual network user

4. 7. 1 PISN-Internal Calls

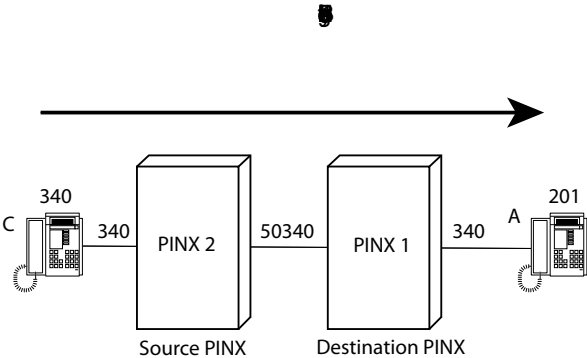


Fig. 41 Example 1: User C calls user A (excerpt from Fig. 40)

Tab. 12 Example 1: Creating and presenting user C's CLIP number

| Step | Event | Source | Destination | Result |
|------|-----------------|-----------|-------------|-------------|
| 1 | Handset C rings | Handset C | Handset A | → Handset A |
| 2 | Handset A rings | Handset A | Handset C | → Handset C |
| 3 | Handset C rings | Handset C | Handset A | → Handset A |
| 4 | Handset A rings | Handset A | Handset C | → Handset C |

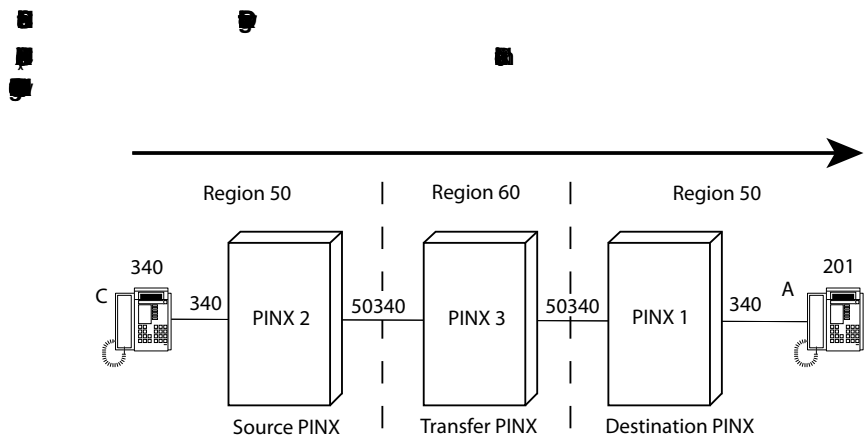


Fig. 42 Example 2: User C calls user A, overflow routing (excerpt from Fig. 40)

Tab. 13 Example 2: Creating and presenting user C's CLIP number

| Step | Operation | Source | Destination | Result |
|------|------------|--------|-------------|--------|
| 1 | Call setup | 340 | 340 | → 340 |
| 2 | Call setup | 340 | 340 | → 340 |
| 3 | Call setup | 340 | 340 | → 340 |
| 4 | Call setup | 340 | 340 | → 340 |
| 5 | Call setup | 340 | 340 | → 340 |
| 6 | Call setup | 340 | 340 | → 340 |

4. 7. 2 Outgoing Calls to the Public Network



- CLIPnumber
- Numberingplanidentifier(NPI) = Unknown
- Numbertype(TON)= Unknown

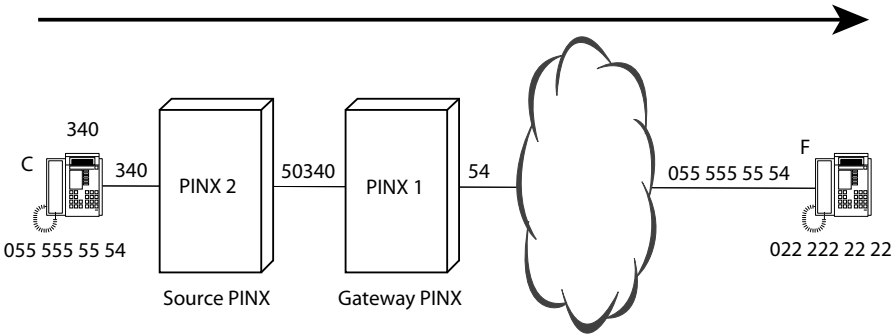


Fig. 43 Example 3: User C calls user F in the public network (excerpt from Fig. 40)

Tab. 14 Example 3: Creating and presenting user C's CLIP number

| S | D | N | D | D |
|---|---|---|---|-----------|
| 1 | | | | → |
| 2 | | | | → |
| 3 | | | | |
| 4 | | | | → |
| 5 | | | | → |



- **CLIPNumber**
- **Numberingplanidentifier(NPI)** *Unknown*
- **Numbertype(TON)** = *Unknown*

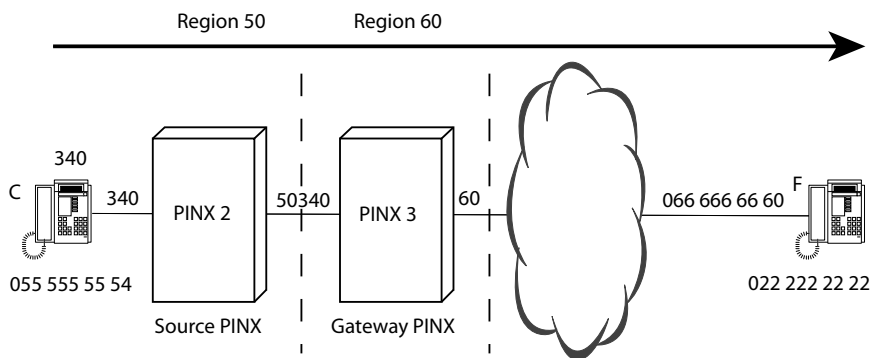


Fig. 44 Example 4: User C calls user F via an alternative path (excerpt from Fig. 40)

Tab. 15 Example 4: Creating and presenting user C's CLIP number

| S | D | R | D | P |
|---|---|-------|---|-----|
| 1 | 3 | R 3 | 5 | → R |
| 2 | 3 | R 3 | R | → R |
| 3 | 3 | R 3 | | • R |
| 4 | 3 | 3 3 R | | → R |
| 5 | 3 | | | → R |



- *CLIPNumber*5
- 🔍 *Numberingplanidentifier(NPI)* = *E.164*
- 🔍 *Numbertype(TON)*= *National*

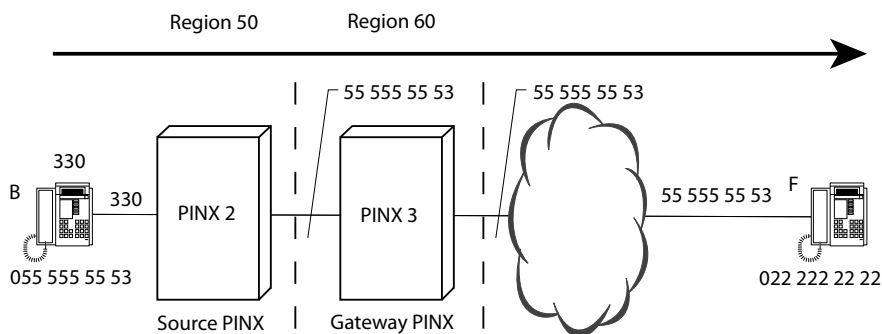


Fig. 45 Example 5: User B calls user F (excerpt from Fig. 40)

Tab. 16 Example 5: Creating and presenting user B's CLIP number

| 6 | 7 | 8 | 9 | 10 | 11 |
|-----|---|---|---|----|-----|
| 1 | 3 | | R | 5 | → R |
| 2 | 5 | 4 | R | | → R |
| 3 | 5 | 4 | R | | • R |
| 4 | 5 | 4 | R | | • R |
| 5 | 5 | | | | • R |
| 6 | 6 | | | | • R |
| 7 | 6 | | | | • R |
| 8 | 6 | | | | • R |
| 9 | 6 | | | | • R |
| 10 | 6 | | | | • R |
| 11 | 6 | | | | • R |
| 12 | 6 | | | | • R |
| 13 | 6 | | | | • R |
| 14 | 6 | | | | • R |
| 15 | 6 | | | | • R |
| 16 | 6 | | | | • R |
| 17 | 6 | | | | • R |
| 18 | 6 | | | | • R |
| 19 | 6 | | | | • R |
| 20 | 6 | | | | • R |
| 21 | 6 | | | | • R |
| 22 | 6 | | | | • R |
| 23 | 6 | | | | • R |
| 24 | 6 | | | | • R |
| 25 | 6 | | | | • R |
| 26 | 6 | | | | • R |
| 27 | 6 | | | | • R |
| 28 | 6 | | | | • R |
| 29 | 6 | | | | • R |
| 30 | 6 | | | | • R |
| 31 | 6 | | | | • R |
| 32 | 6 | | | | • R |
| 33 | 6 | | | | • R |
| 34 | 6 | | | | • R |
| 35 | 6 | | | | • R |
| 36 | 6 | | | | • R |
| 37 | 6 | | | | • R |
| 38 | 6 | | | | • R |
| 39 | 6 | | | | • R |
| 40 | 6 | | | | • R |
| 41 | 6 | | | | • R |
| 42 | 6 | | | | • R |
| 43 | 6 | | | | • R |
| 44 | 6 | | | | • R |
| 45 | 6 | | | | • R |
| 46 | 6 | | | | • R |
| 47 | 6 | | | | • R |
| 48 | 6 | | | | • R |
| 49 | 6 | | | | • R |
| 50 | 6 | | | | • R |
| 51 | 6 | | | | • R |
| 52 | 6 | | | | • R |
| 53 | 6 | | | | • R |
| 54 | 6 | | | | • R |
| 55 | 6 | | | | • R |
| 56 | 6 | | | | • R |
| 57 | 6 | | | | • R |
| 58 | 6 | | | | • R |
| 59 | 6 | | | | • R |
| 60 | 6 | | | | • R |
| 61 | 6 | | | | • R |
| 62 | 6 | | | | • R |
| 63 | 6 | | | | • R |
| 64 | 6 | | | | • R |
| 65 | 6 | | | | • R |
| 66 | 6 | | | | • R |
| 67 | 6 | | | | • R |
| 68 | 6 | | | | • R |
| 69 | 6 | | | | • R |
| 70 | 6 | | | | • R |
| 71 | 6 | | | | • R |
| 72 | 6 | | | | • R |
| 73 | 6 | | | | • R |
| 74 | 6 | | | | • R |
| 75 | 6 | | | | • R |
| 76 | 6 | | | | • R |
| 77 | 6 | | | | • R |
| 78 | 6 | | | | • R |
| 79 | 6 | | | | • R |
| 80 | 6 | | | | • R |
| 81 | 6 | | | | • R |
| 82 | 6 | | | | • R |
| 83 | 6 | | | | • R |
| 84 | 6 | | | | • R |
| 85 | 6 | | | | • R |
| 86 | 6 | | | | • R |
| 87 | 6 | | | | • R |
| 88 | 6 | | | | • R |
| 89 | 6 | | | | • R |
| 90 | 6 | | | | • R |
| 91 | 6 | | | | • R |
| 92 | 6 | | | | • R |
| 93 | 6 | | | | • R |
| 94 | 6 | | | | • R |
| 95 | 6 | | | | • R |
| 96 | 6 | | | | • R |
| 97 | 6 | | | | • R |
| 98 | 6 | | | | • R |
| 99 | 6 | | | | • R |
| 100 | 6 | | | | • R |

4. 7. 3 Incoming calls from the public network

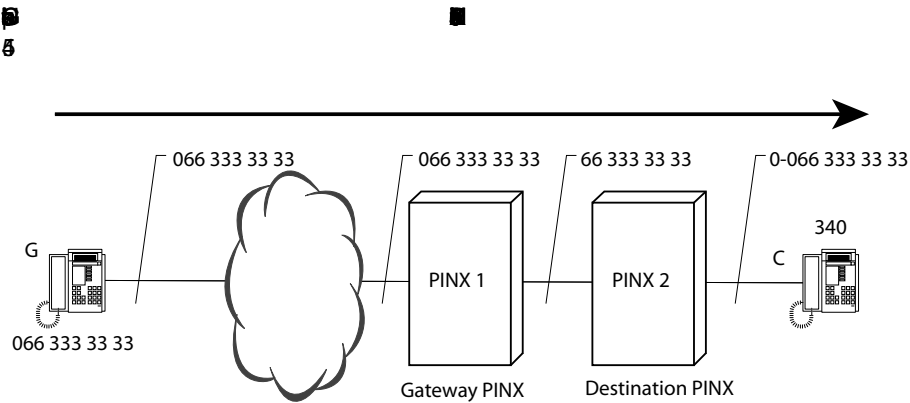


Fig. 46 Example 6: User G calls user C (excerpt from Fig. 40)

Tab. 17 Example 6: Creating and presenting user G's CLIP number

| Step | Event | Network | Device | CLIP Number |
|------|------------|----------------|--------|------------------------------------------------|
| 1 | Call setup | Public Network | | → 066 333 33 33 |
| 2 | Call setup | Public Network | | • 066 333 33 33 • 066 333 33 33 National |
| 3 | Call setup | Public Network | | → 066 333 33 33 |
| 4 | Call setup | Public Network | | • 066 333 33 33 |
| 5 | Call setup | Public Network | | 066 333 33 33 → 066 333 33 33 |

9

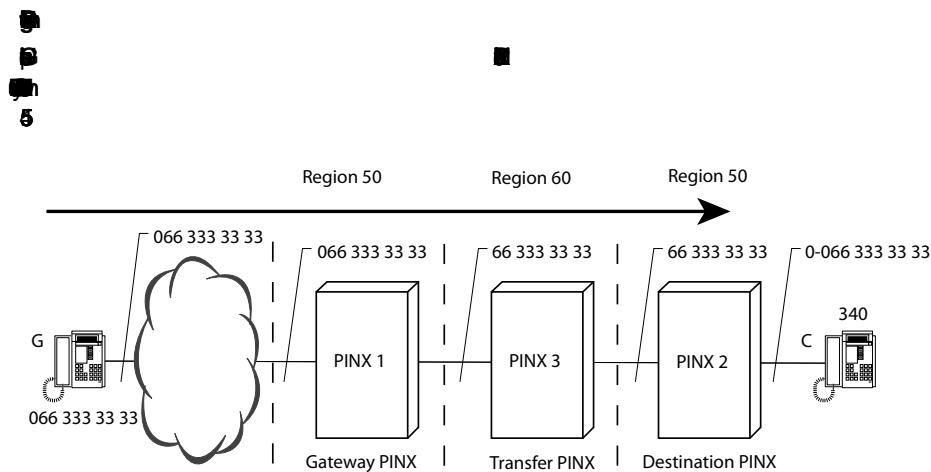


Fig. 47 Example 7: User G calls user C via PINX 3 (excerpt from Fig. 40)

Tab. 18 Example 7: Creating and presenting user C's CLIP number

| Step | Origin | Destination | Number | Number | Number |
|------|--------|-------------|--------|--------|--------|
| 1 | 0 | 6 | 3 | 3 | 3 |
| 2 | 0 | 6 | 3 | 3 | 3 |
| 3 | 0 | 6 | 3 | 3 | 3 |
| 4 | 3 | 3 | 3 | 3 | 3 |
| 5 | 0 | 6 | 3 | 3 | 3 |
| 6 | 0 | 6 | 3 | 3 | 3 |
| 7 | 0 | | | | |

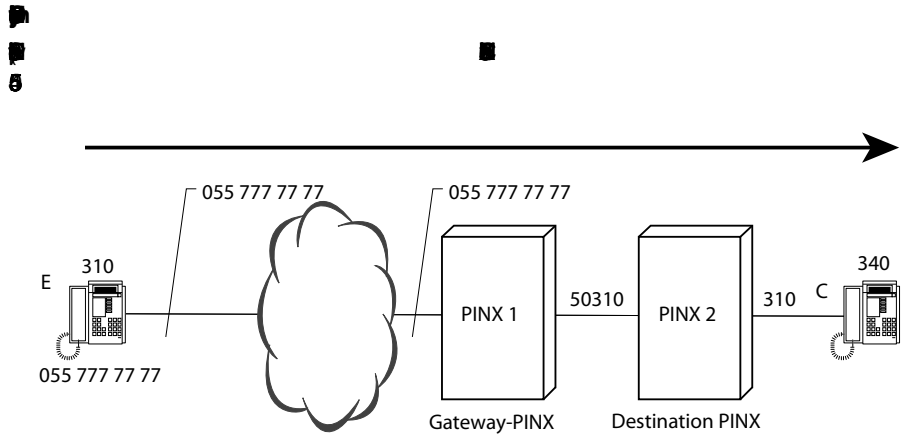
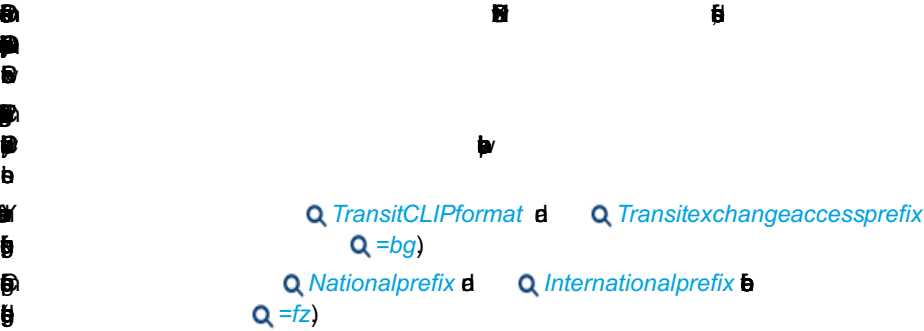


Fig. 48 Example 8: User E calls user C (excerpt from Fig. 40)

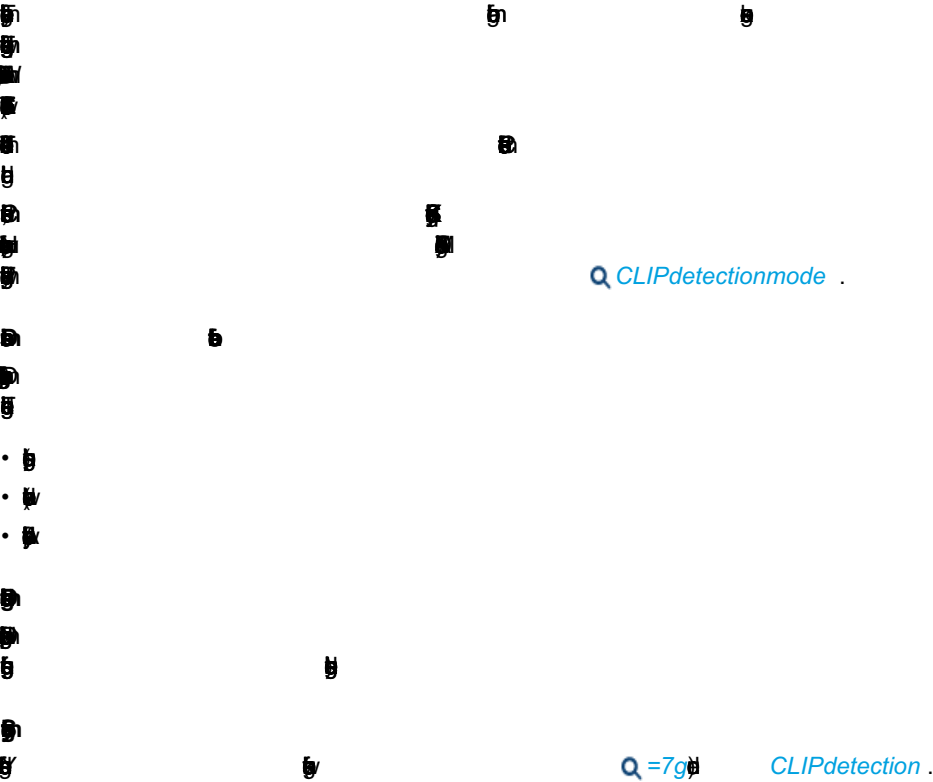
Tab. 19 Example 8: Creating and presenting user E's CLIP number

| Step | Event | Message | Direction | Content |
|------|------------|---------|-----------|-------------------------|
| 1 | Call Setup | Setup | →E | →N |
| 2 | Call Setup | Setup | | •E •N National |
| 3 | Call Setup | Setup | | •E •N Subscriber. |
| 4 | Call Setup | Setup | | •E •N |
| 5 | Call Setup | Setup | →N | →N |
| 6 | Call Setup | Setup | | •E •N |
| 7 | Call Setup | Setup | →C | →C |

4. 7. 4 CLIP format for transit connections in networks



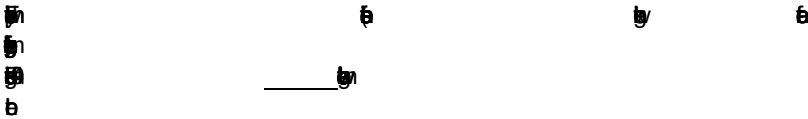
4. 8 CLIP on analogue exchange accesses



5 Routing elements

The purpose of a routing element is to distribute incoming and outgoing calls to their destinations. This Chapter features all the elements involved in call routing. The settings allocated to a routing element are carried out in the system configuration. The multitude of setting options does, however, involve a considerable amount of configuration. That is why the default configuration has been selected in such a way that many settings no longer have to be adapted when configuring a stand-alone communication server.

5.1 Overview



Routing elements

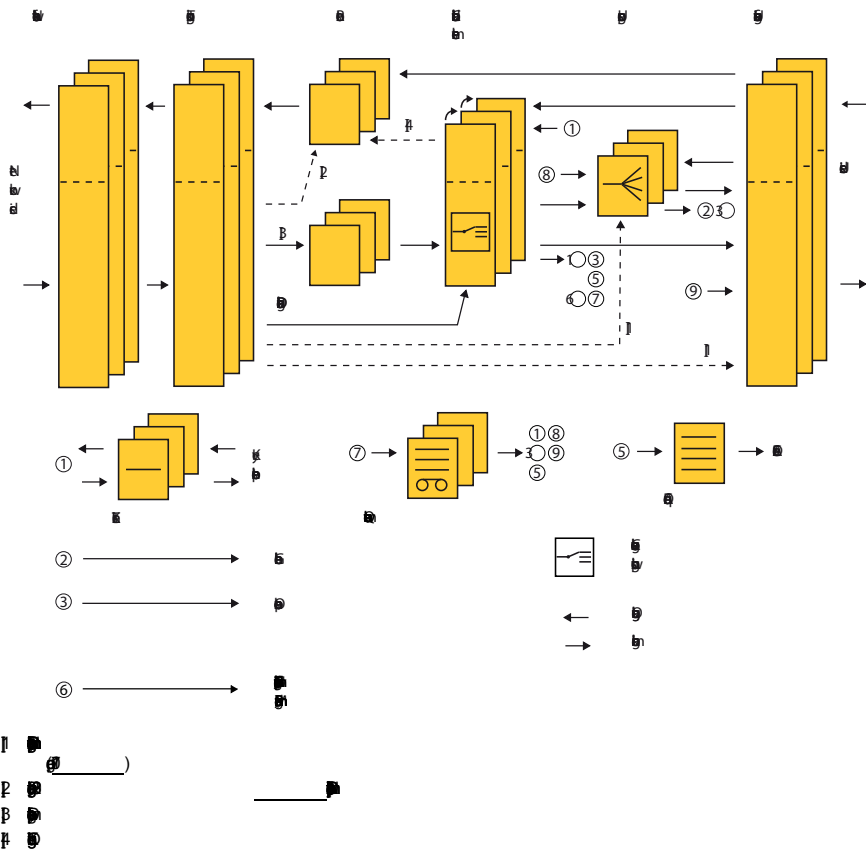
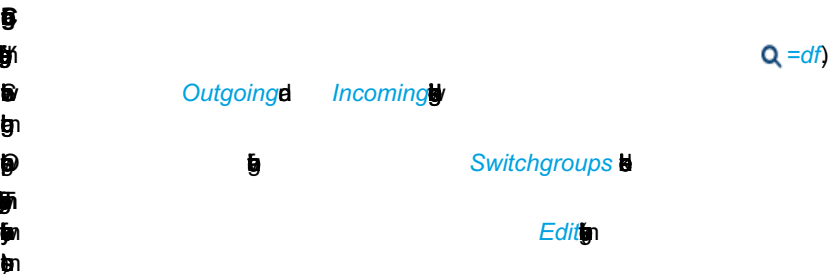
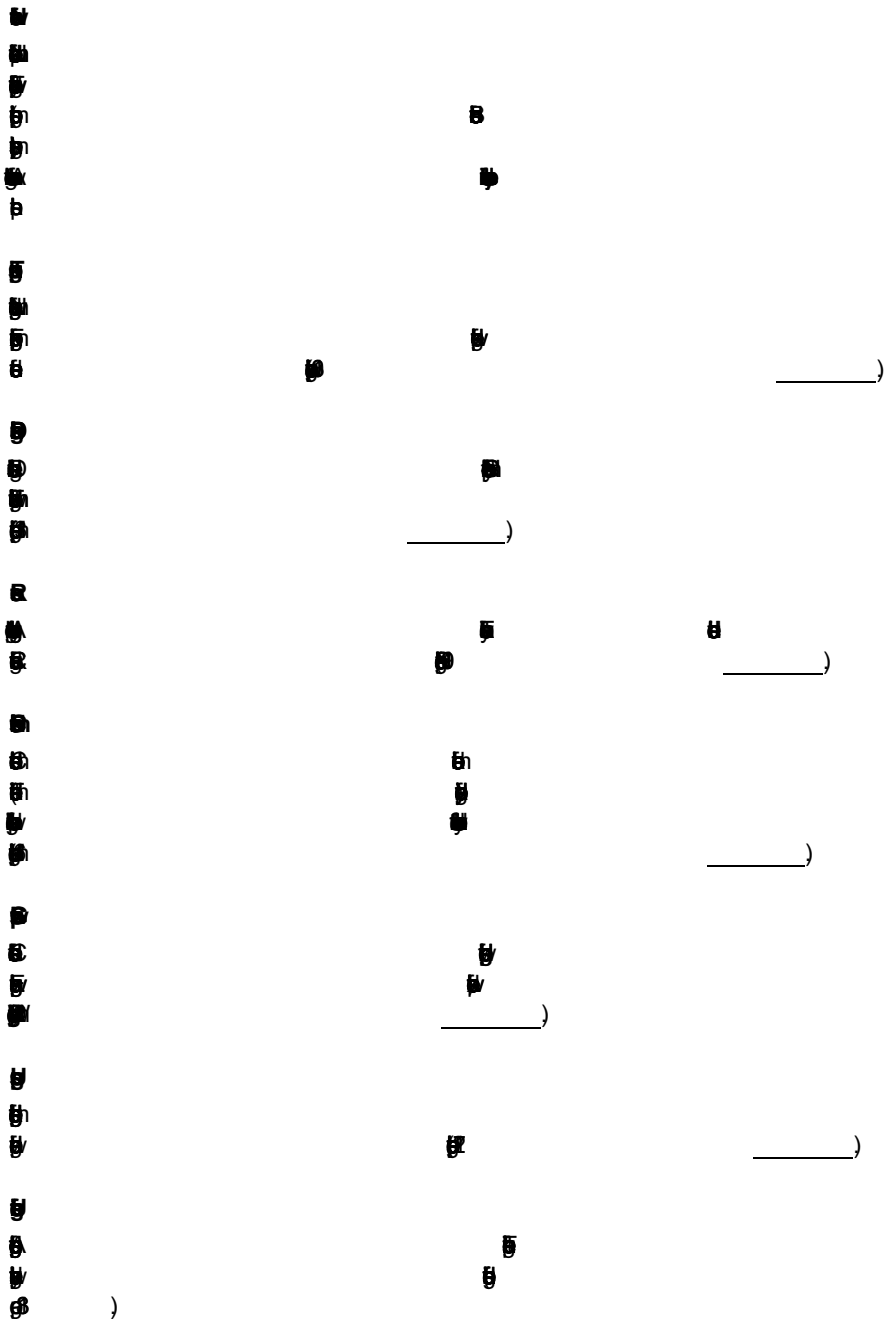


Fig. 49 How calls are routed in the system





5.2 Trunk groups

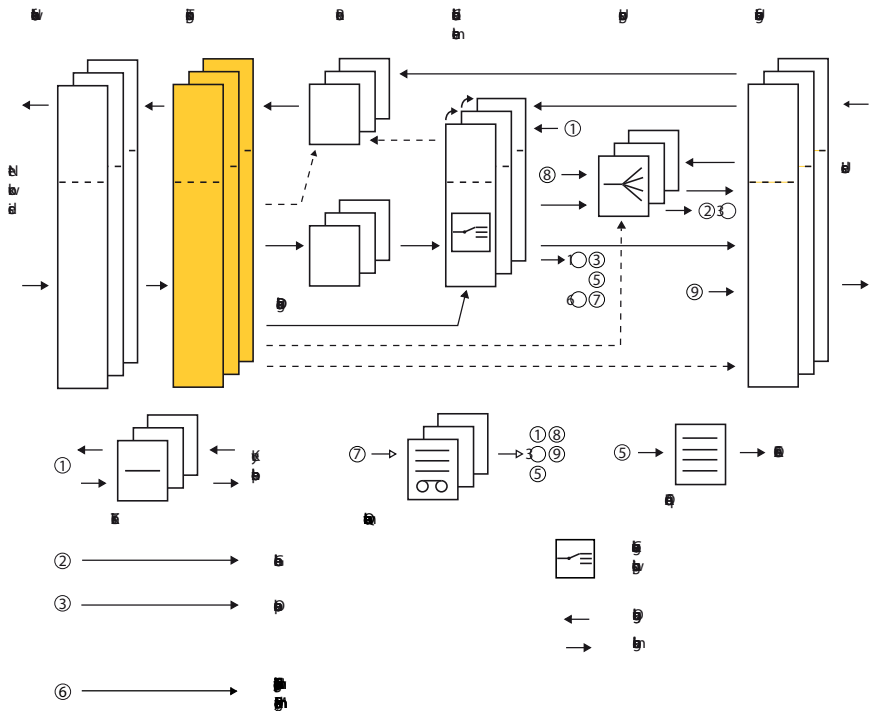
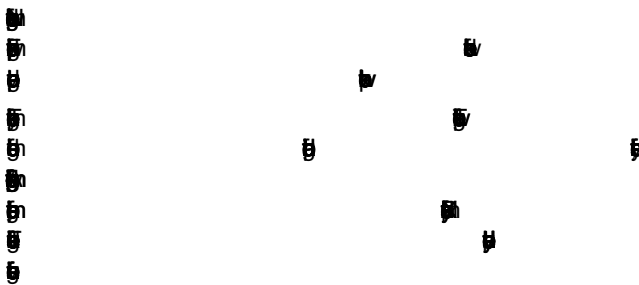
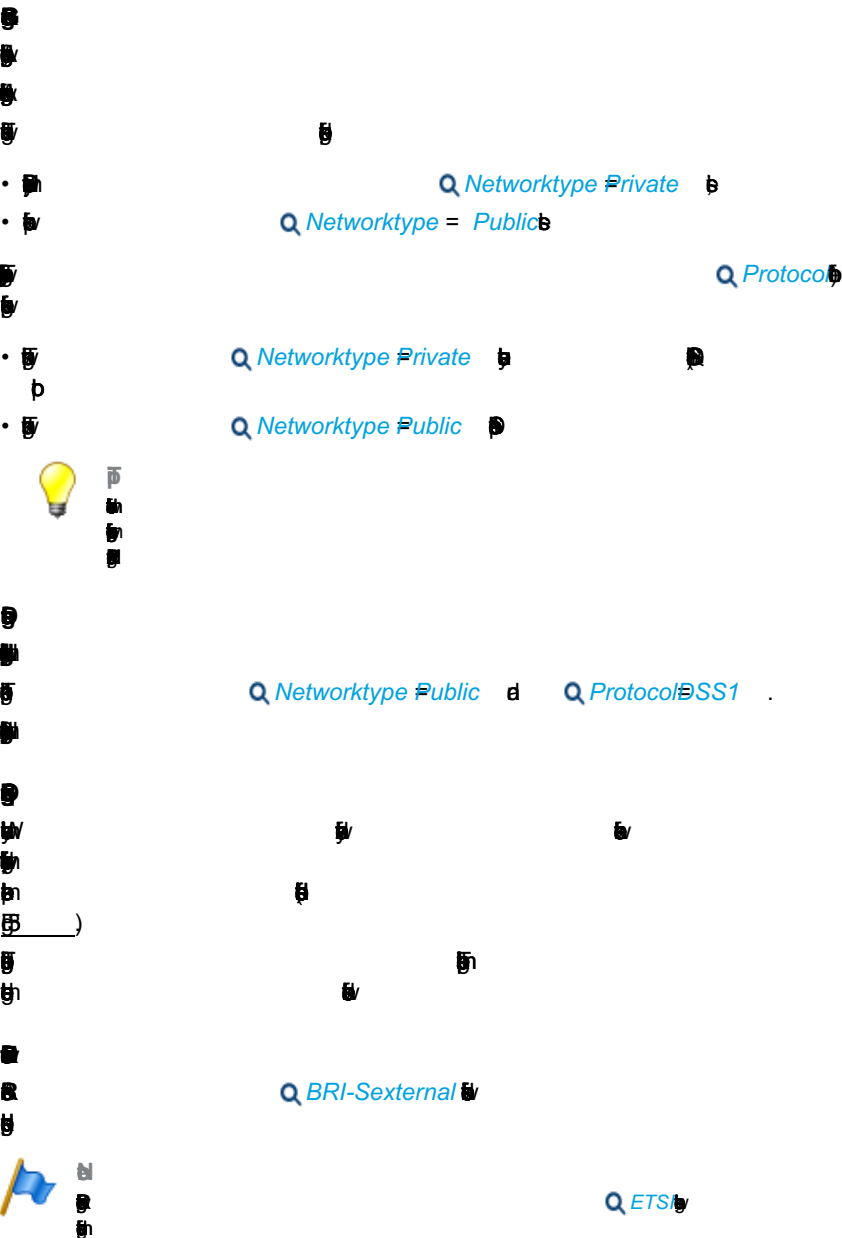
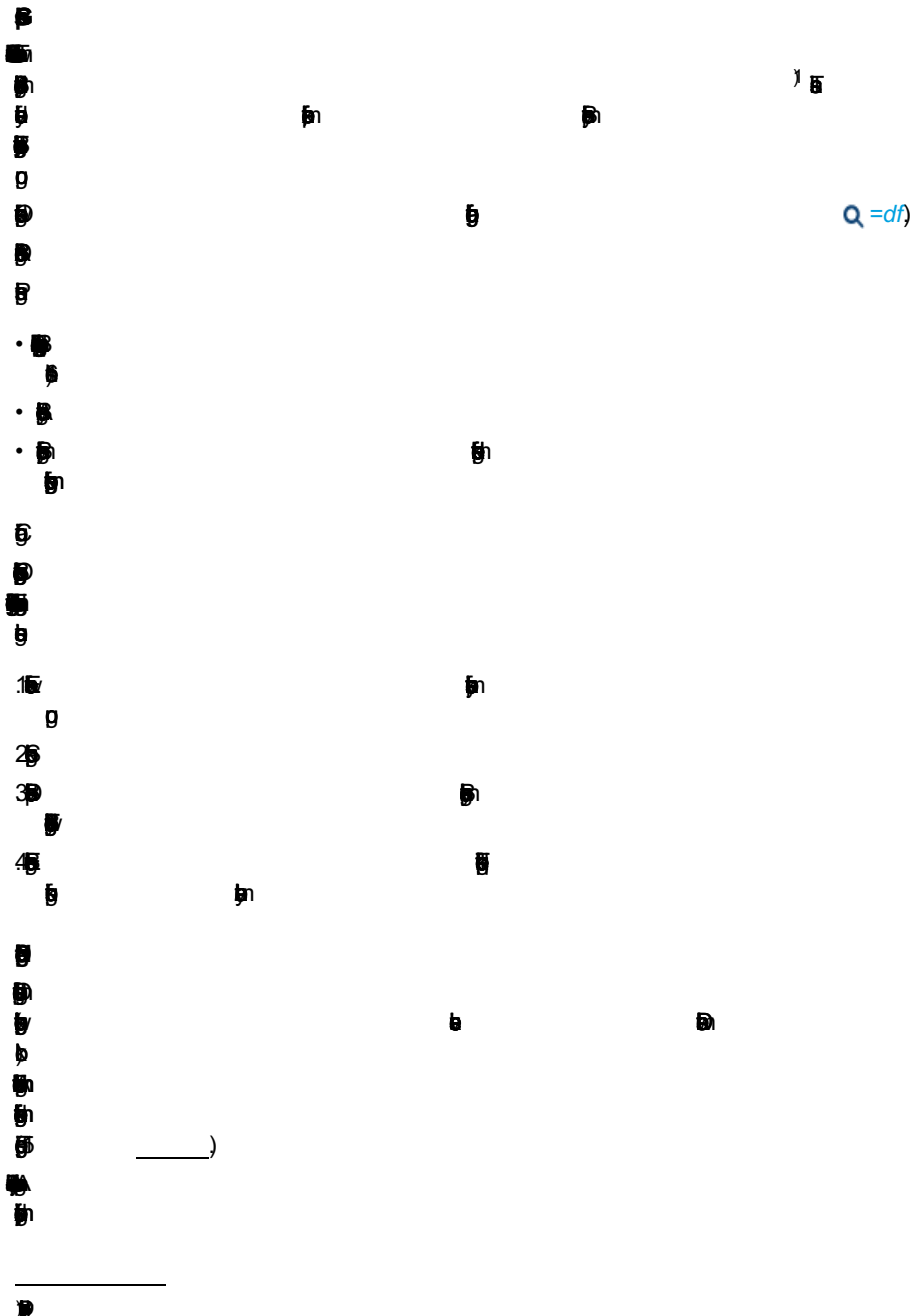


Fig. 50 Trunk groups in relation to the other routing elements



5. 2. 1 Trunk Groups of Network Interfaces





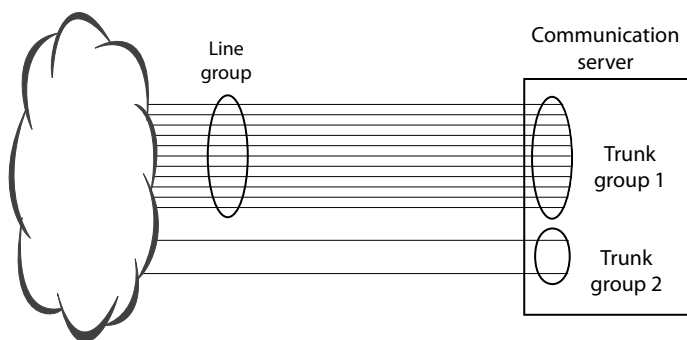
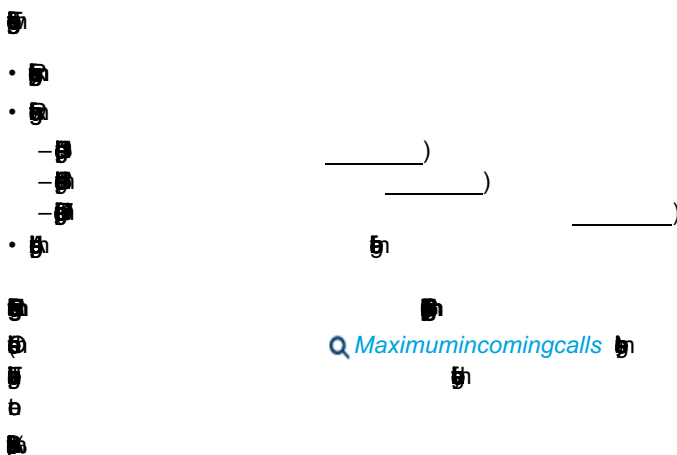
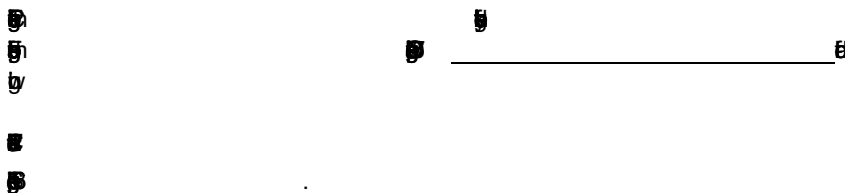


Fig. 51 Recreating a line group in the communication server

5.2.2 Routing Functions of the Trunk Group for Incoming Calls



5.2.3 Trunk Group Identification Functions



5. 2. 4 Other Trunk Group Functions and Settings



Ringbacktoneforincomingcalls



Generate



Ringbacktoneforincomingcalls



Ringbacktoneforoutgoingcalls



Ringbacktoneforincomingcalls



Ringbacktoneforincomingcalls

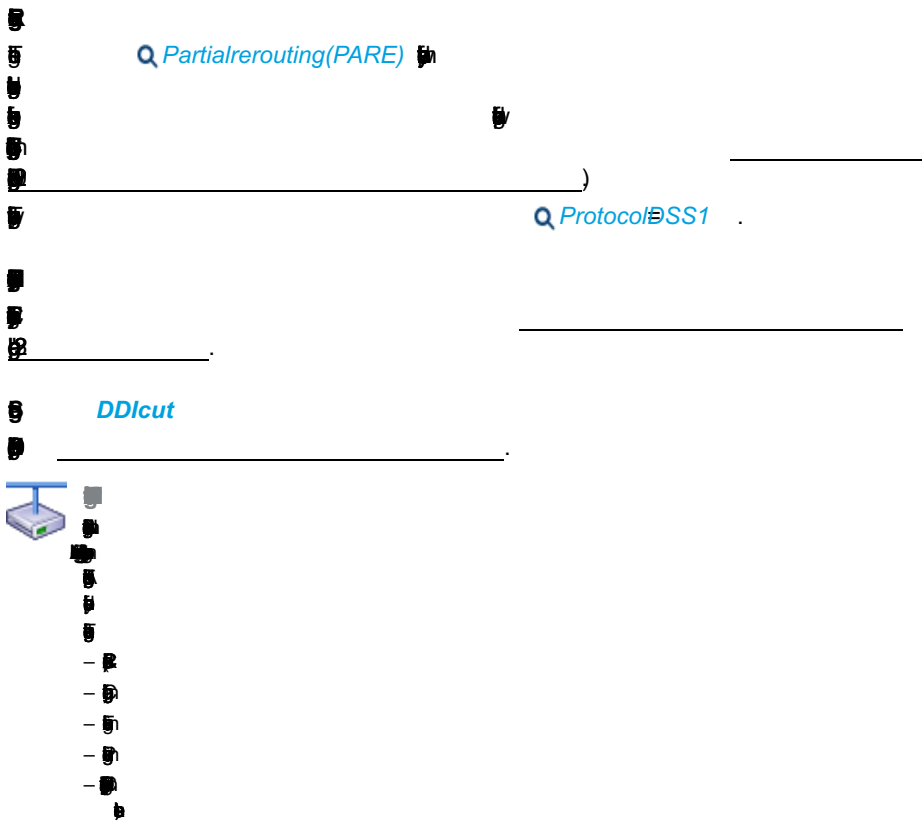


Ringbacktoneforincomingcalls

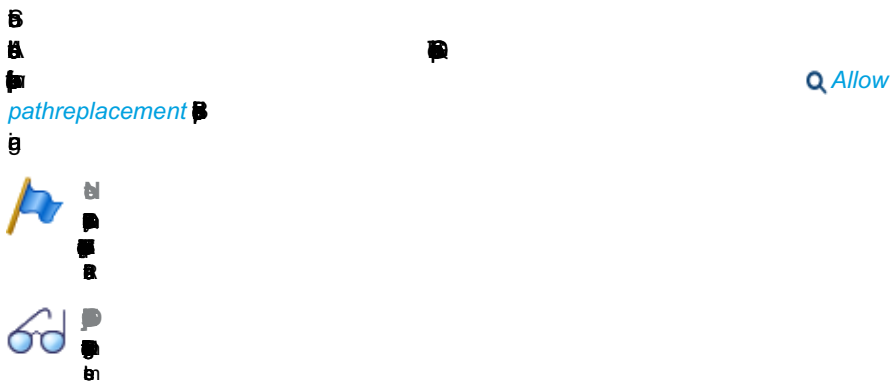


Ringbacktoneforoutgoingcalls





Allowpathreplacement



5.3 Route

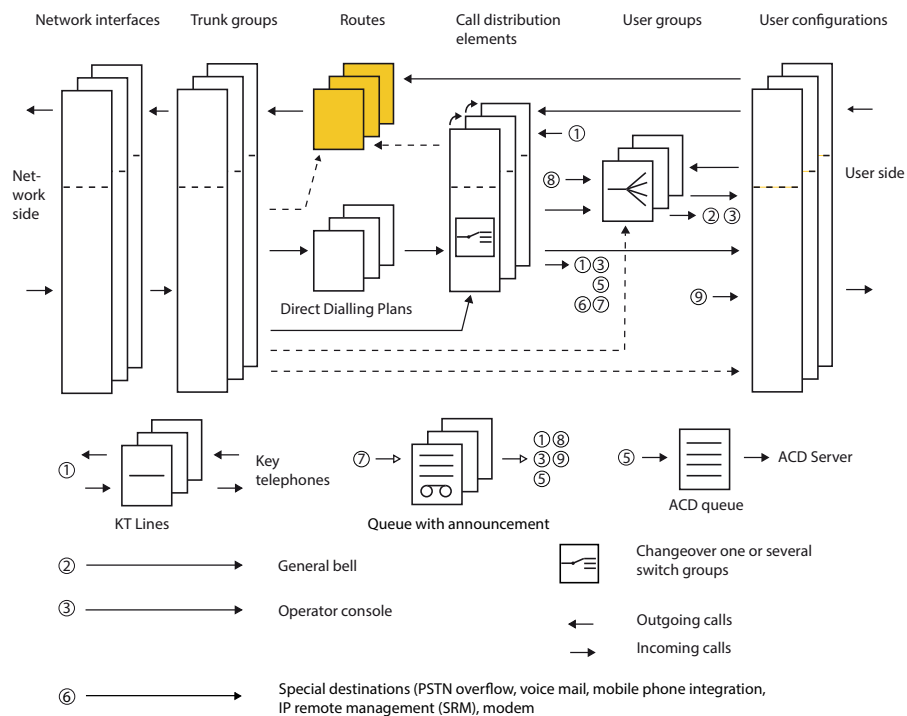
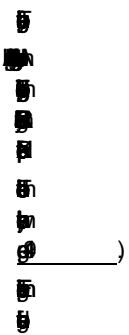


Fig. 52 Routes in relation to the other routing elements



Remote alarming, toPINX 3

Transitrouting ,

5. 3. 1 The Route's Routing Functions

- [icon]
- [icon]
- [icon]
- [icon]
- [icon]
- [icon]
- [icon]

5. 3. 2 Routing an Outgoing Call to a Trunk Group

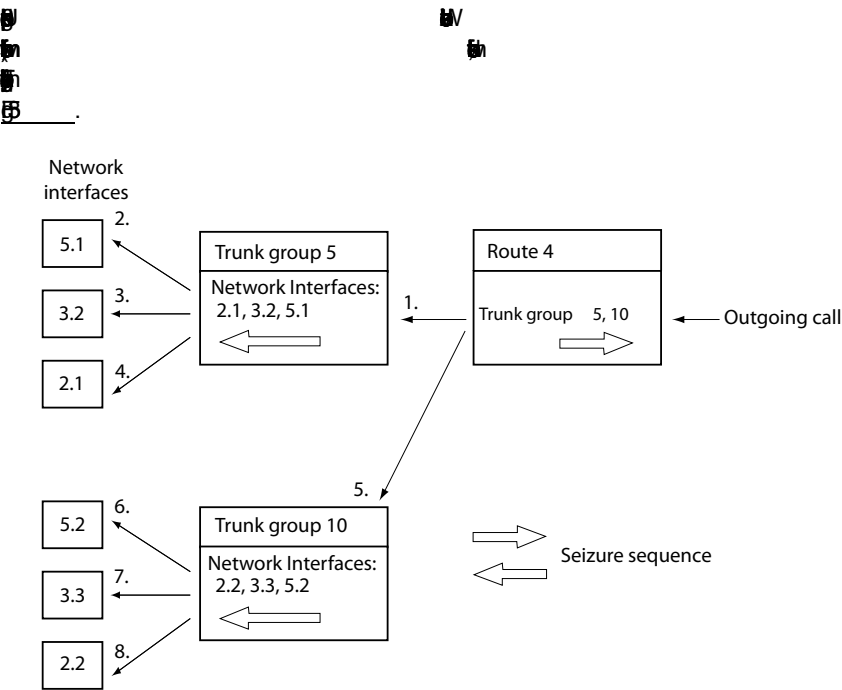
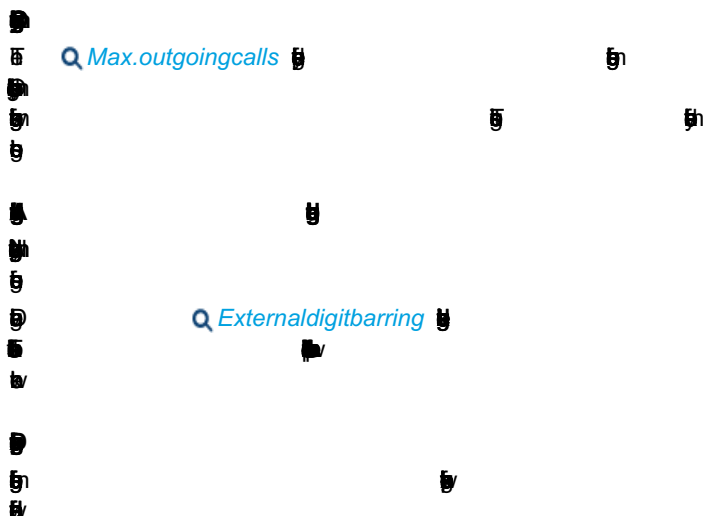
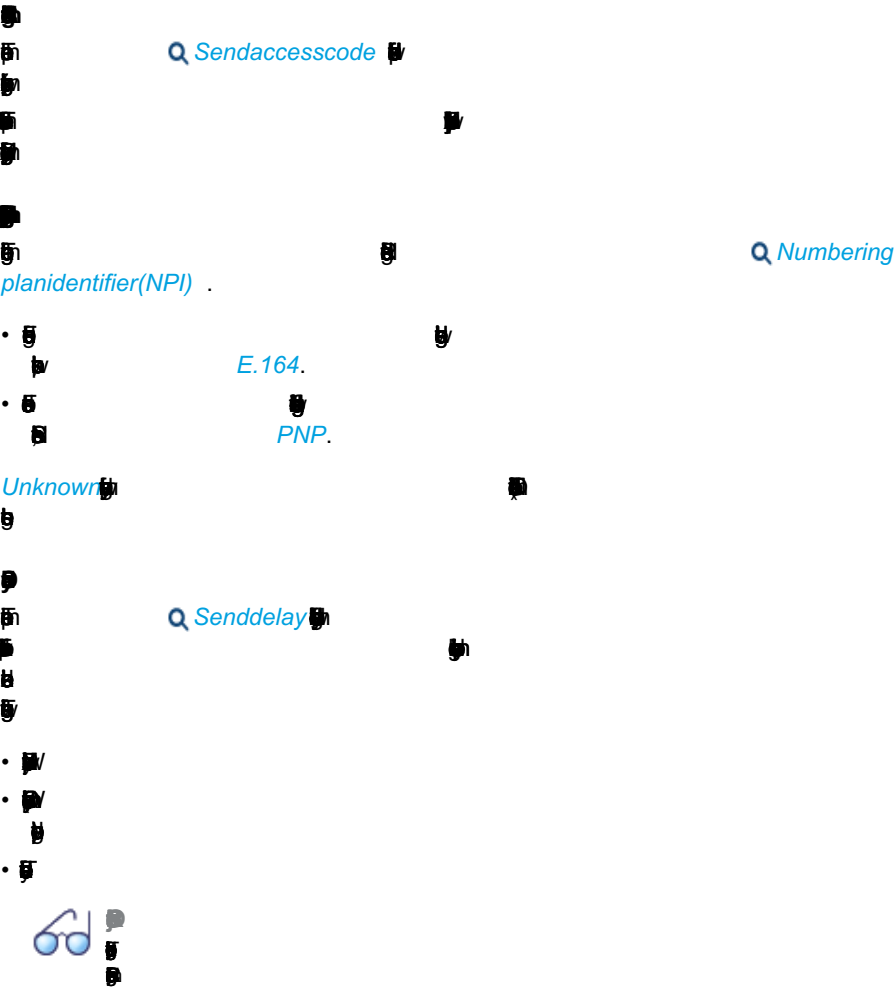


Fig. 53 Seizure sequence for network connections in the case of an outgoing call



5. 3. 3 Other Routing Functions for Outgoing Calls





5.4 Direct Dialling Plan (DDI plan)¹⁾

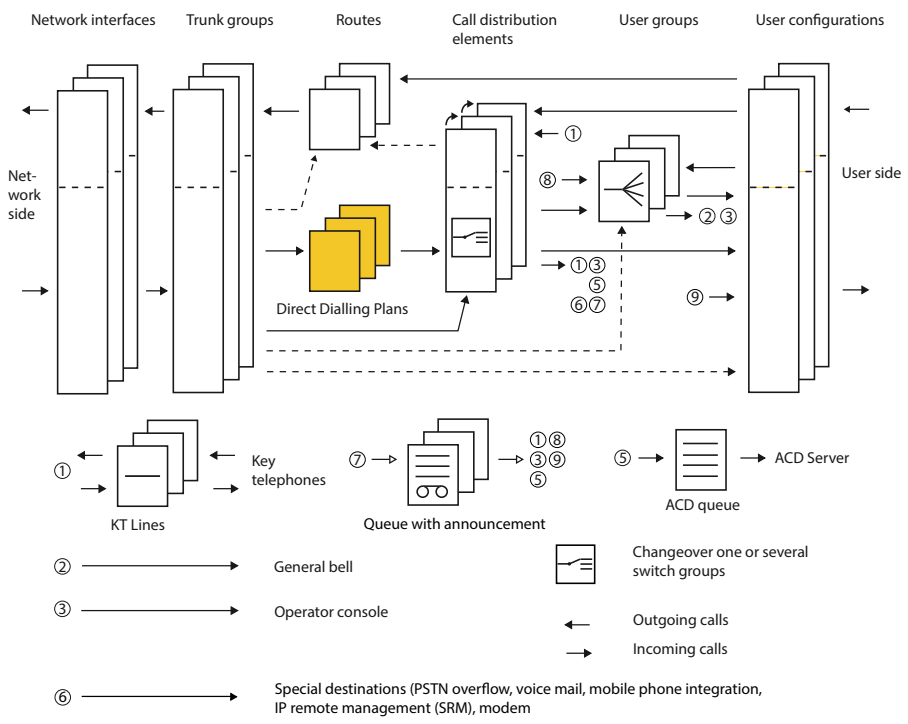
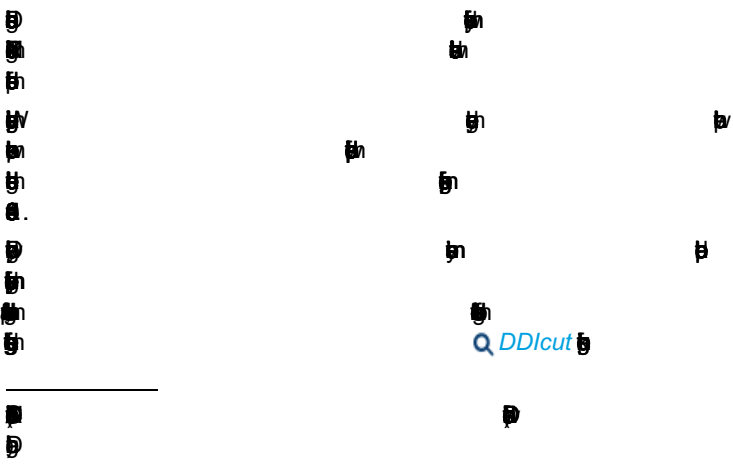


Fig. 54 Direct dialling plans in relation to the other routing elements



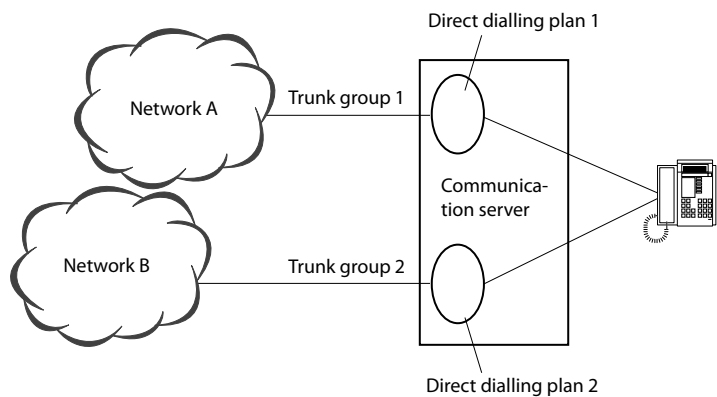
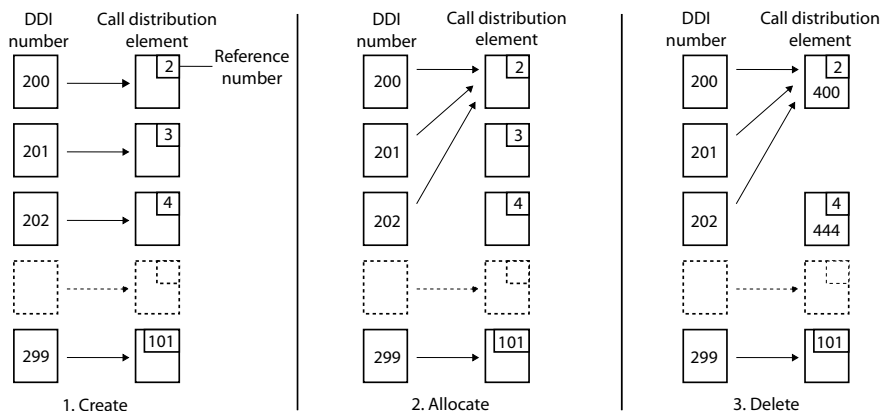
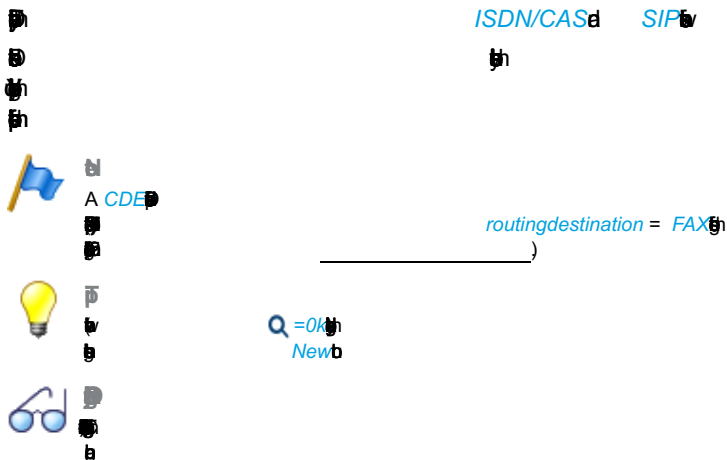


Fig. 55 Several Direct Dialling Plans per communication server / PINX



- 1.
- 2.
- 3.

Fig. 56 Linking direct dial numbers with call distribution elements



5.5 Call Distribution Element (CDE)

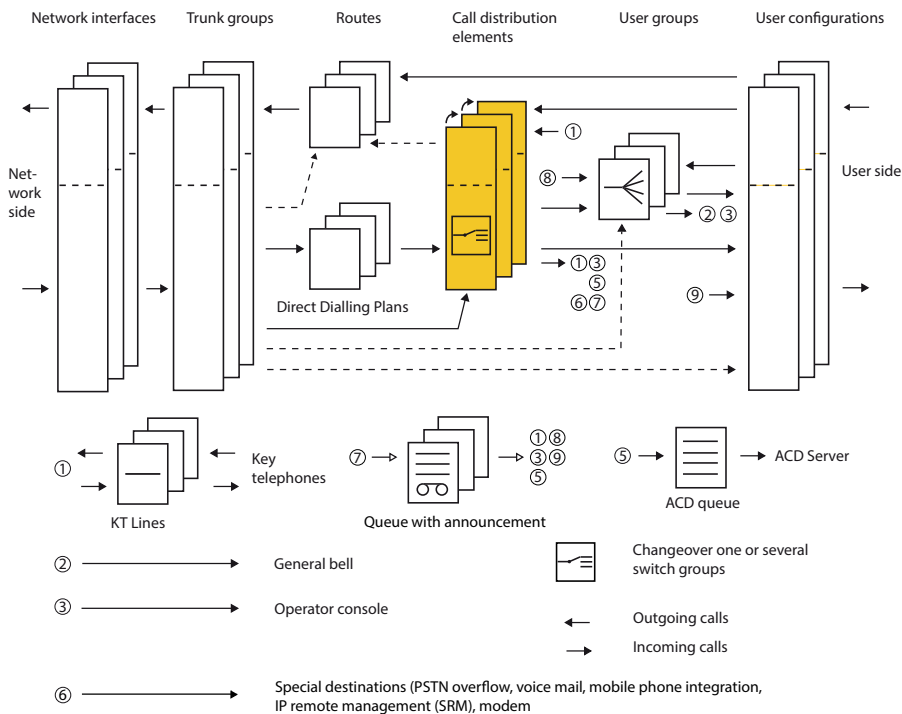


Fig. 57 Call distribution elements in relation to the other routing elements



-   
-   
-   
-   



5.5.1 Call destination



- *User* _____)
- *Usergroup* _____)
- *KTLine(linekey)* _____)
- *Operator* _____)
- *ACD(AutomaticCallDistribution)* _____)
- *PSTNOverflowrouting* _____)
- *Voicemail* _____)
- *Mobile/externalphoneintegration* _____)
- *Modem* _____)
- *IPremotemanagement(SRM)* _____)
- *Queue:* _____)

Routing elements



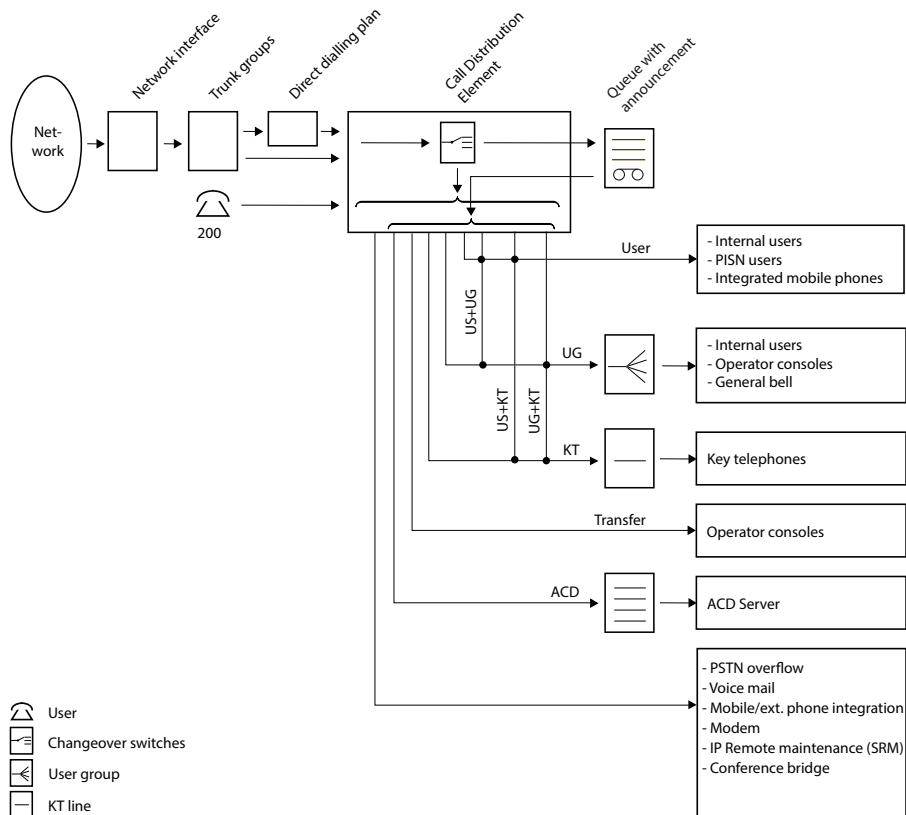
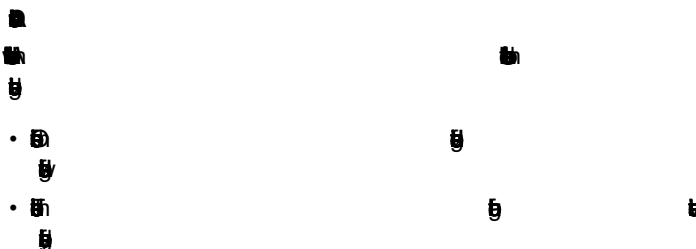


Fig. 58 Destinations of the call distribution element



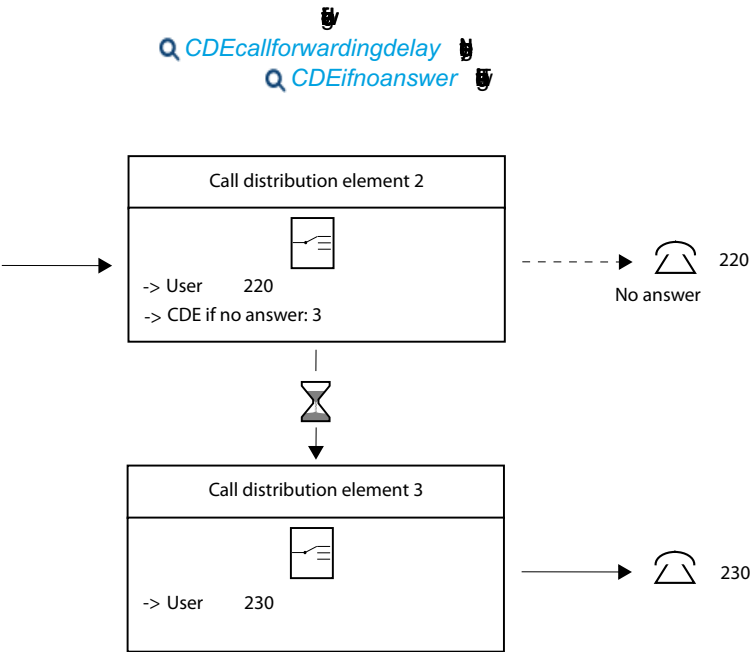
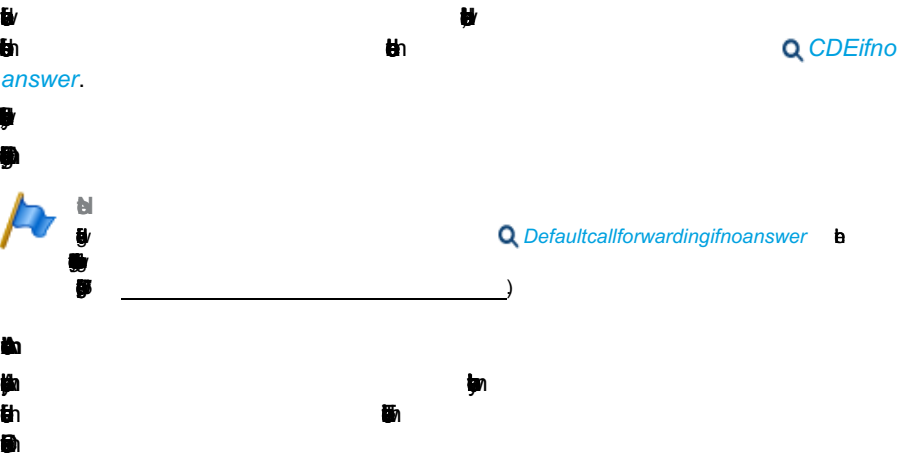


Fig. 59 Routing via CDE if no answer



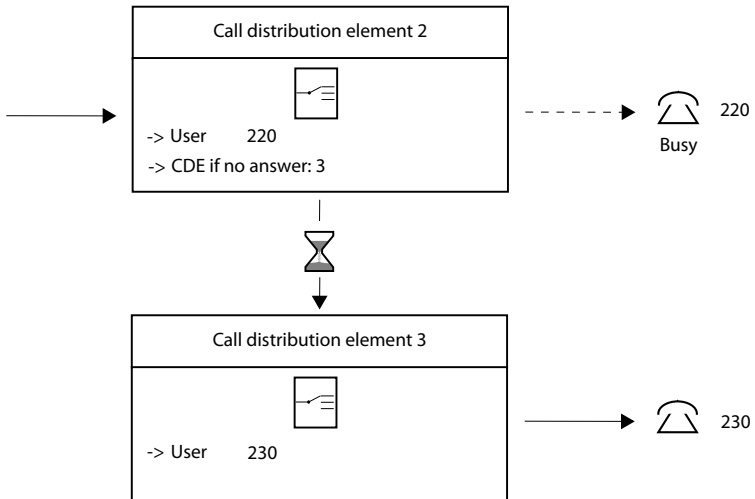



Fig. 60 Routing to an alternative destination if the original destination is busy



























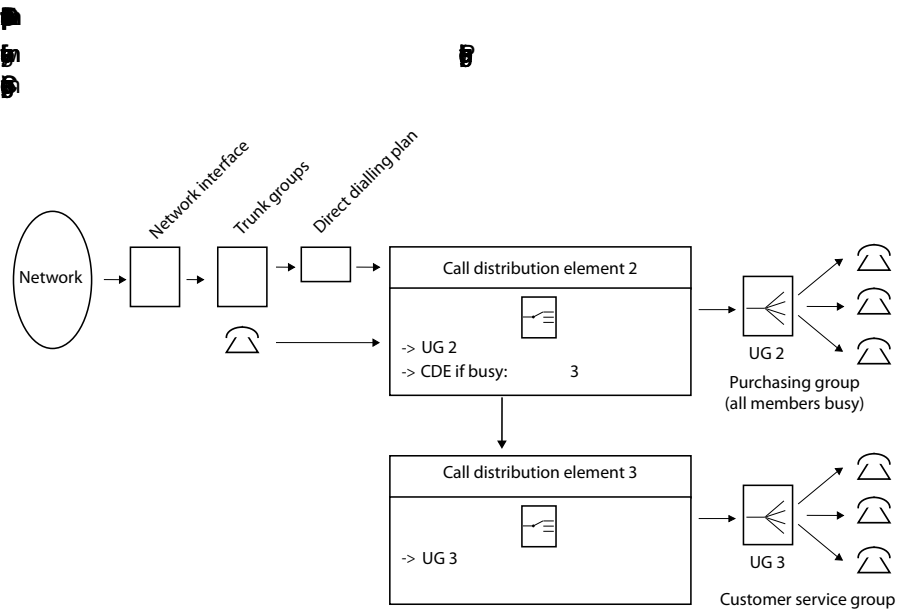



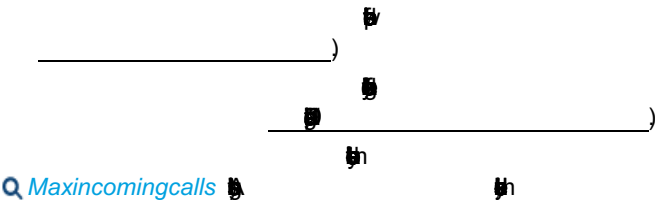
Fig. 61 Application example of the configuration of an alternative destination if busy



CDEifbusy .

5. 5. 2 Routing Functions for Incoming Calls

-
-
-
-



 CDEifbusy

[illegible]

5.5.3 Routing Functions for Outgoing Calls

Route _____

5. 5. 4 Other Functions and Settings of the CDE

 *CDName* 

- ~~10/11~~
- ~~10/11~~

新

D

tv

En

■

၆၈

ten

●

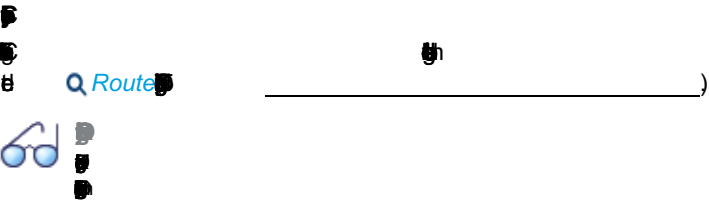


通

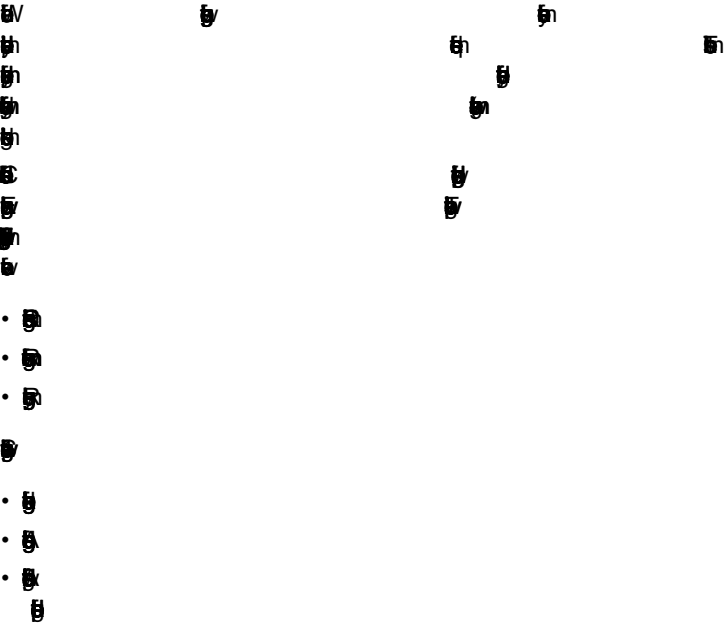
b

10

Stop Music



5. 6 Switch Groups



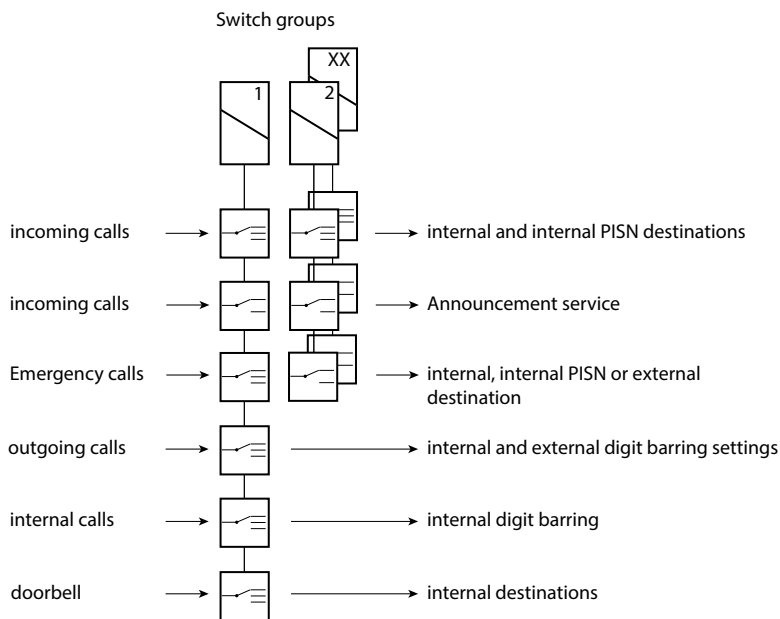
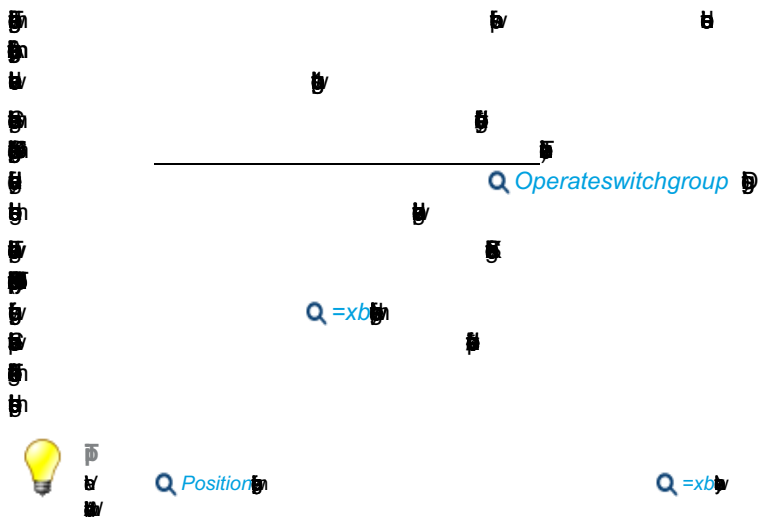
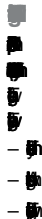


Fig. 62 Switch groups and how their changeover switches are used



Routing elements



- $\frac{1}{2}$ $\frac{1}{2}$
- $\frac{1}{2}$ $\frac{1}{2}$
- $\frac{1}{2}$ $\frac{1}{2}$
- $\frac{1}{2}$ $\frac{1}{2}$



- ~~En~~ ~~En~~
- ~~En~~ ~~En~~
- ~~En~~ ~~En~~



- **UK**
• **UK**



5.7 User group

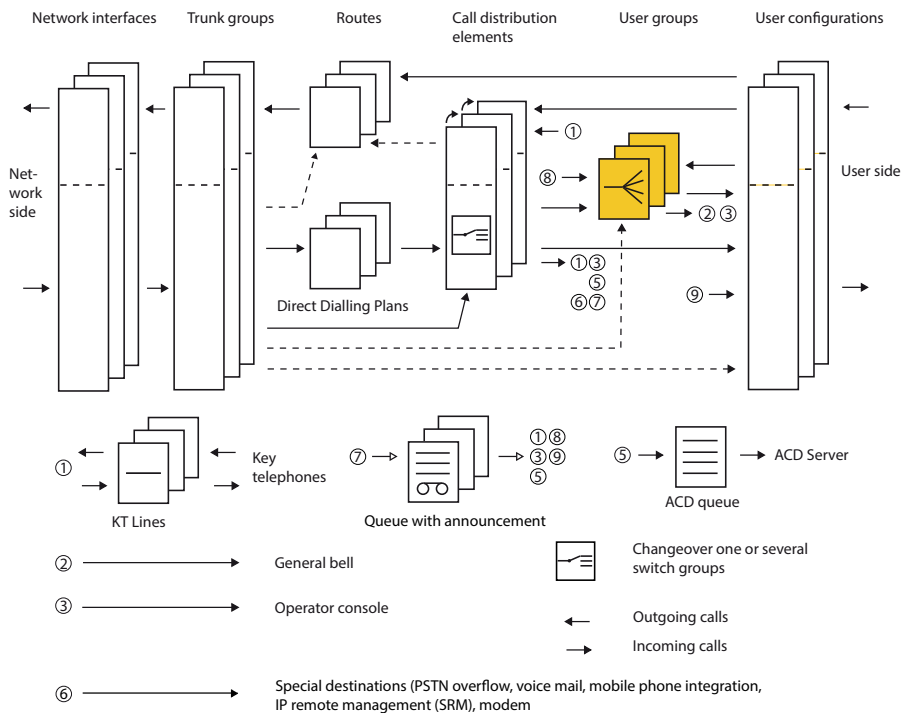
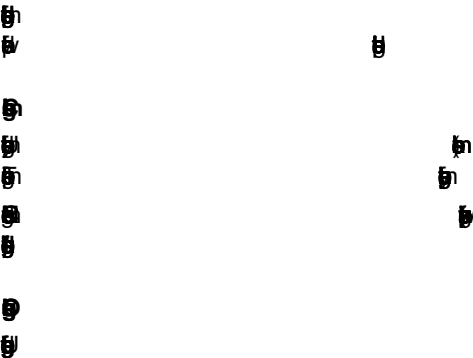


Fig. 63 User groups in relation to the other routing elements





- _____
- _____
- _____

5. 7. 1 Ordinary user groups

5. 7. 1. 1 Elements of a User Group



- _____

 _____)
- _____
 _____)
- _____)



=df)



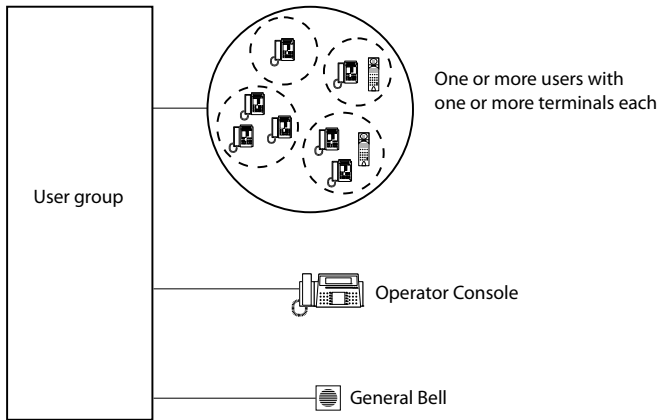



Fig. 64 Elements in a user group



5. 7. 1. 2 Call distribution in the member group

 [Calldistribution](#) 

- [Global](#)
- [Linear](#)
- [Cyclic](#)



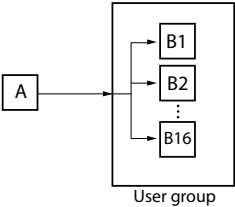



Fig. 65 Global Call Distribution



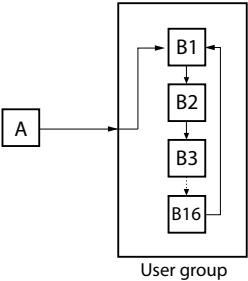


Fig. 66 Linear Call Distribution

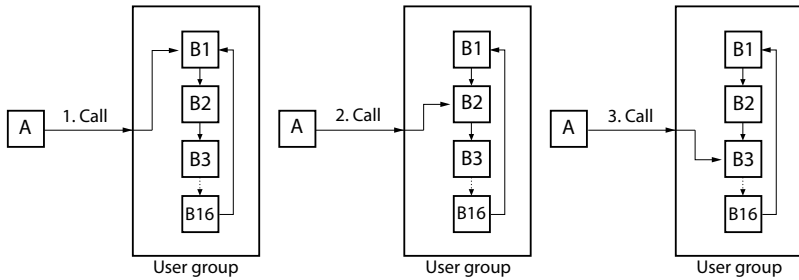


Fig. 67 Cyclic call distribution

Calldistribution :

- Calldistribution Global
- Calldistribution Linear
- Calldistribution Cyclic

Calldistribution Global

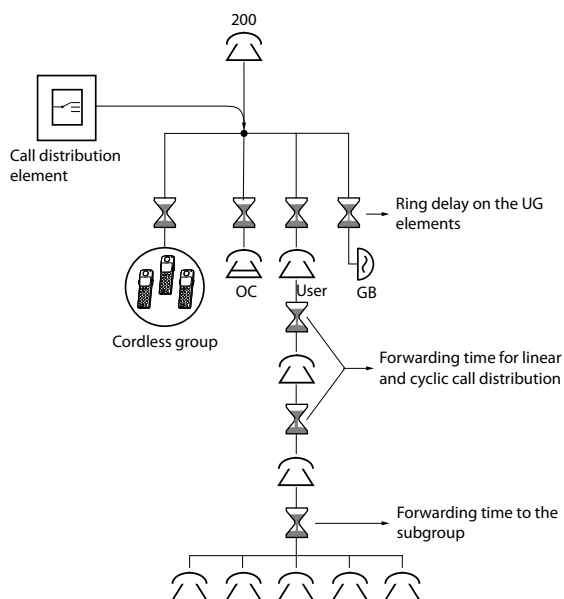
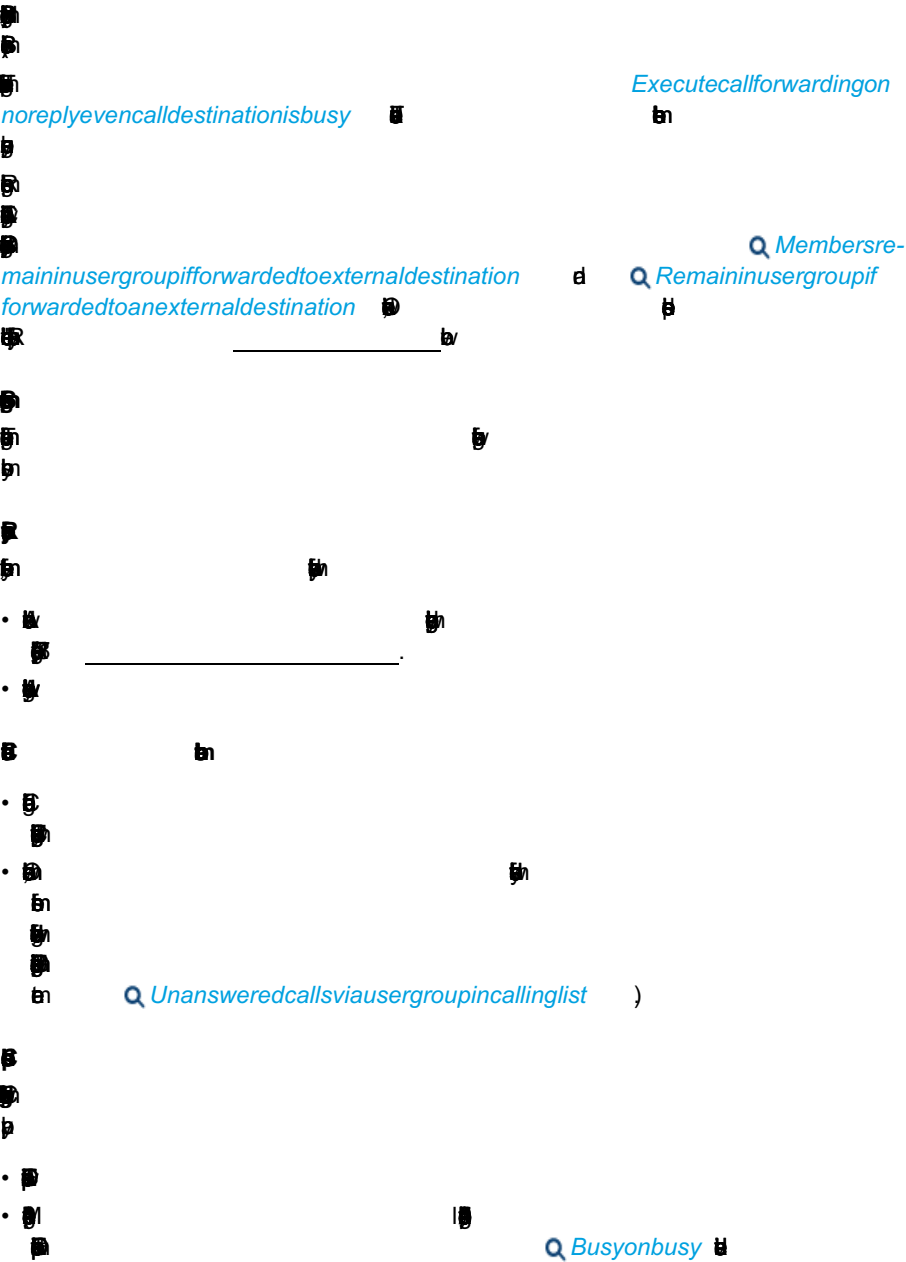
















Fig. 68 Call distribution in a user group

Routing elements





















-                                               

Routing elements

-   
-  
- *Global* 
-   
- 
-  
-  

5. 7. 3. 1 User Groups 14, 15 and 16

-   
-  
-  
- 
-  
-  
-  
-    

5. 7. 3. 2 User group 14, 15 and 16¹⁾

- 
- 
-  _____)

5. 7. 3. 3 User groups 30 - 99



5. 7. 3. 4 Application example for a user group



5. 8 User Configuration

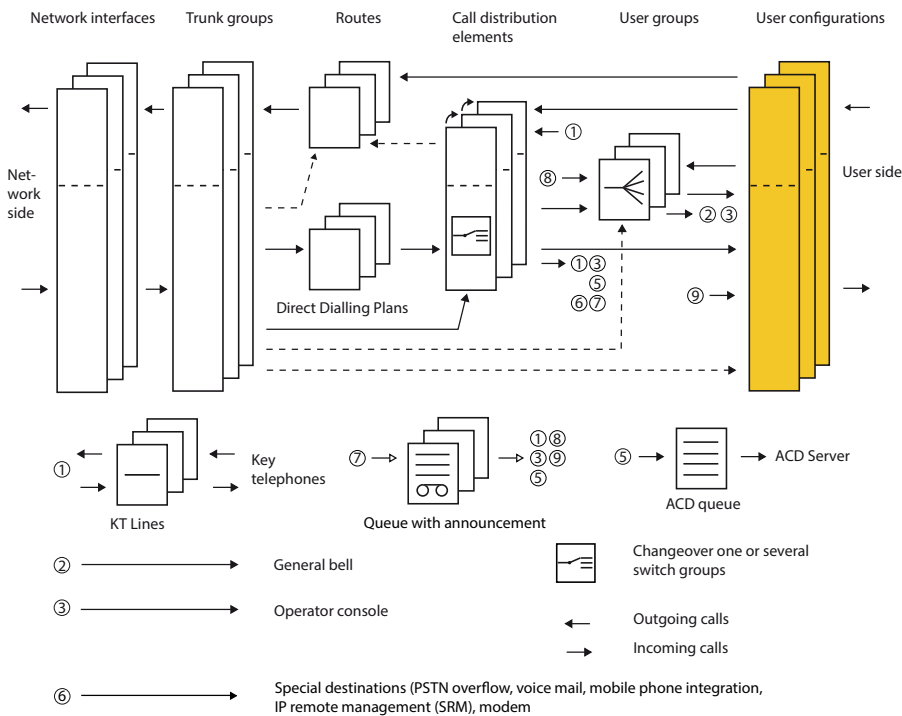
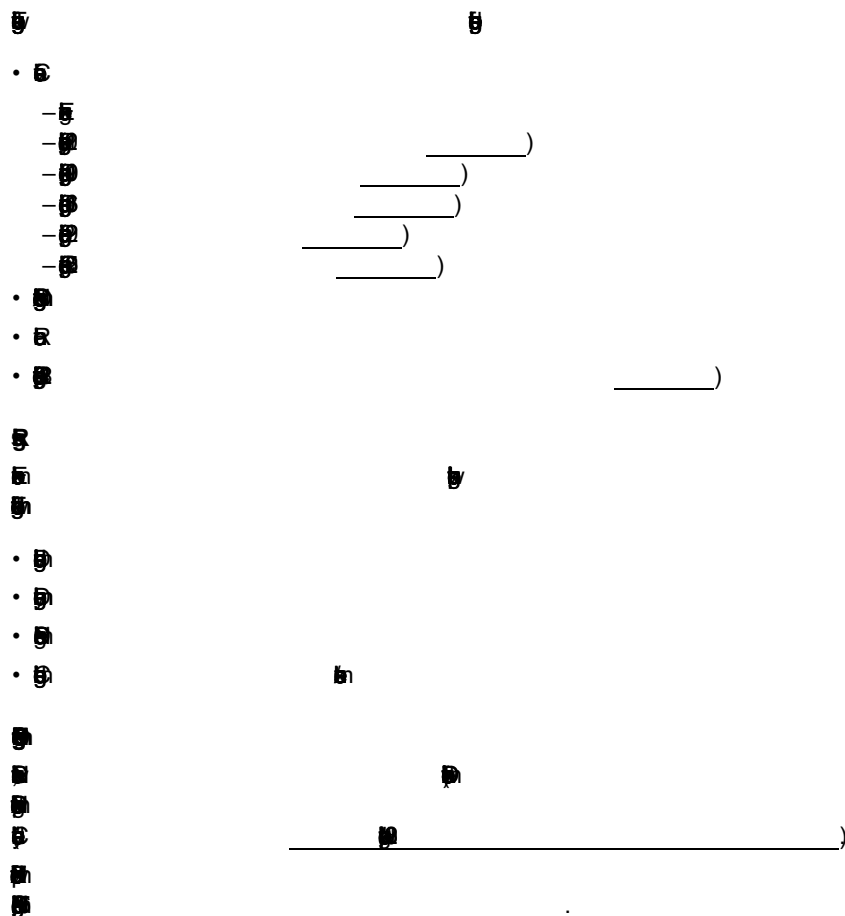


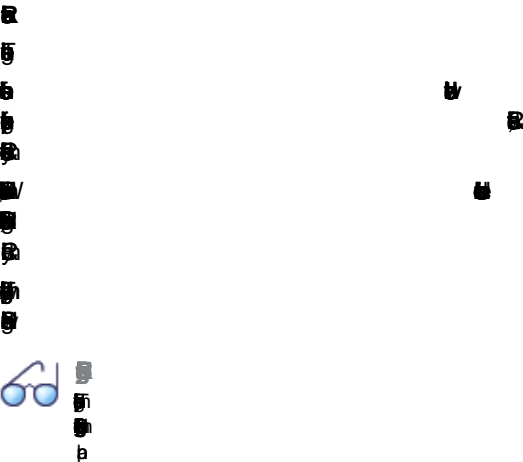
Fig. 69 User configuration in relation to the other routing elements

5. 8. 1 Routing Functions for Incoming Calls

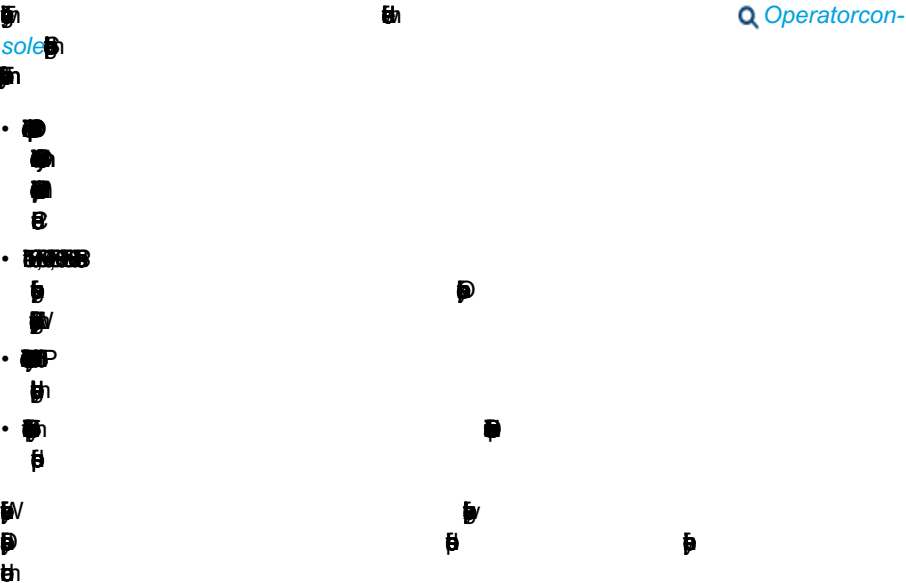


5. 8. 2 Routing Functions for Outgoing Calls

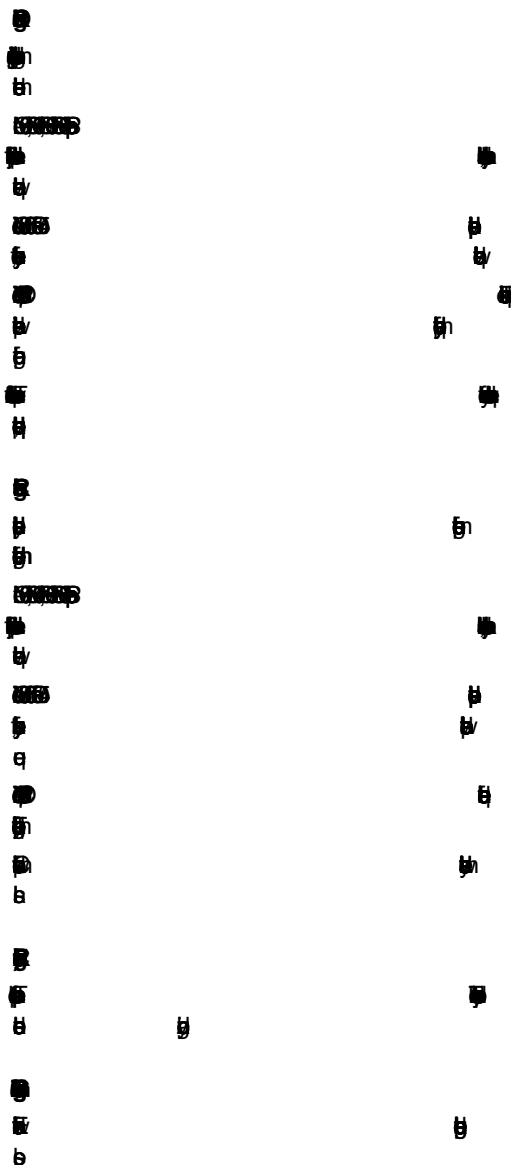




5. 9 Operator phone

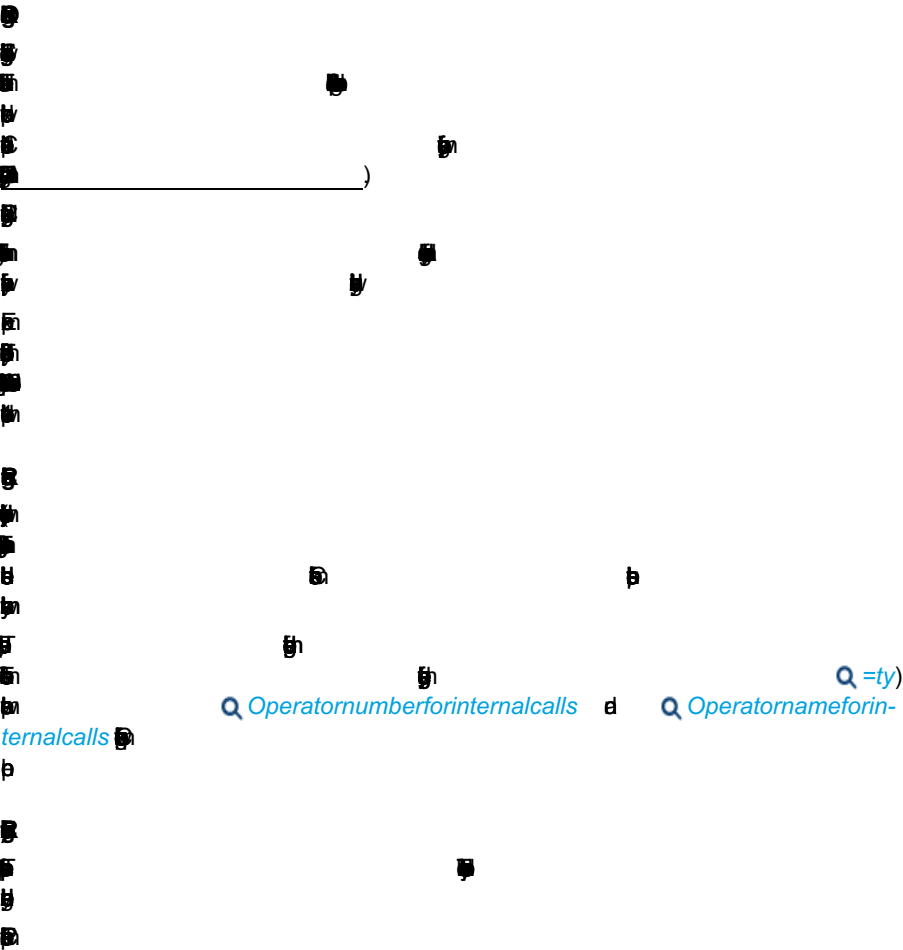


5. 9. 1 Routing Functions for Incoming Calls





5. 9. 2 Routing Functions for Outgoing Calls



5. 9. 3 Two-company system

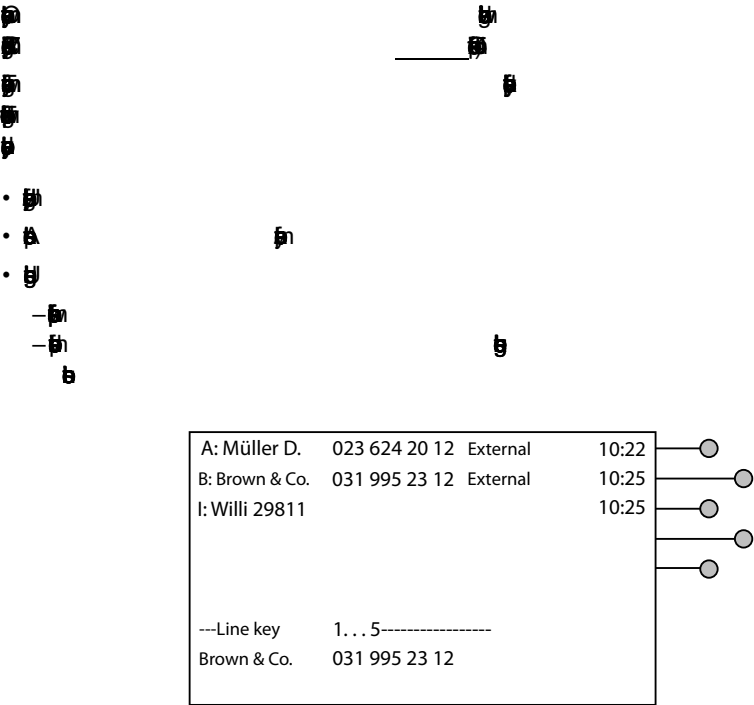
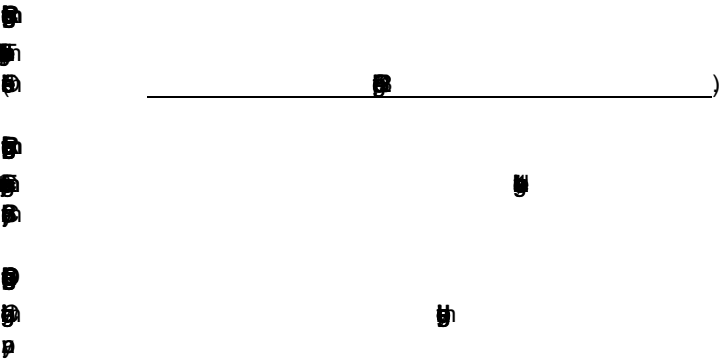
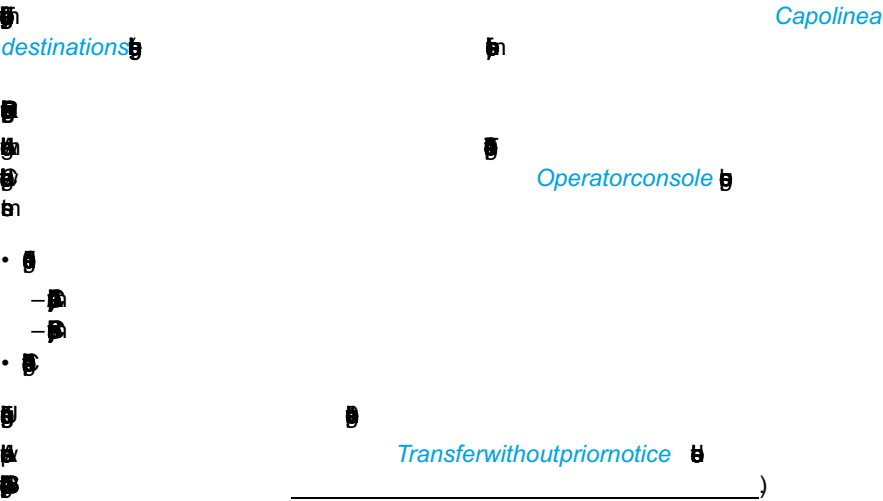


Fig. 70 Display on the operator phone Office 45 in two-company mode



5. 9. 4 Capolinea¹⁾




Tab. 20 Destination configuration in the call distribution element:

| № | № | № | № |
|---|---|---|---------------|
| 1 | 1 | A | U ser+ U G1 6 |
| 1 | 2 | A | U ser+ U G1 5 |
| 2 | 1 | B | U ser+ U G1 4 |
| 2 | 2 | B | U ser+ U G1 5 |
| 3 | 1 | A | U ser+ U G1 4 |

$User = User + UG16$

Tab. 21 Configuration for user groups

| 4 | | - |
|---|--|---|
| 5 | | |
| 6 | | |





5. 10 General bell






5. 11 Key Telephones





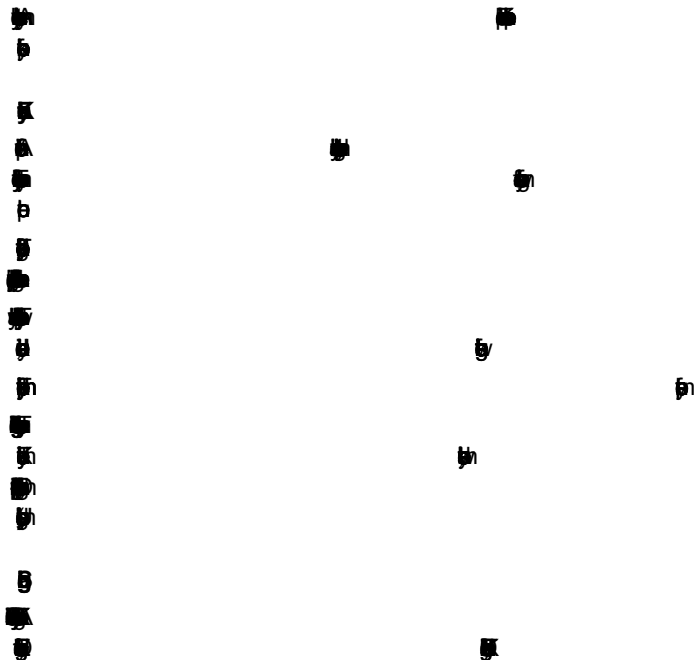
5. 11. 1 Using Terminals as Key Telephones











- 
- 
- 

Routing elements

- 
- 



Tab. 22 LED signalling on the line keys of a key telephone

| | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |
|  |  |
|  |  |
|  |  |



5. 11. 2 KT lines and Line Keys

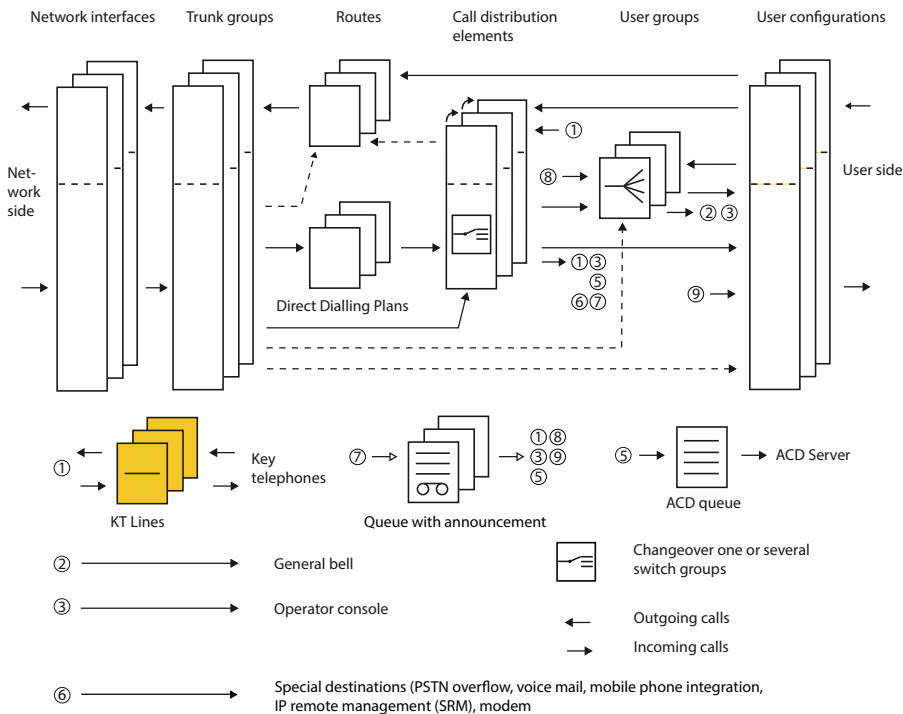
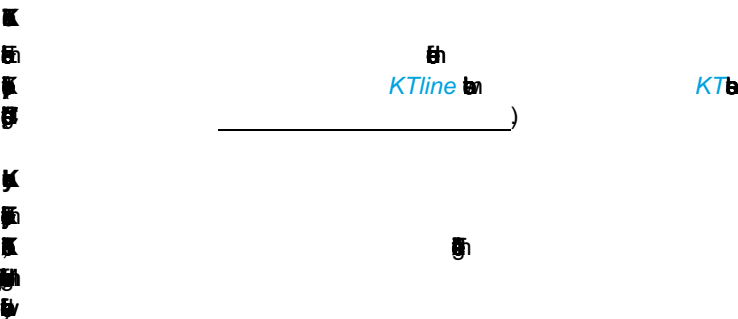


Fig. 71 Key telephones in relation to the other routing elements



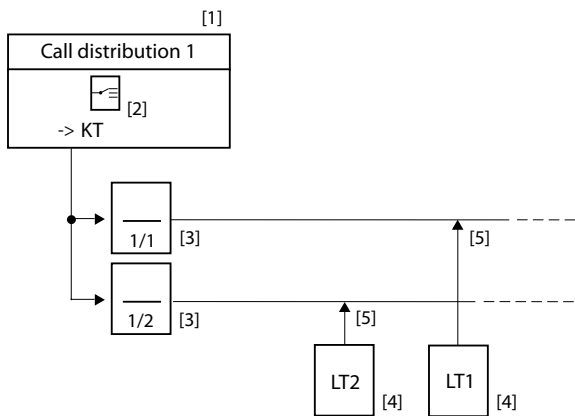


Fig. 72 Allocating line keys

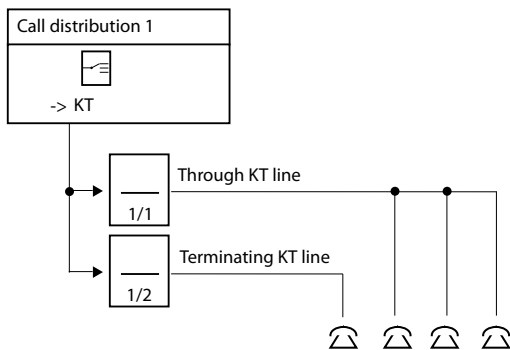


Fig. 73 Through and terminating KT lines



Allow call forwarding on terminating KT lines

5. 11. 3 Incoming Calls via a KT Line



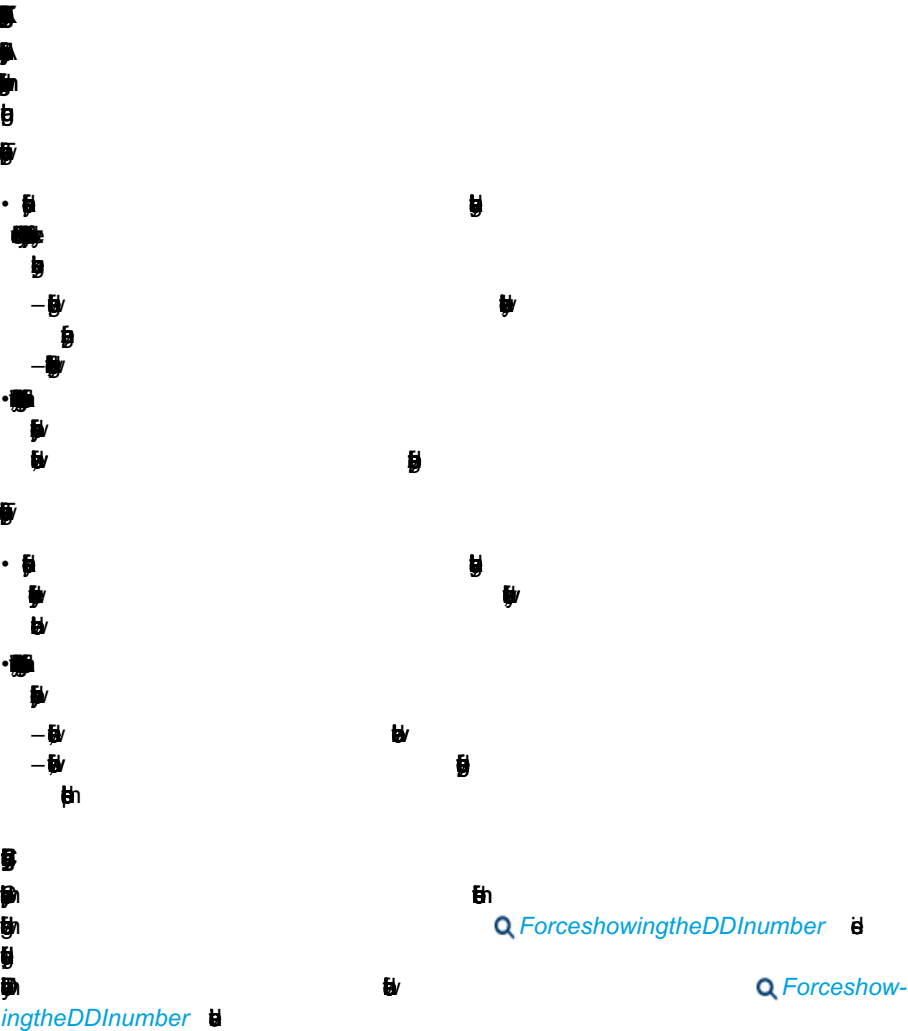
KT line

Q CDE if busy

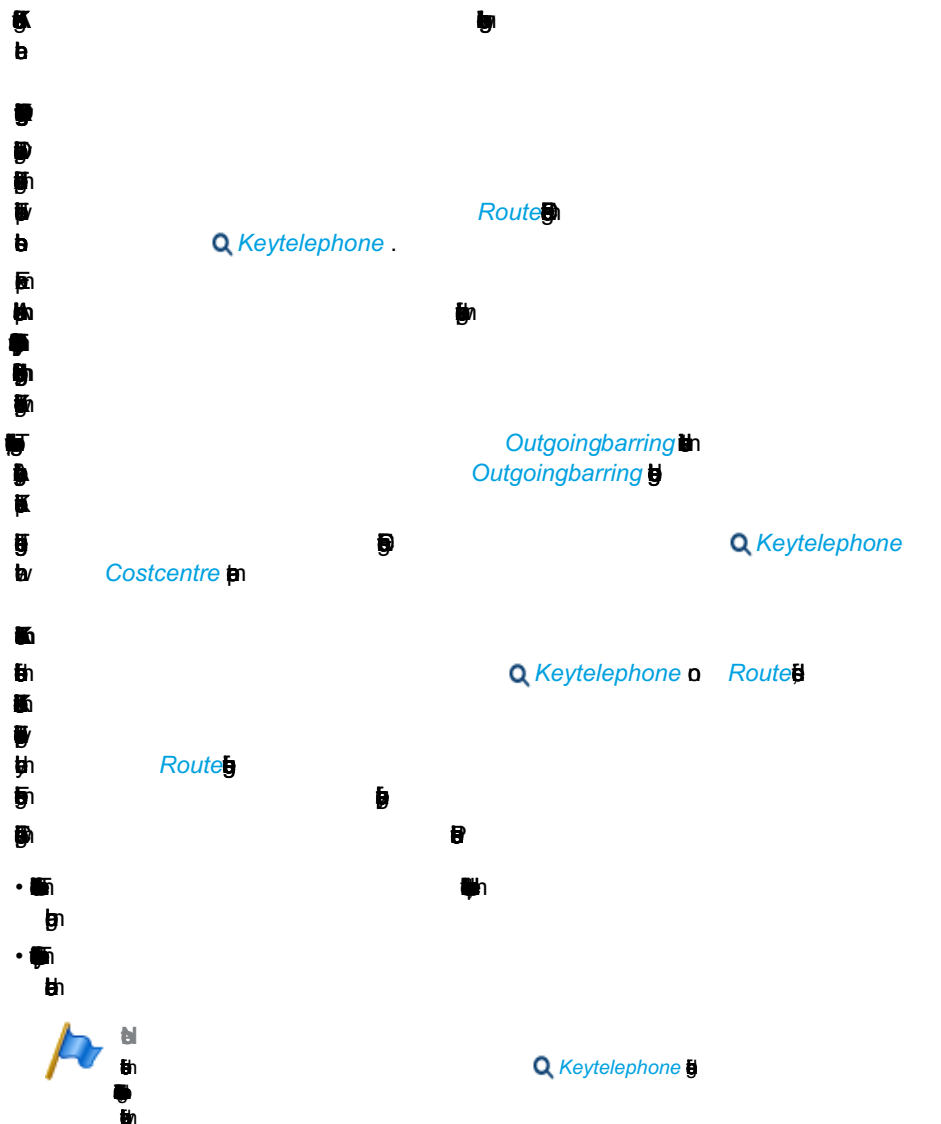
Q CDE if no answer

Q Brokering internal/line key

Routing elements



5. 11. 4 Outgoing Calls via a KT Line



5. 11. 4. 1 Application Examples for Key Telephones

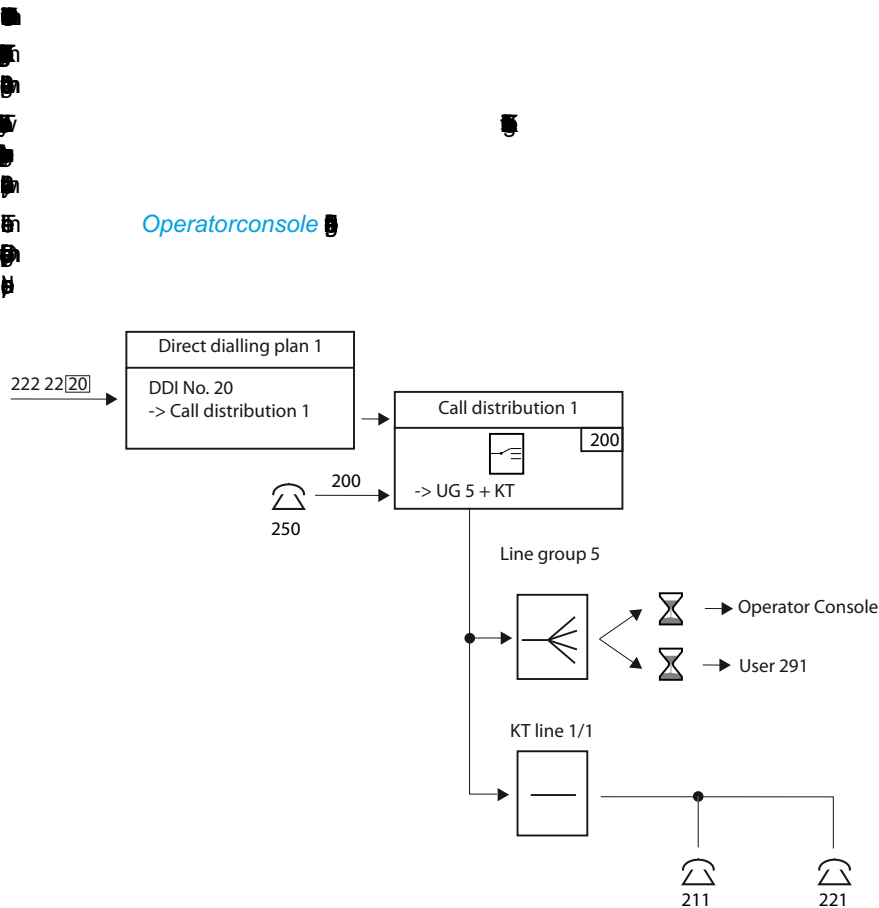


Fig. 74 Application for key telephones and user group

5. 11. 4. 2 Destination KT

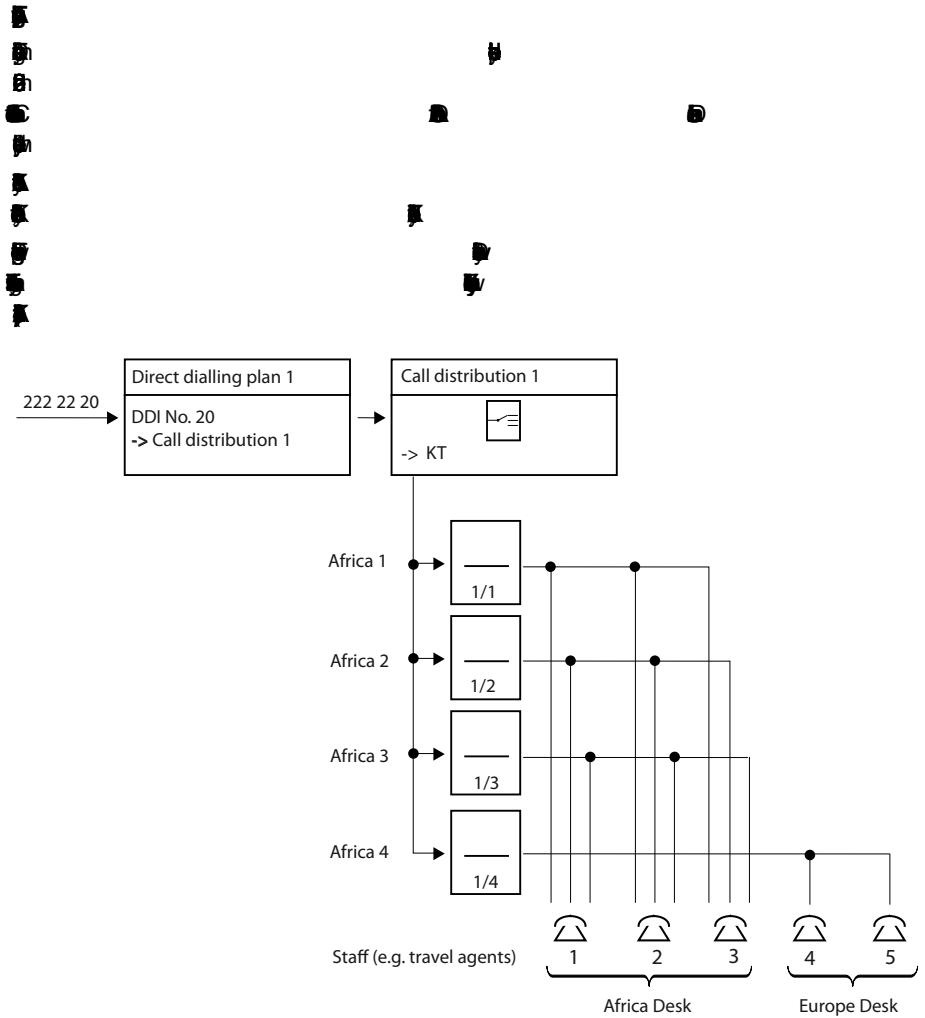


Fig. 75 Substitution Circuit

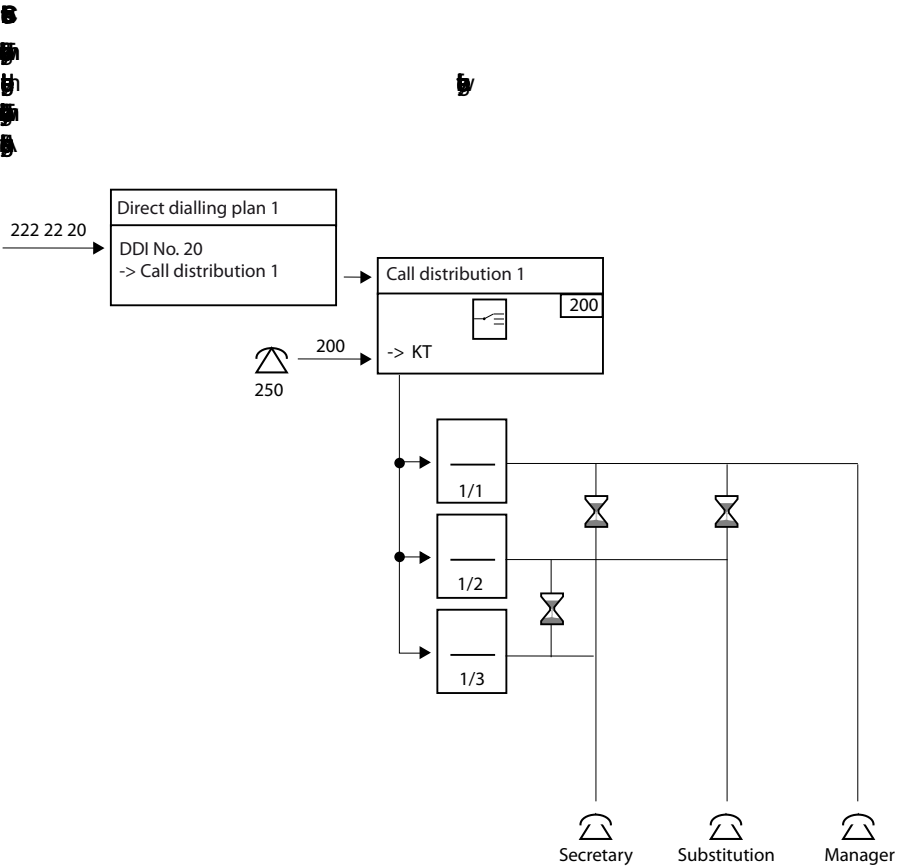


Fig. 76 Substitution circuit with key telephones

5.12 Queue with announcement (Number in Queue)

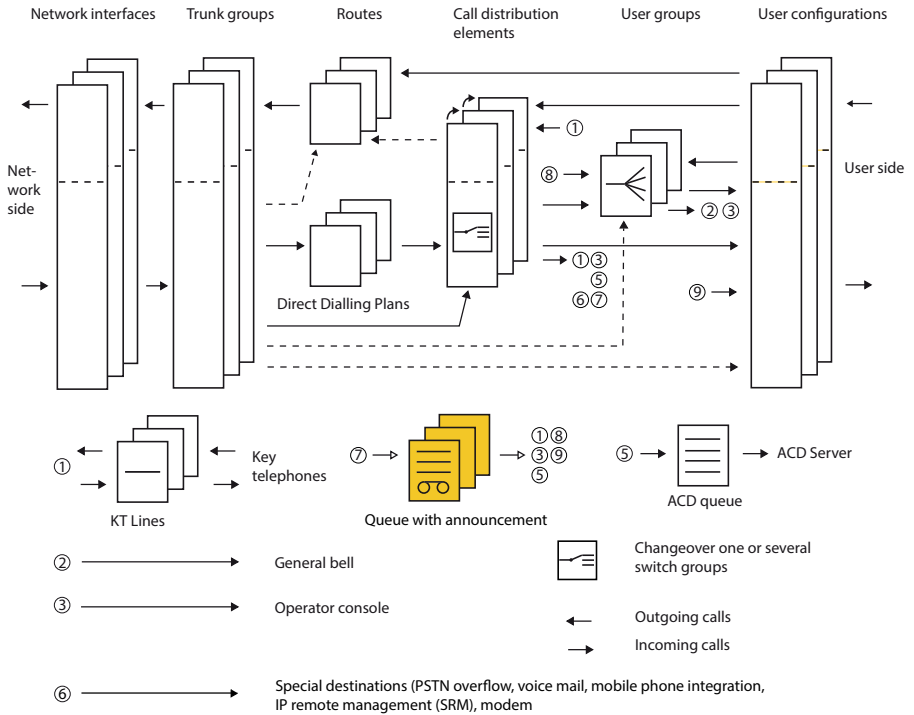


Fig. 77 The queue with announcement in the context of the other routing elements





5.13 ACD Server

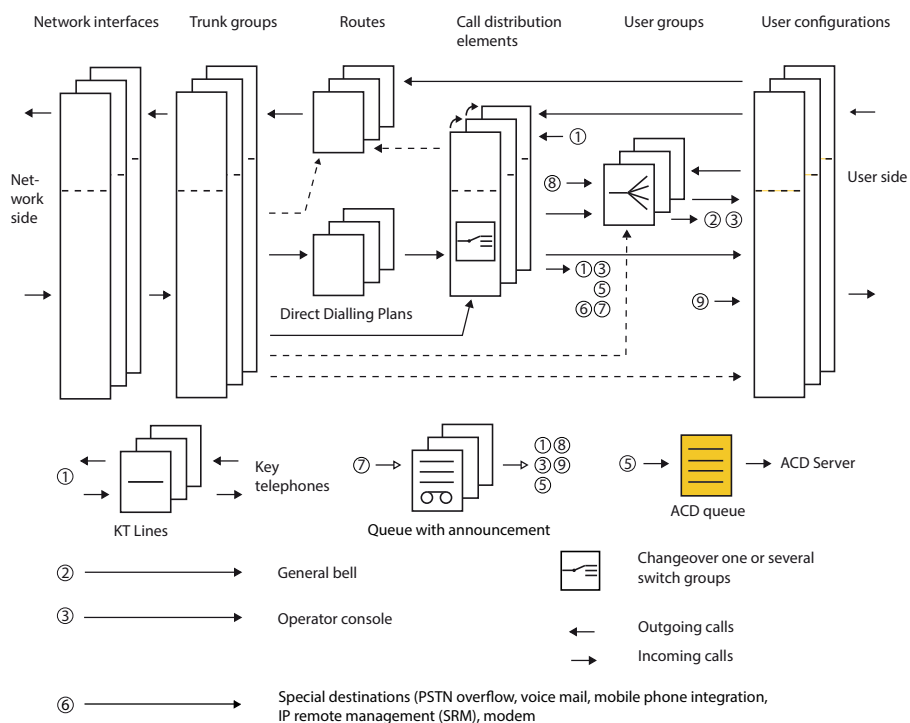


Fig. 78 The ACD server in relation to the other routing elements

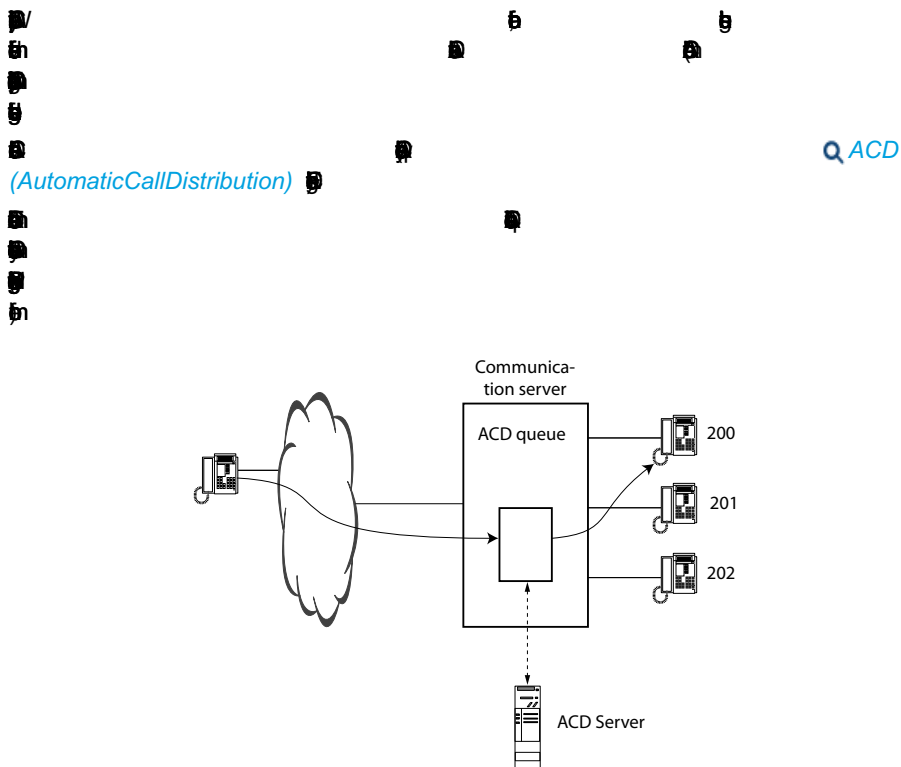
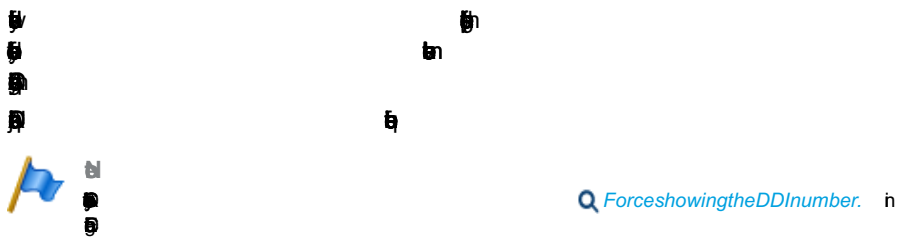


Fig. 79 Communication server call routing controlled by the ACD server



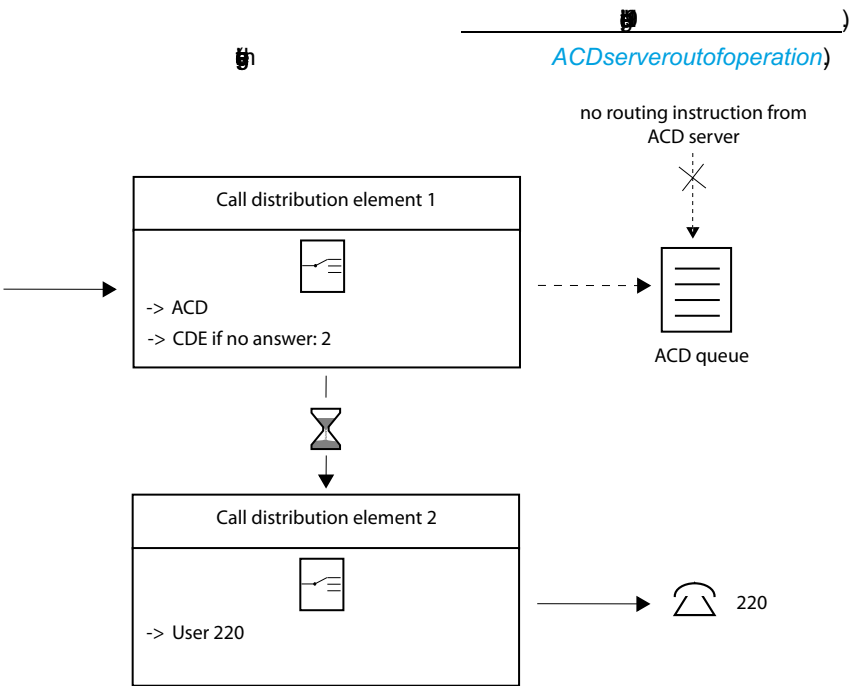


Fig. 80 Emergency routing in the event of an ACD server failure

6 Call routing

This Chapter describes the interplay between the routing elements for the various types of traffic: call routing for internal, incoming and outgoing traffic. Other topics include Least Cost Routing, exchange-to-exchange traffic, transit routing in the private leased-line network, overflow routing and break-out.

6.1 Overview

Figure 6.1

- Internal destinations
- Incoming traffic
- Outgoing traffic
- Exchange-to-exchange traffic
- Transit routing
- Overflow routing
- Break-out

6.2 Internal traffic

6.2.1 Internal Destinations

Figure 6.2

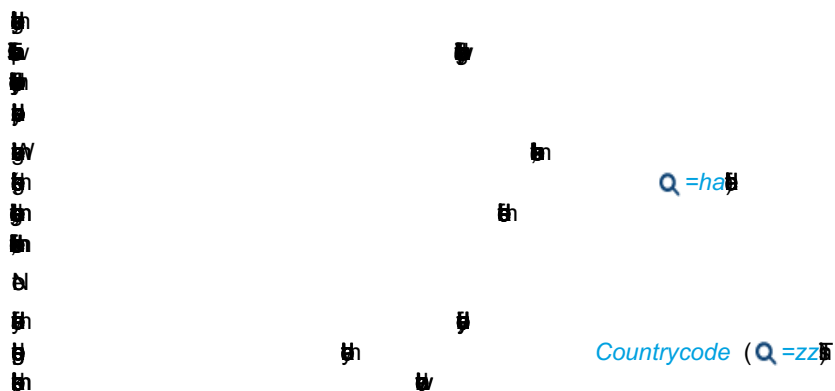


Tab. 23 Internal destinations and their availability

| Internal destinations | Availability |
|-------------------------|--------------|
| • Internal destinations | |
| • Internal destinations | |
| • Internal destinations | |
| • Internal destinations | |
| • Internal destinations | |

| | |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| கி | கி |
| <ul style="list-style-type: none"> • நி • பி • சி • தி | |
| கி சி <ul style="list-style-type: none"> • நி • தி • பி • தி | <ul style="list-style-type: none"> • நி • தி • பி |
| பி <ul style="list-style-type: none"> • நி • தி | |
| தி <ul style="list-style-type: none"> • நி | <ul style="list-style-type: none"> • நி |
| நி <ul style="list-style-type: none"> • பி • தி | நி தி <ul style="list-style-type: none"> • பி • தி |
| பி <ul style="list-style-type: none"> • தி | தி |

6.2.2 Dialling internal destinations via external call numbers



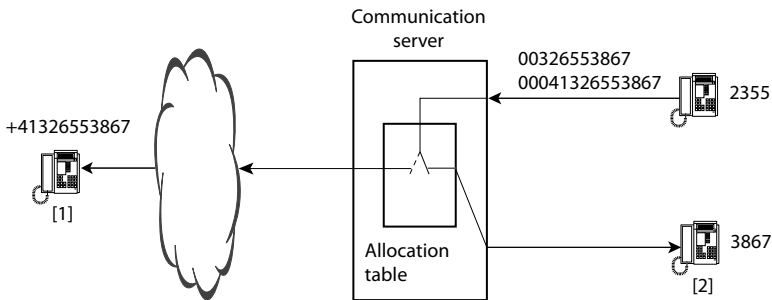


Fig. 81 Routing to an internal destination via the allocation table

- *Regions* – *Countrycode* 4
- *Numberingplan* – *Exchangeaccess,business* 0
- *Externalcallnumber* 8
- *Internalcallnumber* 8

Exchangeaccessbusiness *Exchangeaccessprivate* , *Cost*
centreselection 0 *Routeselection* 8

Call routing

- 011
- 011
- 011
- 011
- 011

011

011

- 011
- 011
- 011

- 011
- 011
- 011
- 011
- 011

011

011

011

Exchangeaccessbusiness)

011

011

011

011

Coun-

trycodes(011=vi

Countrycode 4 Nationalprefix 0

Tab. 24 Examples with placeholders

| Externalcallnumber | Internalcallnumber | R |
|--------------------|--------------------|---------------|
| 0 | 0 | 0h h |
| 0 | 1 | 0h h |
| 0 | 2 | 0h 0h h |

0

- R 0
- Internalcallnumber 0h
- 0h
- Externalcallnumber 0 Internalcallnumber 0h
- 0h
- 0h
- 0h

6. 2. 3 Internal digit Barring

0 0h
0 _____)

6. 2. 4 Internal ringing duration

0h
nalringingduration 0 0h
0h
Defaultcallforwardingifnoanswer)
Q Inter-
CallDeflection 0



6.3 Incoming traffic

6.3.1 Routing

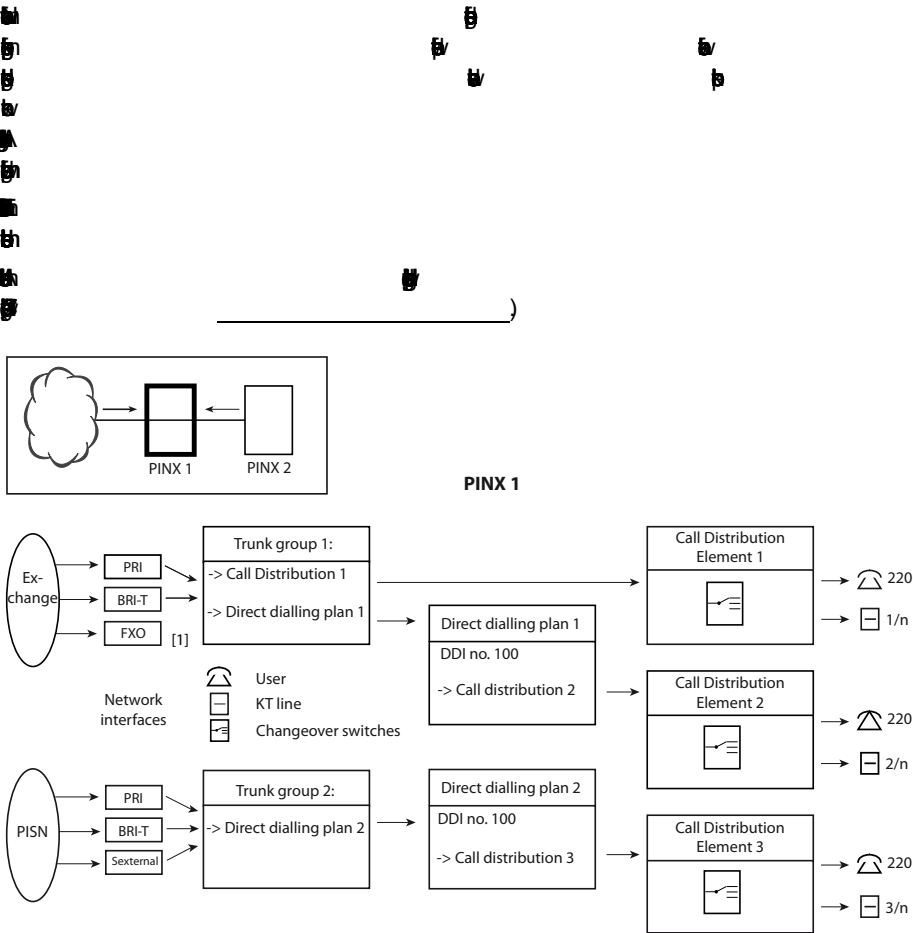


Fig. 82 Routing and destinations of an incoming call

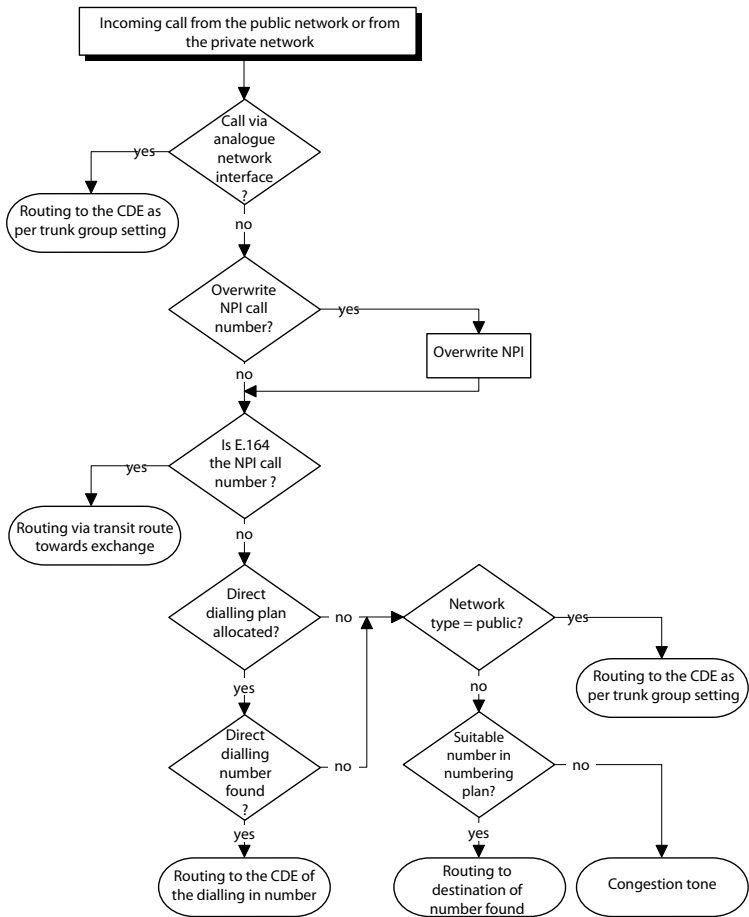


Fig. 83 Routing an incoming call

6. 3. 1. 1 Call from the Public Network

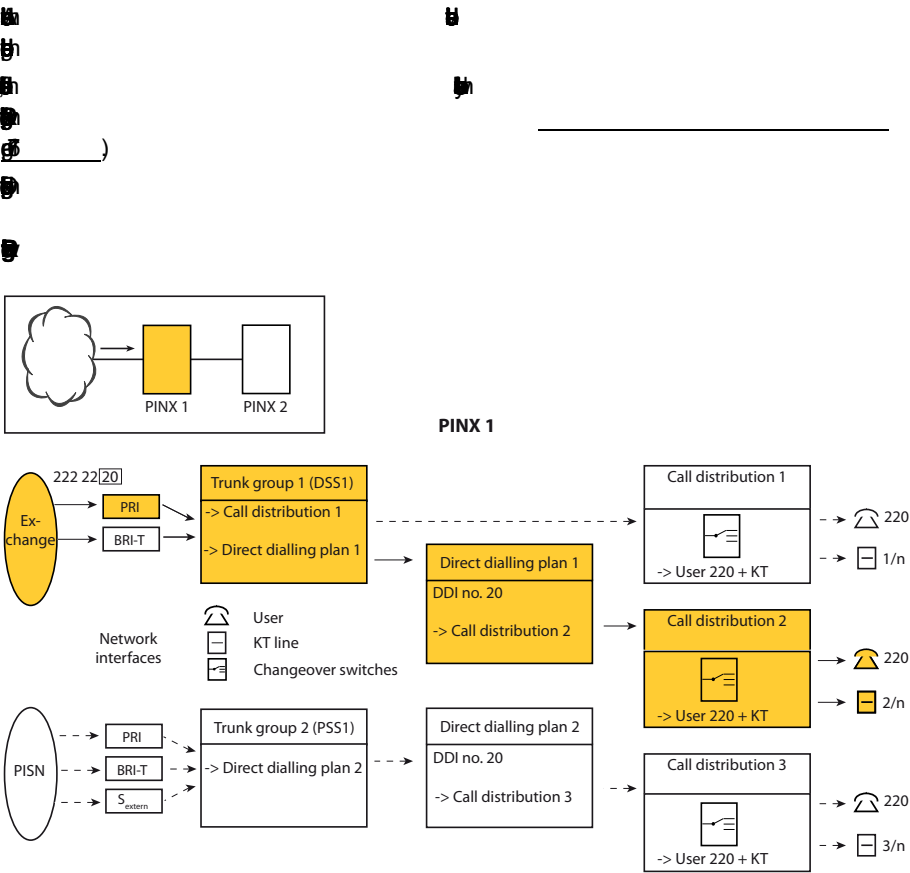


Fig. 84 Routing a call from the public network with direct dialling

Tab. 25 Setting the routing parameters

| <ul style="list-style-type: none">• Network interfaces• Max.incoming calls• Maximum simultaneous connections• Network type• Protocol• Overwrite NPI• DDI plan | <ul style="list-style-type: none">• Public• DSS1• No• DDI plan |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | |
|--------------------------------------------------------------------------------------------------------------|------------------------|
| | |
| <ul style="list-style-type: none">• <i>CallDistributionElement</i> | |
| | |
| <ul style="list-style-type: none">• <i>Directdiallingnumber</i> 0 | |
| | |
| <ul style="list-style-type: none">• <i>Calldestinations</i>• <i>Max.incomingcalls</i> | <i>Switchposition1</i> |

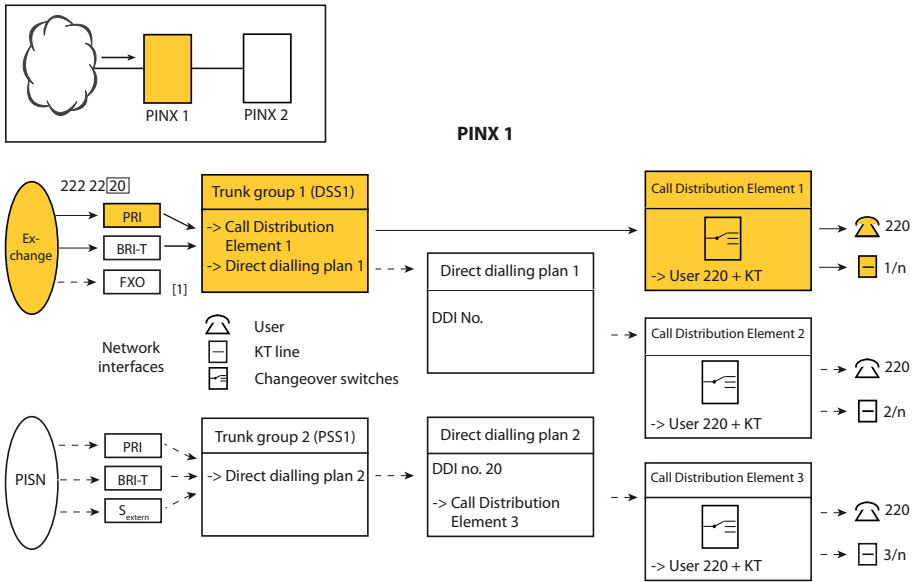


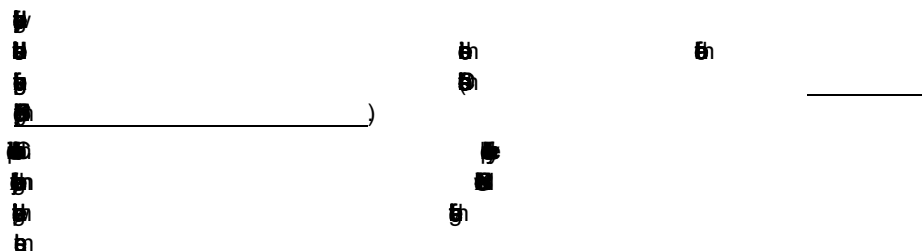
Fig. 85 Routing a call from the public network without direct dialling

Tab. 26 Setting the routing parameters

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| | |
| <ul style="list-style-type: none">• <i>Networkinterfaces</i>• <i>Max.incomingcalls</i>• <i>Maximumsimultaneousconnections</i>• <i>Networktype</i>• <i>Protocol</i> | <i>Public</i> <i>DSS1</i> |

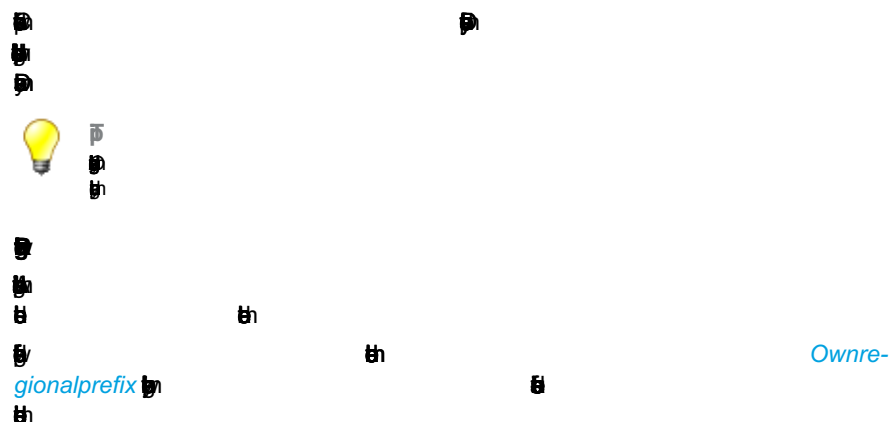
| | |
|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <ul style="list-style-type: none"> • <i>OverwriteNPI</i> • <i>DDIplan</i> • <i>CallDistributionElement</i> | <p>No</p> |
| <ul style="list-style-type: none"> • <i>Calldestinations</i> • <i>Max.incomingcalls</i> | <p>Switchposition1</p> |

6.3.1.2 Call from the Private Leased-Line Network



Tab. 27 Flexible routing with and without direct dialling plan; difference in numbering

| | 1 | 2 | 3 | 4 |
|-----|---|---|-----|---|
| 1 | | | 1 | |
| 2 | | | 2 | |
| 3 | | | 3 | |
| 4 | | | 4 | |
| 5 | | | 5 | |
| 6 | | | 6 | |
| 7 | | | 7 | |
| 8 | | | 8 | |
| 9 | | | 9 | |
| 10 | | | 10 | |
| 11 | | | 11 | |
| 12 | | | 12 | |
| 13 | | | 13 | |
| 14 | | | 14 | |
| 15 | | | 15 | |
| 16 | | | 16 | |
| 17 | | | 17 | |
| 18 | | | 18 | |
| 19 | | | 19 | |
| 20 | | | 20 | |
| 21 | | | 21 | |
| 22 | | | 22 | |
| 23 | | | 23 | |
| 24 | | | 24 | |
| 25 | | | 25 | |
| 26 | | | 26 | |
| 27 | | | 27 | |
| 28 | | | 28 | |
| 29 | | | 29 | |
| 30 | | | 30 | |
| 31 | | | 31 | |
| 32 | | | 32 | |
| 33 | | | 33 | |
| 34 | | | 34 | |
| 35 | | | 35 | |
| 36 | | | 36 | |
| 37 | | | 37 | |
| 38 | | | 38 | |
| 39 | | | 39 | |
| 40 | | | 40 | |
| 41 | | | 41 | |
| 42 | | | 42 | |
| 43 | | | 43 | |
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| 84 | | | 84 | |
| 85 | | | 85 | |
| 86 | | | 86 | |
| 87 | | | 87 | |
| 88 | | | 88 | |
| 89 | | | 89 | |
| 90 | | | 90 | |
| 91 | | | 91 | |
| 92 | | | 92 | |
| 93 | | | 93 | |
| 94 | | | 94 | |
| 95 | | | 95 | |
| 96 | | | 96 | |
| 97 | | | 97 | |
| 98 | | | 98 | |
| 99 | | | 99 | |
| 100 | | | 100 | |



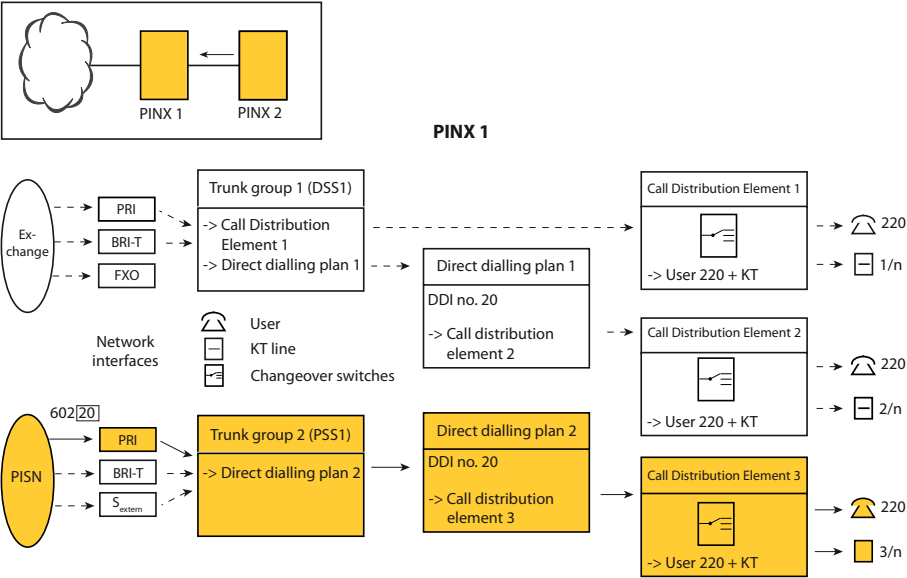


Fig. 86 Routing a call from the private leased-line network with direct dialling

Tab. 28 Setting the routing parameters

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| | |
| <ul style="list-style-type: none">• Networkinterfaces• Max.incomingcalls• Maximumsimultaneousconnections• Networktype• Protocol• OverwriteNPI• DDIplan• CallDistributionElement | <ul style="list-style-type: none">• Private• QSIGQSIG/PSS1ISO• No |
| | |
| <ul style="list-style-type: none">• Directdiallingnumber 0 | |
| | |
| <ul style="list-style-type: none">• Calldestinations• Max.incomingcalls | <ul style="list-style-type: none">• Switchposition1 |

Call routing

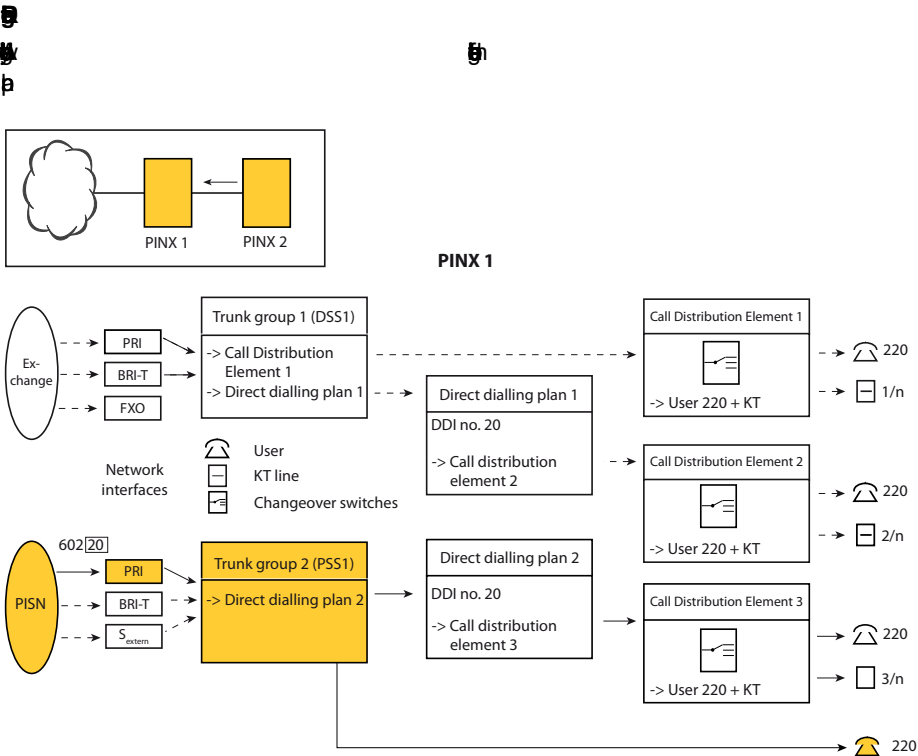


Fig. 87 Routing a call from the private leased-line network without direct dialling

Tab. 29 Setting the routing parameters

| <ul style="list-style-type: none">• Network interfaces• Max.incoming calls• Maximum simultaneous connections• Network type• Protocol• Overwrite NPI• DDI plan• Call Distribution Element | <ul style="list-style-type: none">• Private• QSIG/QSIG/PSS1/ISO• No |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|

6.3.2 SmartDDI

SmartDDI allows a simple configuration to route incoming calls to the correct user, when DDI numbers and user numbers have a correlation. This is done with a simple conversion rule. In the conversion rule it is defined how the received DDI number shall be modified. With this modified number, the internal numbering plan is consulted. If the number matches an existing user, the call is routed directly to that destination.

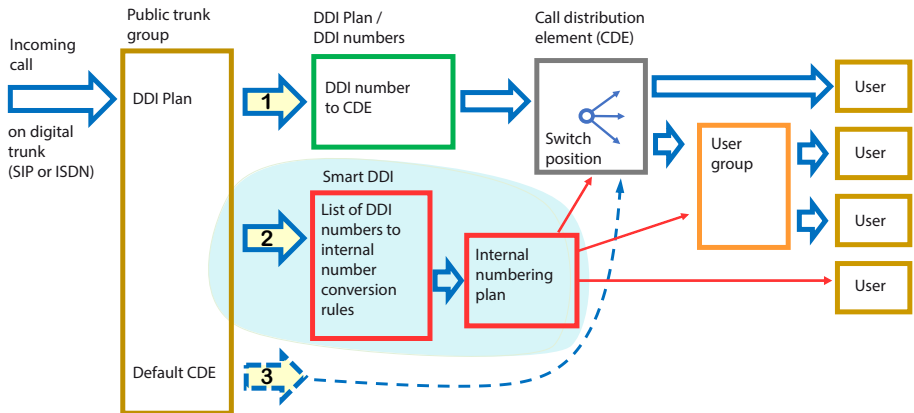


Fig. 88 Routing a call using SmartDDI

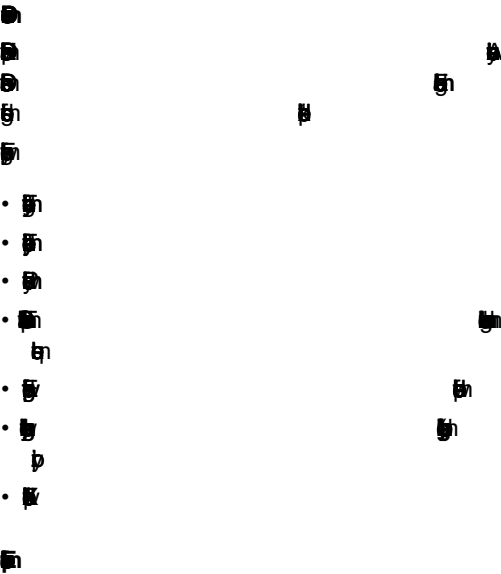
The above picture shows the priority of the different call routing possibilities:

1. For an incoming call in first priority the existing DDI plan is consulted. If an entry matches the received DDI number, the call is routed the usual way to the assigned call distribution element.
2. If there is no match of the received DDI number in the DDI plan, then the SmartDDI conversion rules are consulted. If a conversion rule entry matches the received DDI number, it is converted and routed to the destination defined in the numbering plan. Allowed destinations are call numbers of users, PISN users, user groups or call distribution elements.
3. If no conversion rule entry matches the received DDI number or if the converted number does not match an allowed destination in the numbering plan, the call is routed to the defined call distribution element in the trunk group as usual.





Note:

If the call is routed directly to a user or user group with SmartDDI, the call distribution element is not involved. This means that various features (e. g. announcement service or CLIP based routing) are not available in this case.

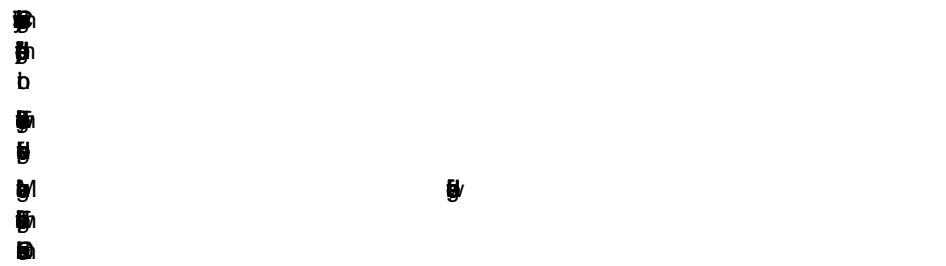


Tab. 30 Conversion rule table: Examples

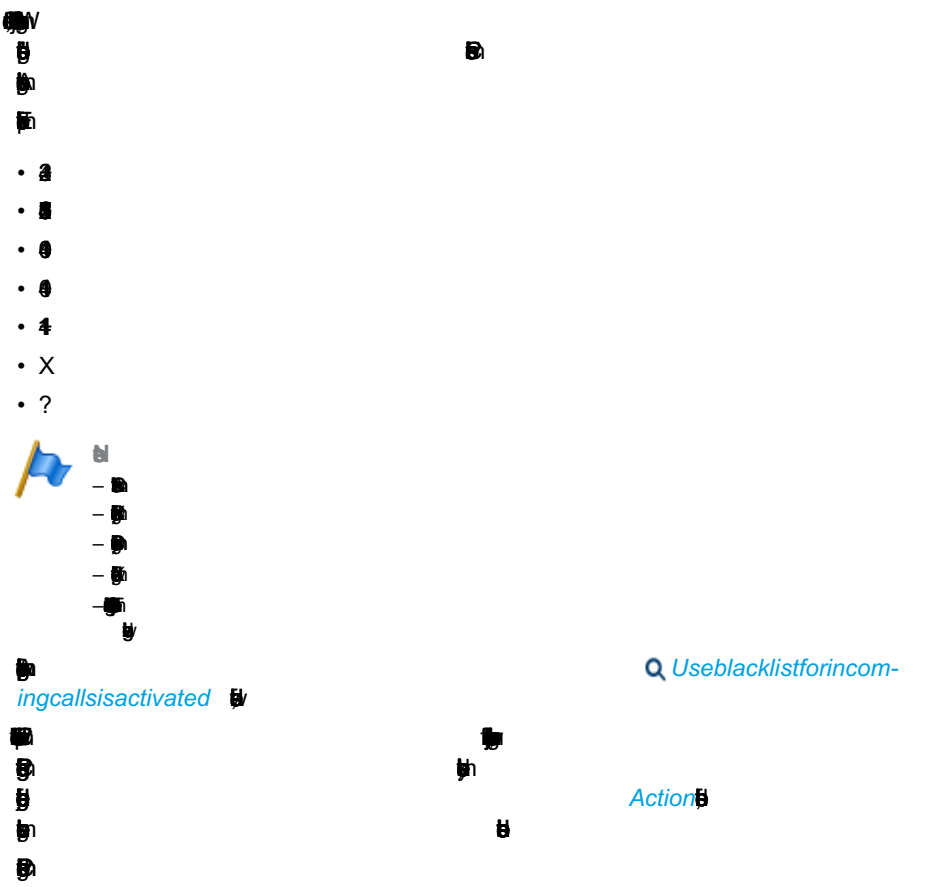
| № | Исходное значение | Преобразованное значение | Комментарий |
|---|-------------------|--------------------------|-------------|
| 1 | 0 | 0 | 0 |
| 1 | x | x | 0 |
| 1 | 0 | 0 | 0 |
| 2 | 0 0 | 0 | 0 |
| 2 | 0 0 | 0 | 0 |
| 2 | 0 | 0 | 0 |



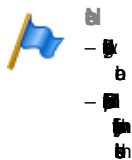
6. 3. 3 Routing calls based on CLIP



6. 3. 3. 1 Blacklist



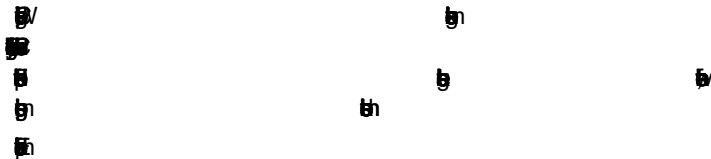
Call routing



Tab. 31 System configuration

| <ul style="list-style-type: none">• CLIPnumbers• Actionforincomingcall• Applyblacklisttoincomingcalls | |
|---------------------------------------------------------------------------------------------------------------------------------------|--|

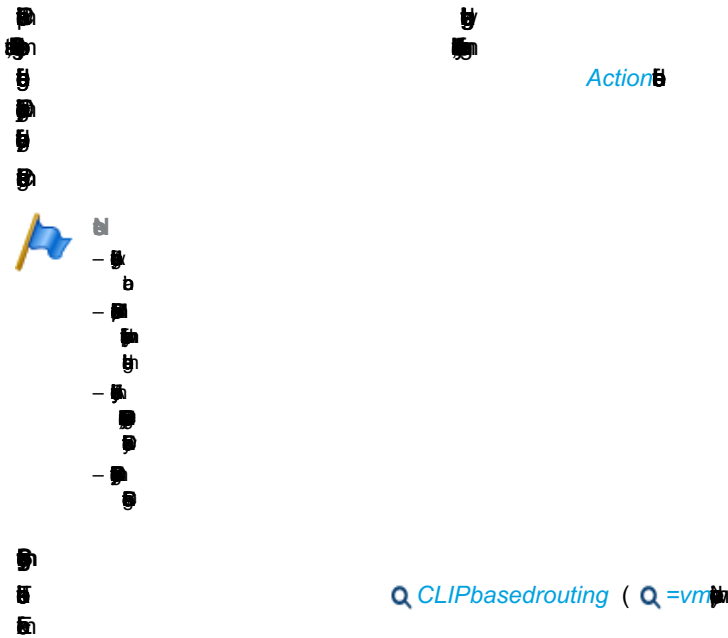
6. 3. 3. 2 CLIP based routing



- 2
- 3
- 8
- 8
- 8
- X
- ?



routingtable



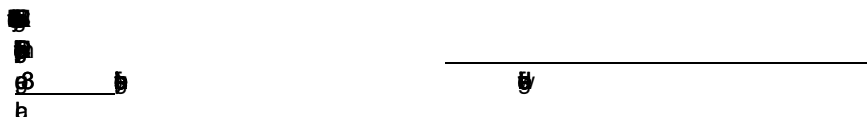
Tab. 32 System configuration

| <ul style="list-style-type: none">CLIPbasedroutingtableUseCLIPbasedroutingCallroutingtable | <table><tr><th>Description</th><th>CLIPnumbers</th><th>Action</th></tr><tr><td></td><td></td><td></td></tr></table> | Description | CLIPnumbers | Action | | | |
|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------|-------------|--------|--|--|--|
| Description | CLIPnumbers | Action | | | | | |
| | | | | | | | |

6.3.4 Personal call routing



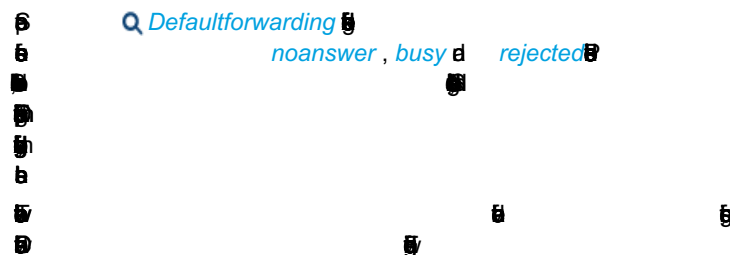
6.3.5 Call Forwarding Unconditional if no answer



















6.3.5.1 CDE Alternative Destinations



6.3.5.2 Default call forwarding per user



Tab. 33 Default call forwarding interaction with...

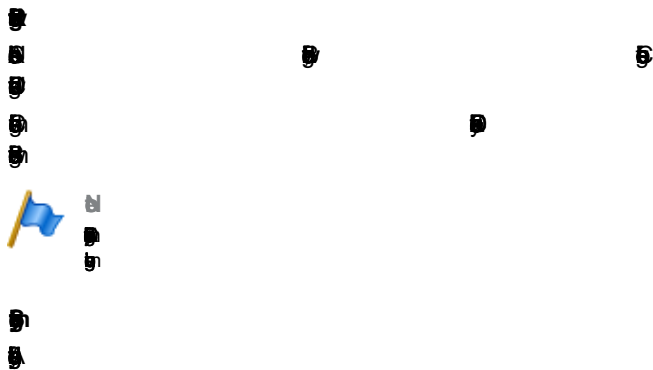
| | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |
|  |   |
|   |  |
|  |   <i>Priorityoveractivatedforward-</i> <i>ingonnnoreply</i> :      |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| | | |
| <div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> | <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> | |
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Q Default call forwarding if no answer

Tab. 34 Default Call Forwarding response to calls already forwarded

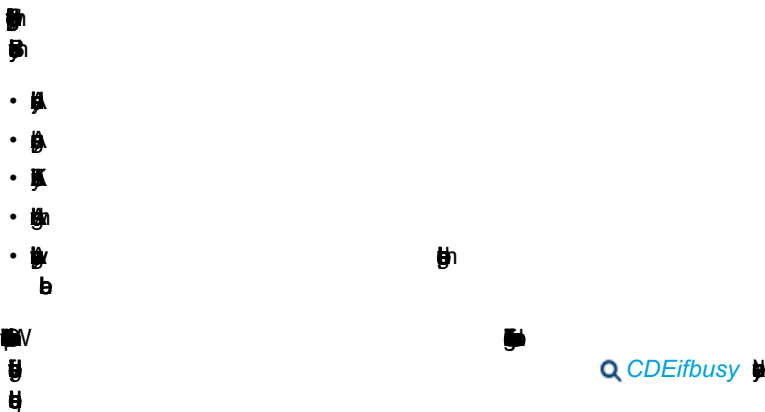
| Q | A |
|---|---|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |



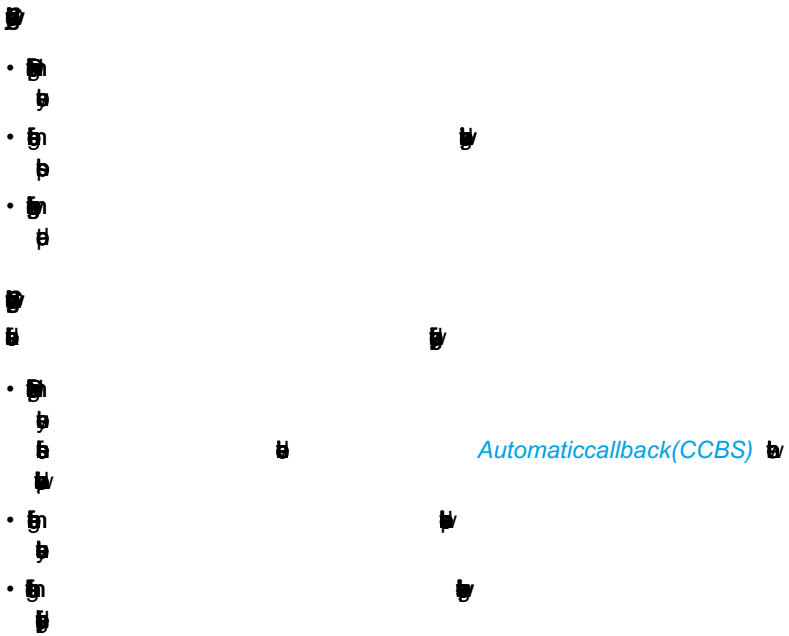
6. 3. 6 Response if busy¹⁾



6. 3. 6. 1 Response if the call destination is busy



Call destination: Individual, busy user



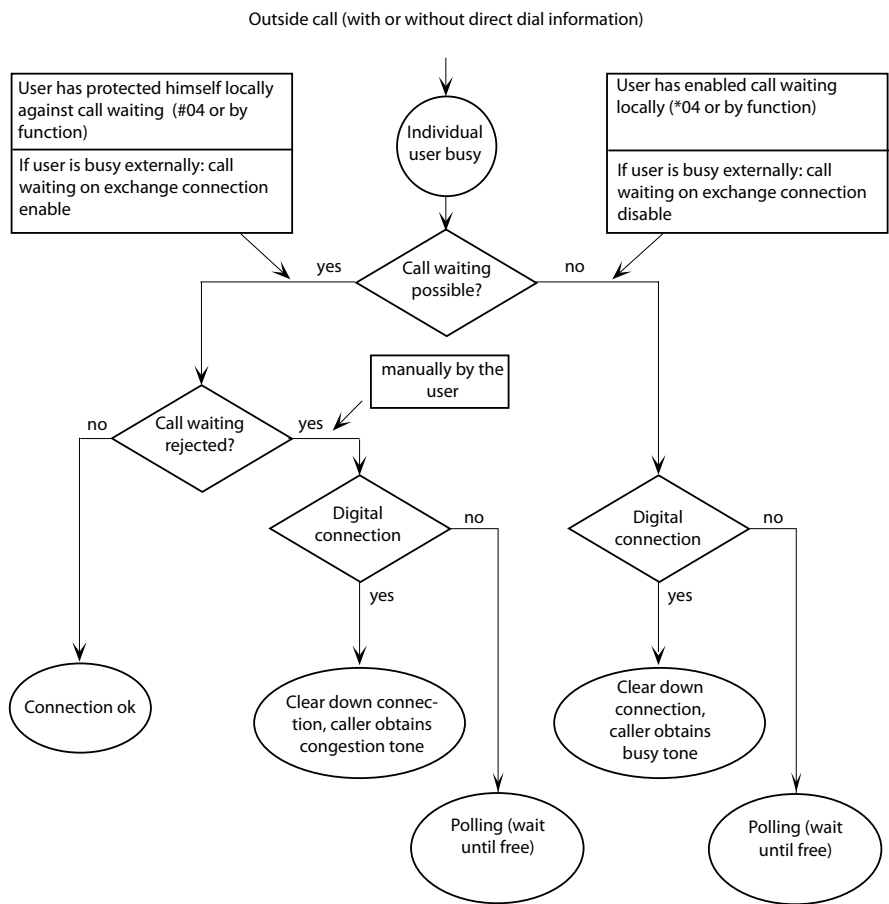


Fig. 89 Call distribution if user is busy

Call destination: Busy User Group



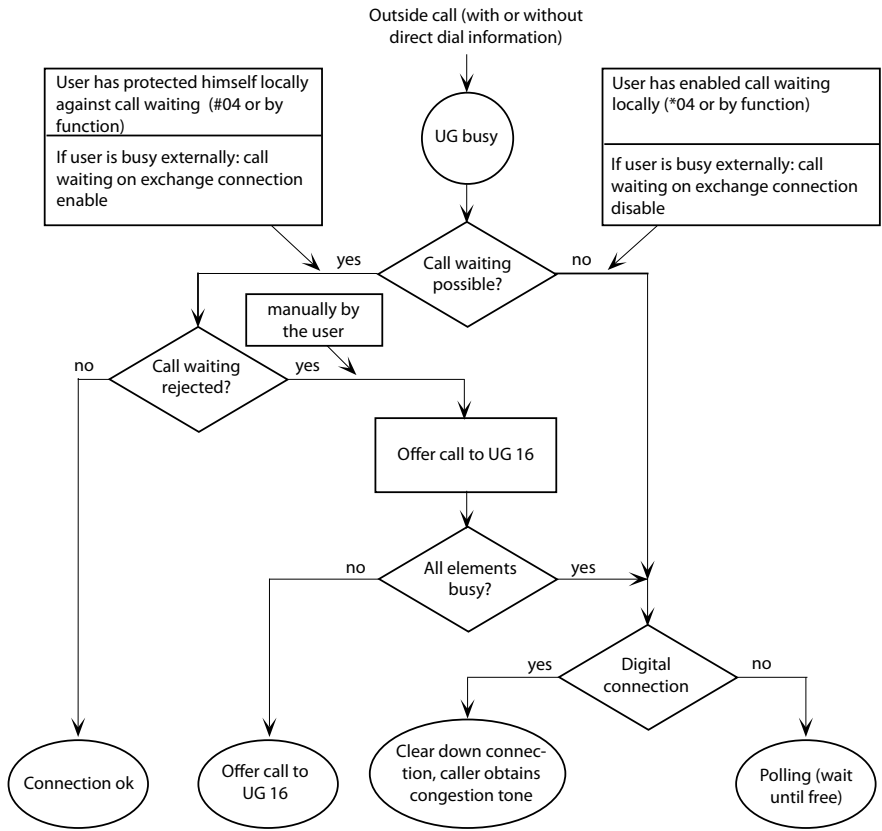
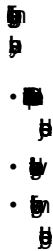


Fig. 90 Call distribution if user group busy

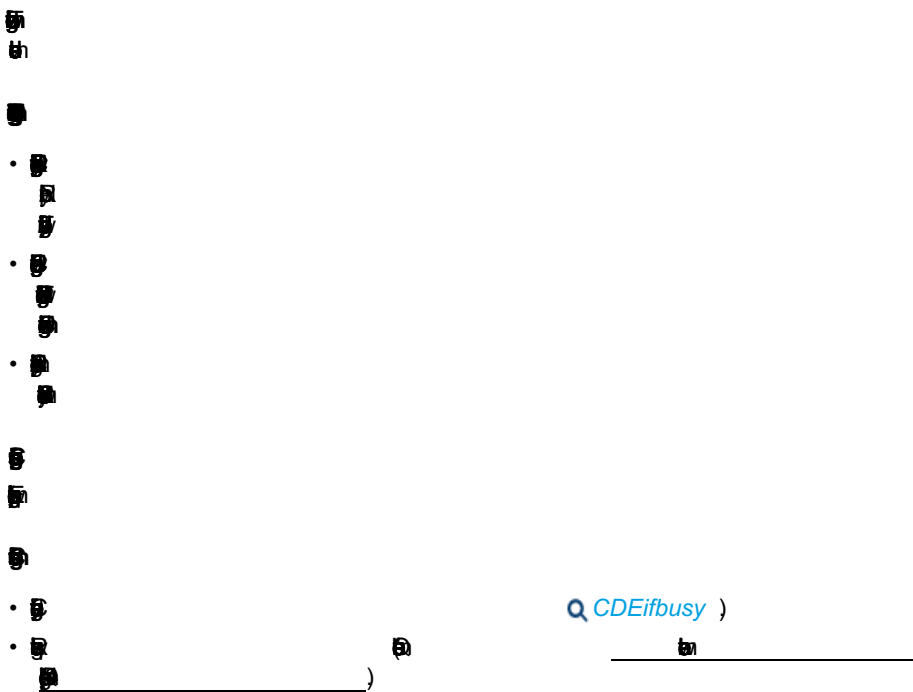
Call destination: Busy KT Line



Call destination: User with a Stored Message

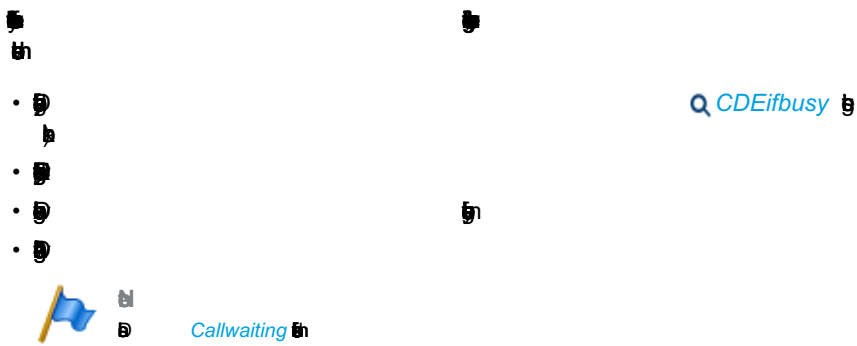


6. 3. 6. 2 Forwarding a call if busy





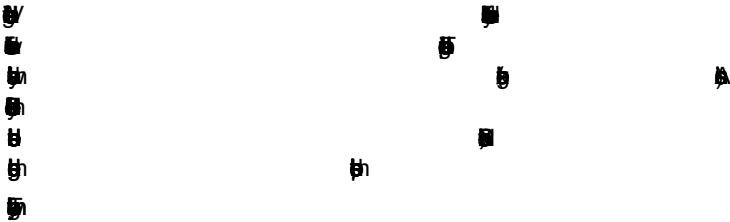
6. 3. 6. 3 Not Forwarding a Call if busy



6. 3. 6. 4 Release Destination if Incoming Dialling is Incomplete¹⁾



6. 3. 7 Response if unobtainable



Terminal not running or out of DECT coverage range



No VoIP channel available at present





Satellite in offline mode or terminal port inactive

-
-
-



-
-

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-

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-

-
-

-
-

6. 3. 8 Emergency Routing¹⁾

6. 3. 8. 1 Routing if the Call Destination is busy



-
-
-
-

Call destination: Individual, busy user



Tab. 35 Call waiting is allowed, but is rejected



Tab. 36 In the call distribution "CDE if busy" is set on Capolinea



Callwaiting



Call destination: Busy User Group



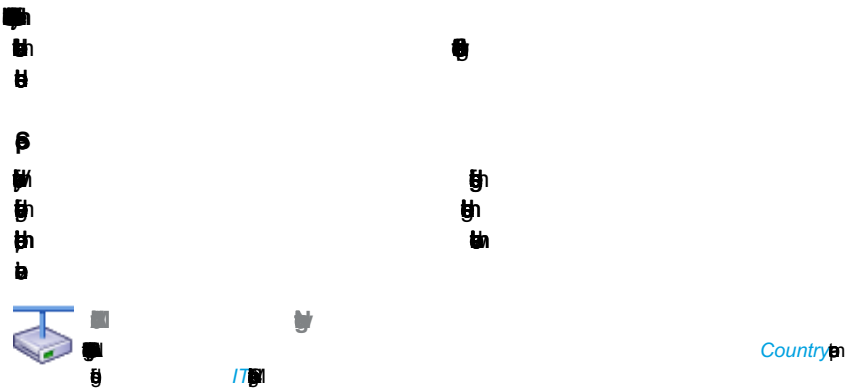
Call destination: Busy KT Line



Call destination: User with a Stored Message



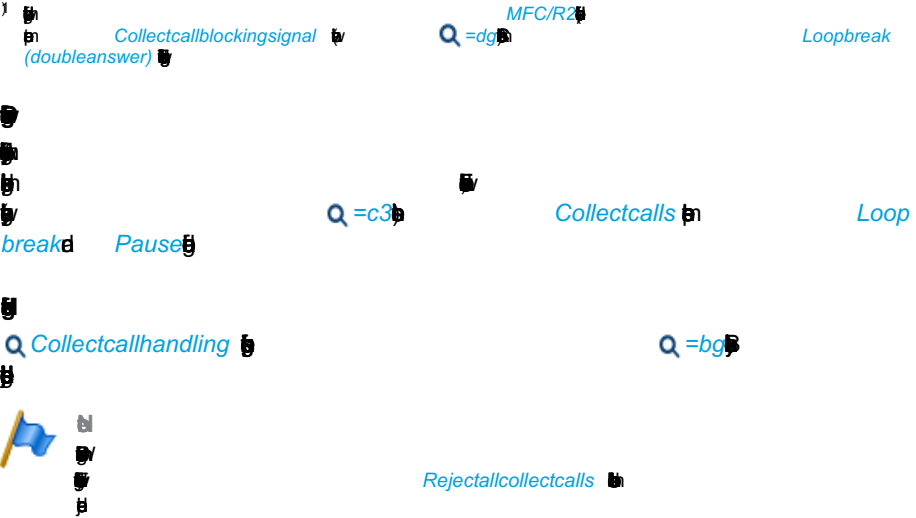
6.3.8.2 Release Destination if Dialling is Incomplete

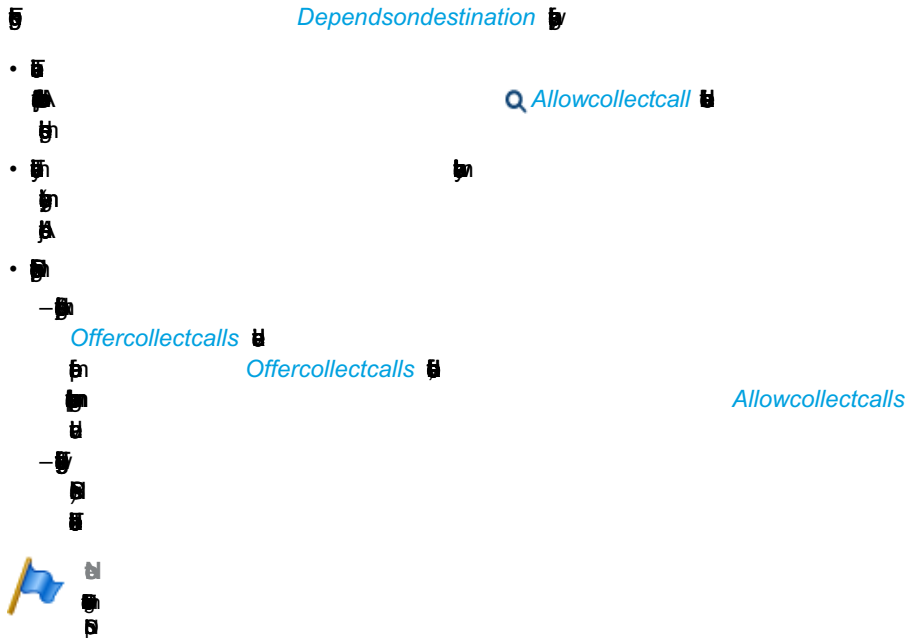


6. 3. 9 Automatic reject of collect calls¹⁾

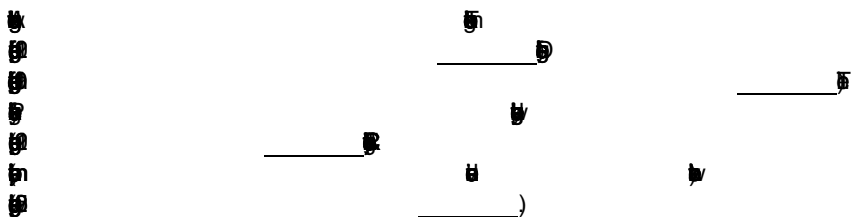
Tab. 37 Detection of collect calls

| | |
|--|--|
| | |
| | |
| | |
| | |





6.4 Outgoing traffic



6.4.1 Routing



Call routing

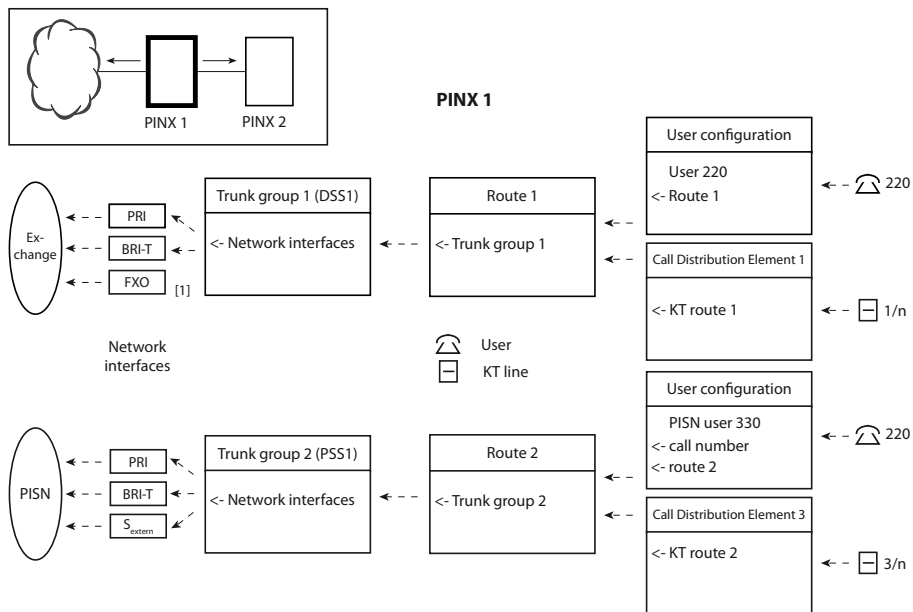
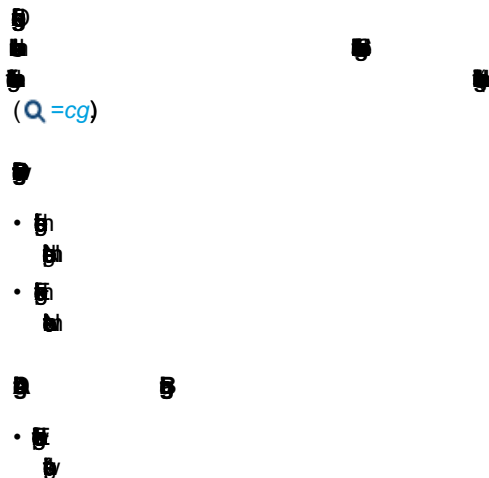
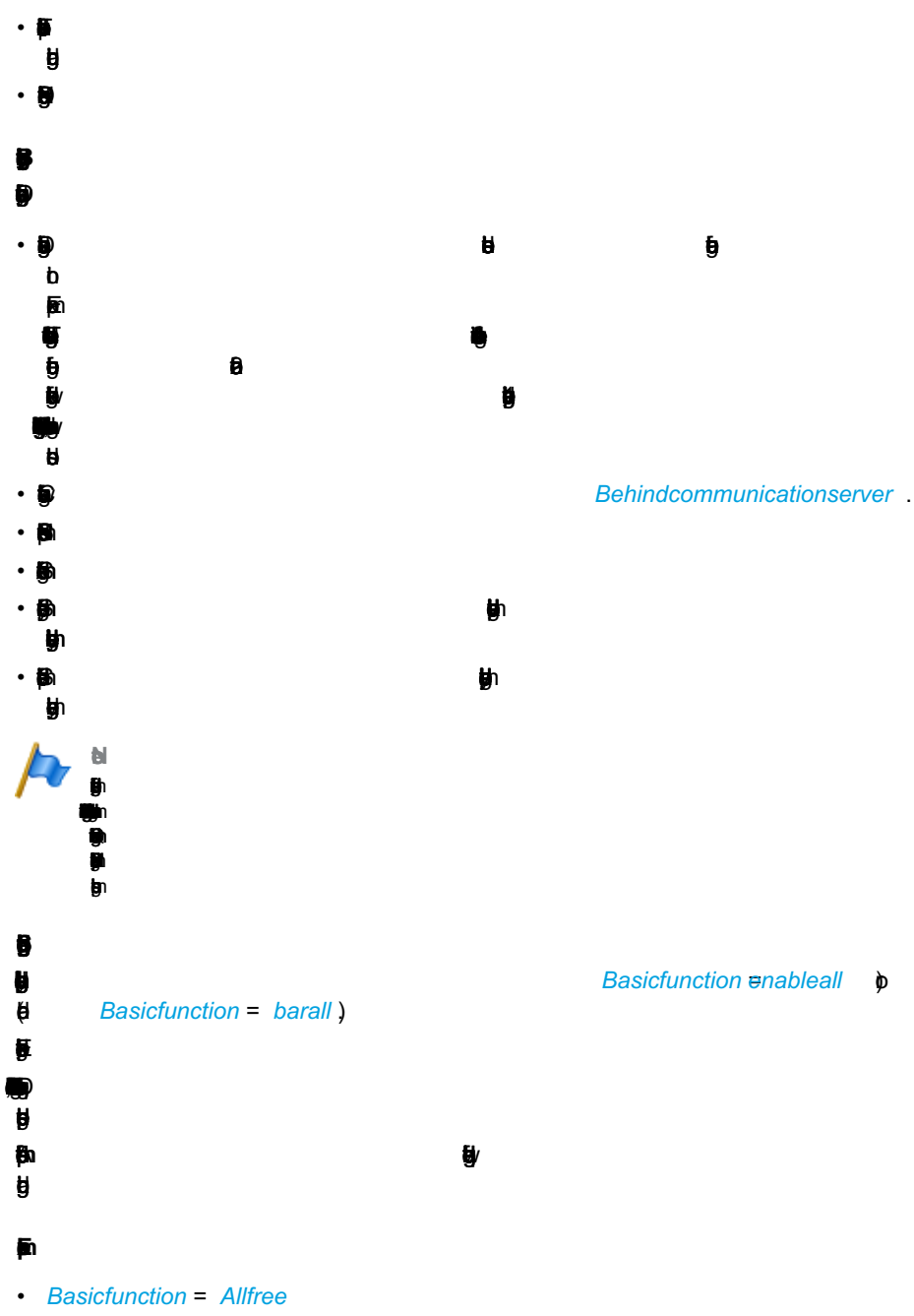


Fig. 91 **Routing outgoing calls**

6. 4. 2 Digit barring





Call routing

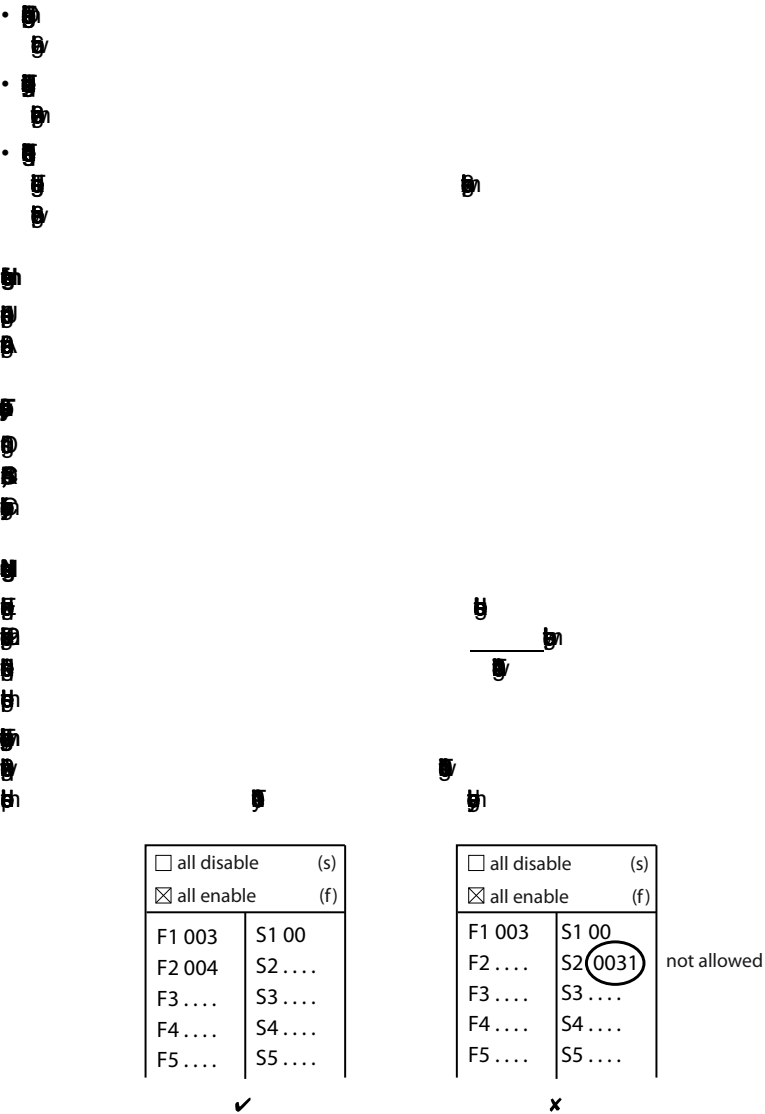


Fig. 92 Only one degree of nesting is permitted

-
-
-



h

h

| | |
|----------------------------------------------------|---------|
| <input type="checkbox"/> all disable (s) | |
| <input checked="" type="checkbox"/> all enable (f) | |
| F1 031 | S1 0 |
| F2 033 | S2 |
| F3 0049 | S3 |
| F4 | S4 |
| F5 | S5 |

External digit barring

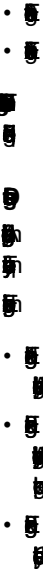
| | |
|----------------------------------------------------|---------|
| <input type="checkbox"/> all disable (s) | |
| <input checked="" type="checkbox"/> all enable (f) | |
| F1 | S1*78 |
| F2 | S2 13 |
| F3 | S3 17 |
| F4 | S4 |
| F5 | S5 |

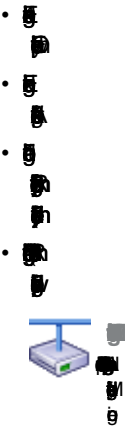
Internal digit barring

Fig. 93 Example of digit barring facilities

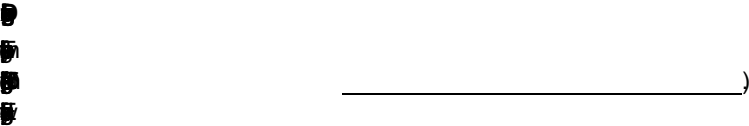
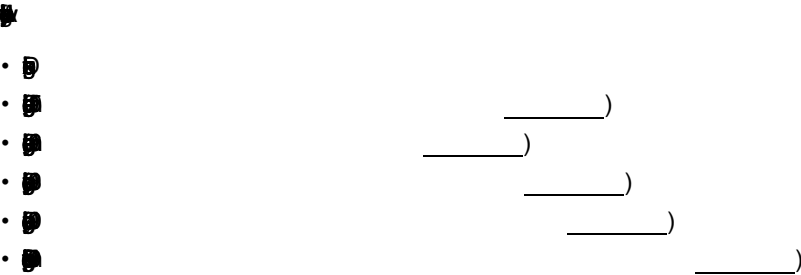


h





6. 4. 3 Call to the Public Network



• *Exchangeaccess,business* :



• *Exchangeaccess,private* :

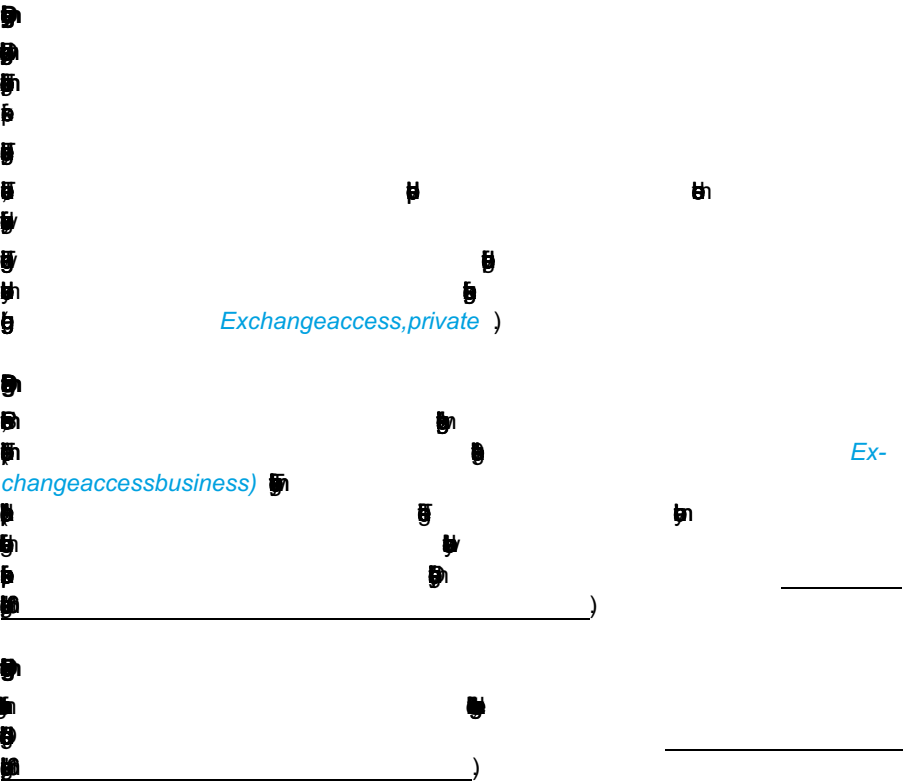


• *Cost-centreselection* :





Call routing



6. 4. 3. 1 Routing the call

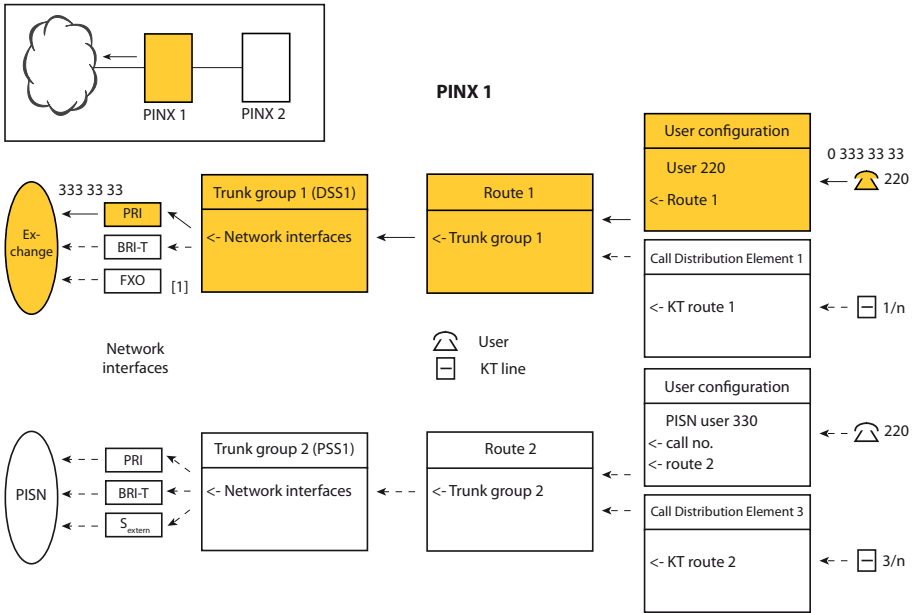


Fig. 94 Routing a call to the public network

Tab. 38 Setting the routing parameters

| <ul style="list-style-type: none">• <i>Route</i>• <i>Externaldigitbarring</i> | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| <ul style="list-style-type: none">• <i>Trunkgroup</i>• <i>Maxoutgoingcalls</i>• <i>Externaldigitbarring</i>• <i>Numberingplanidentifier(NPI)</i> | <i>E.164</i> |
| <ul style="list-style-type: none">• <i>Networkinterfaces</i>• <i>Networktype</i>• <i>Protocol</i> | <i>Public</i> <i>DSS1</i> |



6. 4. 3. 2 Call to the public Network via a Key Telephone

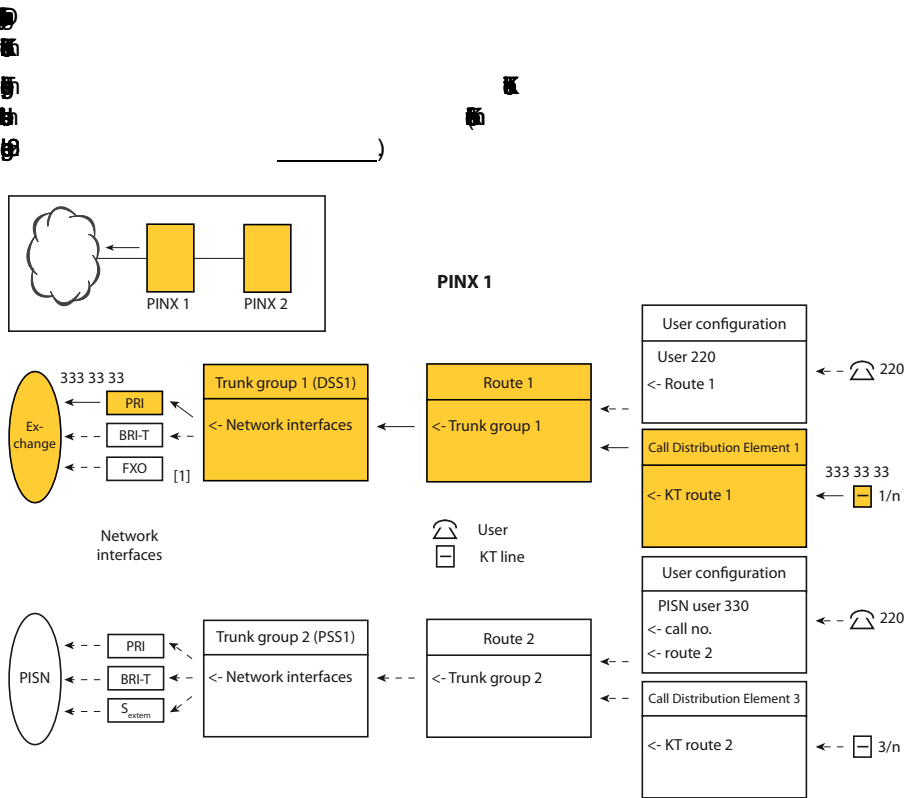





Fig. 95 Routing a call to the public network via a line key of a key telephone

Tab. 39 Setting the routing parameters

| <ul style="list-style-type: none">• <i>KTRoute</i> | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| <ul style="list-style-type: none">• <i>Trunkgroup</i>• <i>Maxoutgoingcalls</i>• <i>Externaldigitbarring</i>• <i>Numberingplanidentifier(NPI)</i> | <i>E.164</i> |
| | |

|  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• <i>Networkinterfaces</i>• <i>Networktype</i>• <i>Protocol</i> |  <i>Public</i> <i>DSS1</i> |

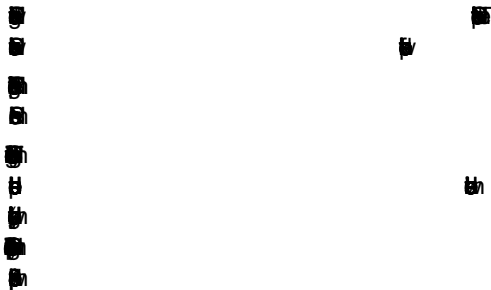
6. 4. 3. 3 Call to the public Network via an operator console



6. 4. 3. 4 Call to the public network with external number-
ing plan



6. 4. 3. 5 Call to a virtual Network PISN User



Call routing

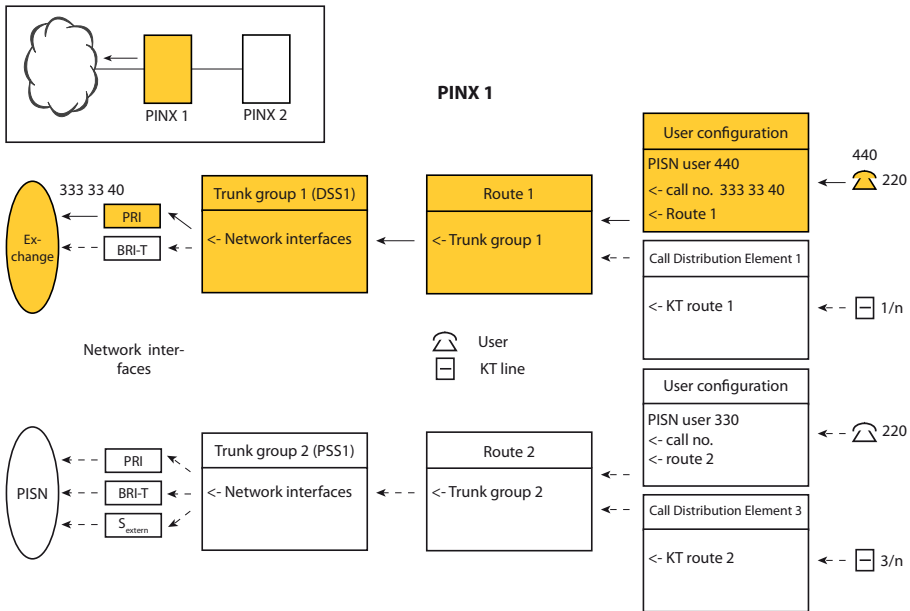
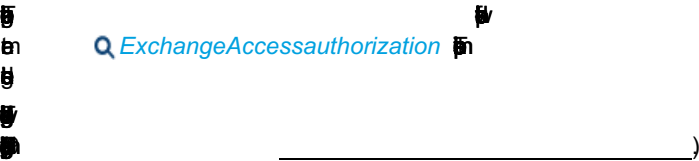


Fig. 96 Routing a call to a virtual network PISN user via the public network

Tab. 40 Setting the routing parameters

| <ul style="list-style-type: none">• Route• Externalcallnumber | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| <ul style="list-style-type: none">• Trunkgroup• Externaldigitbarring• Numberingplanidentifier(NPI) | E.164 |
| <ul style="list-style-type: none">• Networkinterfaces• Networktype• Protocol | Public DSS1 |

6. 4. 3. 6 Exchange access authorization



6. 4. 3. 7 Priority exchange allocation

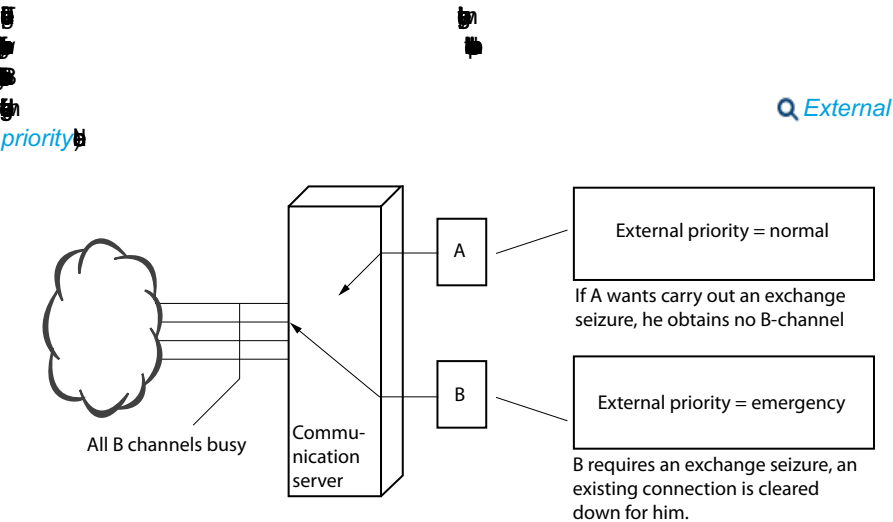


Fig. 97 Network access rights for users with and without Priority exchange allocation



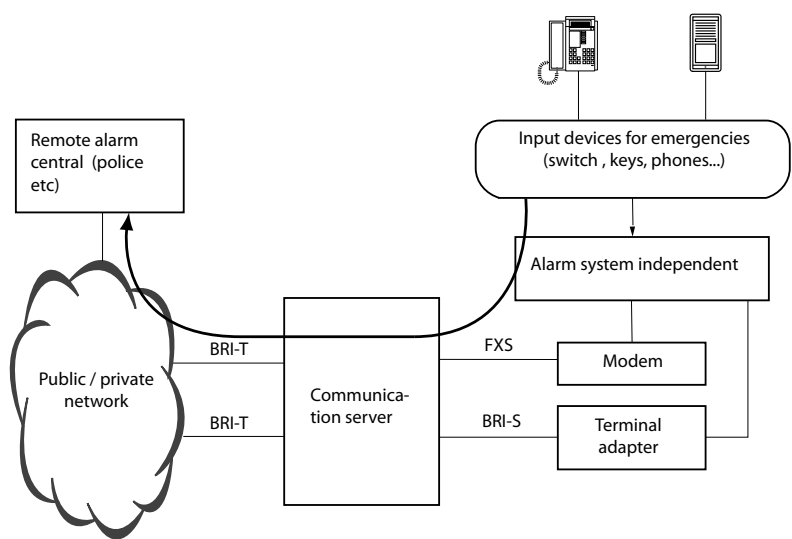
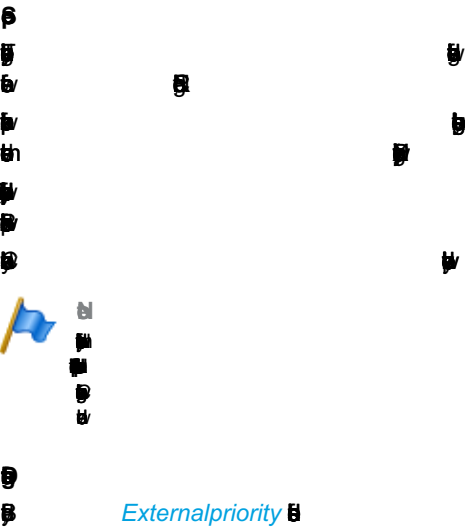


Fig. 98 Overview of a configuration for emergency applications



Externalpriority

6. 4. 4 Call to the private Leased-Line Network

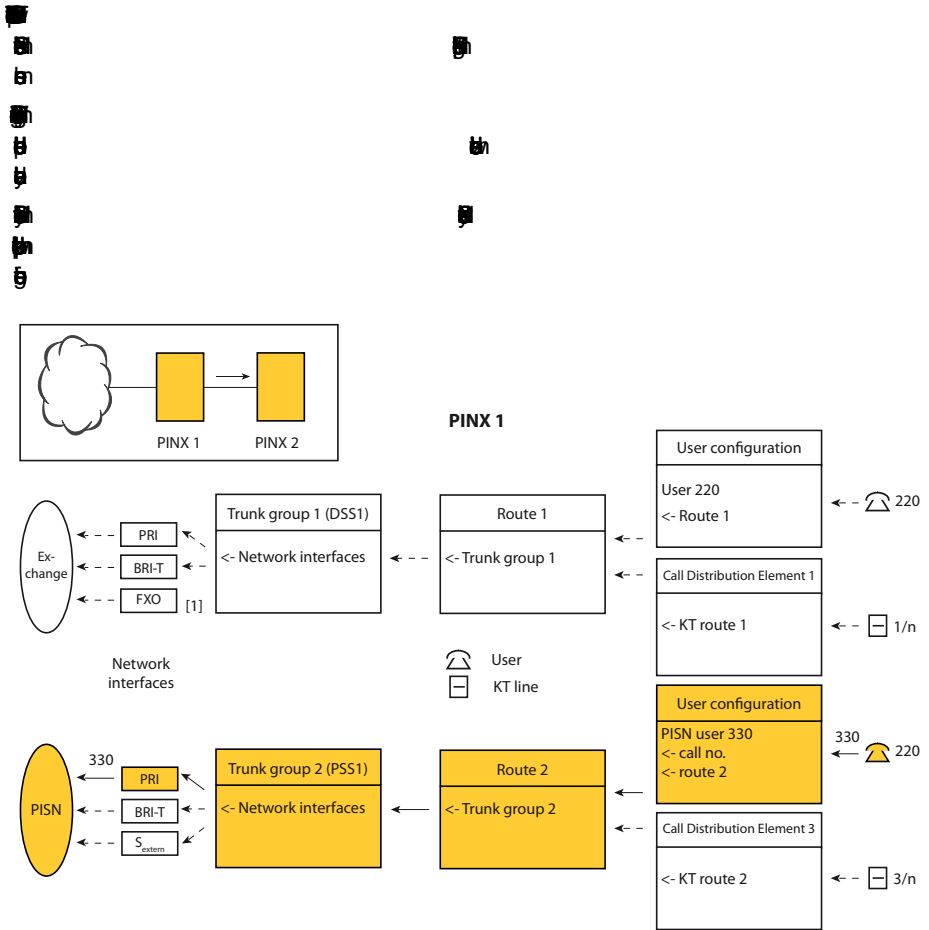






Fig. 99 Routing a call to the private leased-line network

Tab. 41 Setting the routing parameters

| | |
|-----------------------------------------------------------------------------------------------------------|--|
| | |
| <ul style="list-style-type: none">• <i>Route</i>• <i>Externalcallnumber</i> | |
| <ul style="list-style-type: none">• <i>Trunkgroup</i>• <i>Externaldigitbarring</i> | |

| | |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |
| <ul style="list-style-type: none">• <i>Numberingplanidentifier(NPI)</i> | <i>PNP</i> |
|  |  |
| <ul style="list-style-type: none">• <i>Networkinterfaces</i>• <i>Networktype</i>• <i>Protocol</i> | <i>Private</i> <i>QSIGo QSIG/PSS1ISO</i> |

6. 4. 5 Call to a DSS1 terminal equipment on the S Bus (DDO)

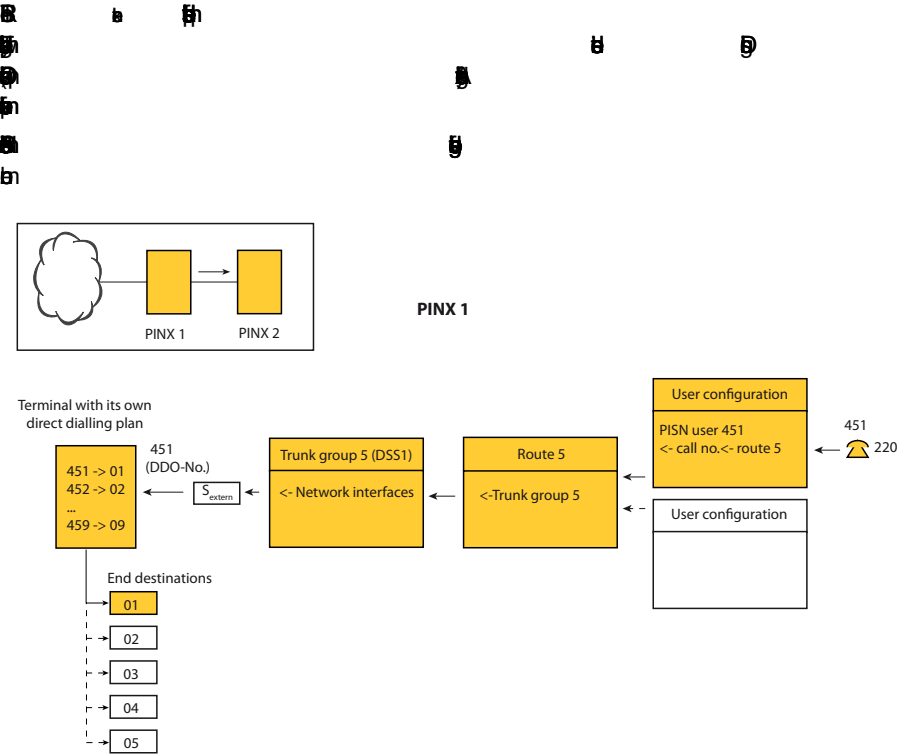













Fig. 100 Call to a terminal with its own direct dialling plan

- 
- 
- 

Tab. 42 Setting the routing parameters

|  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <ul style="list-style-type: none">• <i>Route</i>• <i>Externalcallnumber</i>• <i>Numberingplanidentifier(NPI)</i> |  — <i>E.164</i> |
|  <ul style="list-style-type: none">• <i>Trunkgroup</i>• <i>Externaldigitbarring</i> |     |
|  <ul style="list-style-type: none">• <i>Networkinterfaces</i>• <i>Networktype</i>• <i>Protocol</i> |  <i>BRI-S external</i> <i>Private</i> <i>DSS1</i> |



6. 5 Least Cost Routing (LCR)



6. 5. 1 Direct or indirect selection of the network provider



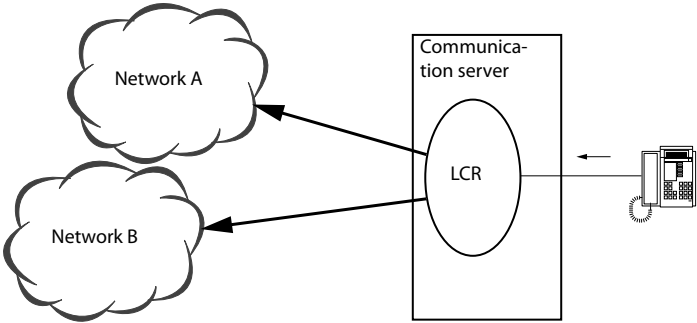


Fig. 101 Direct access to network A or B using LCR

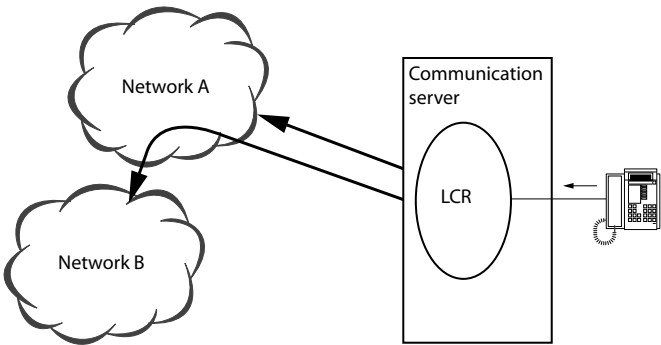
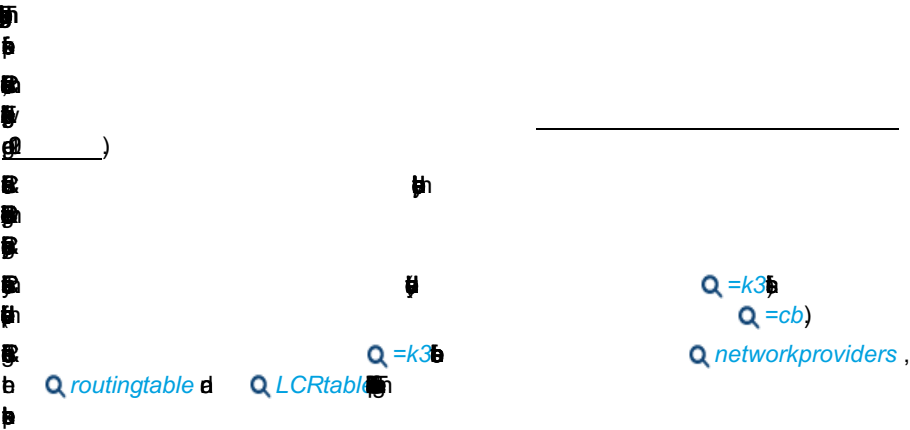


Fig. 102 Indirect access to network B via network A using LCR



6.5.2 LCR function



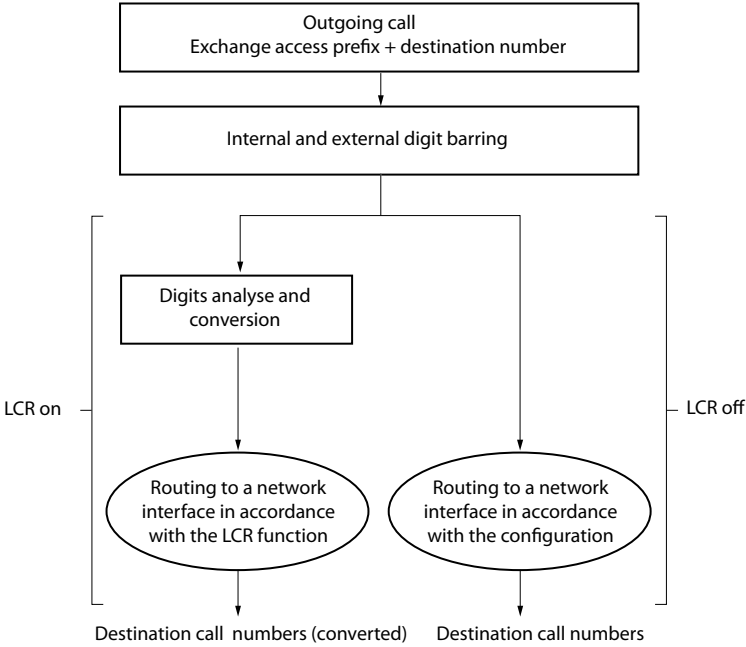


Fig. 103 Outgoing exchange traffic using LCR



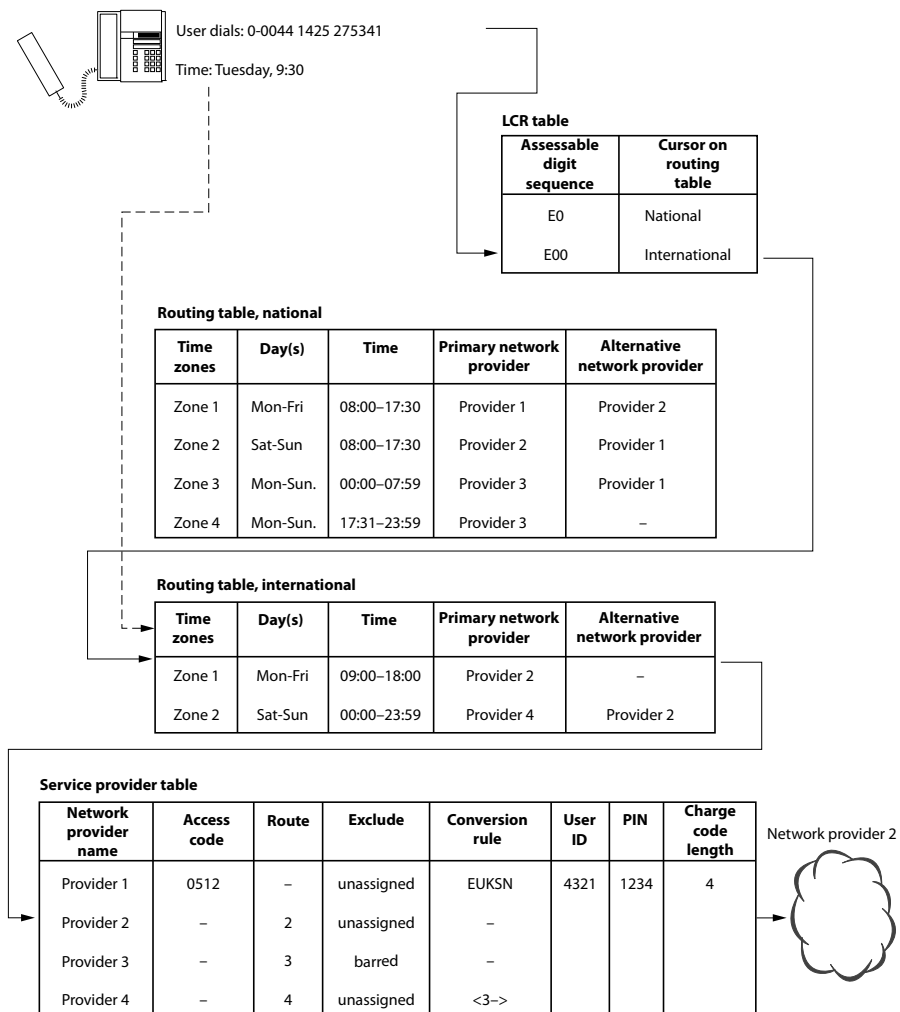


Fig. 104 Example of call routing using the LCR function

6. 5. 3 Allocating the internal routing table (LCR table)



Tab. 43 Example of an LCR table

| IP | Port |
|------------|------|
| 10.10.10.1 | 80 |
| 10.10.10.2 | 80 |
| 10.10.10.3 | - |
| 10.10.10.4 | 80 |
| 10.10.10.5 | 80/ |

- 10.10.10.1
- 10.10.10.2
- 10.10.10.3
- 10.10.10.4
- 10.10.10.5
- 10.10.10.6
- 10.10.10.7
- 10.10.10.8
- 10.10.10.9
- 10.10.10.10

Tab. 44 Example of an LCR table with a PISN-internal entry

| ☎ | ☎ |
|---|---|
| ☎ | ☎ |
| ☎ | ☎ |
| ☎ | ☎ |

Tab. 45 Example of an LCR table with the prefix X

| ☎ | ☎ |
|---|---|
| ☎ | ☎ |
| ☎ | ☎ |
| . | . |
| ☎ | ☎ |
| X | ☎ |

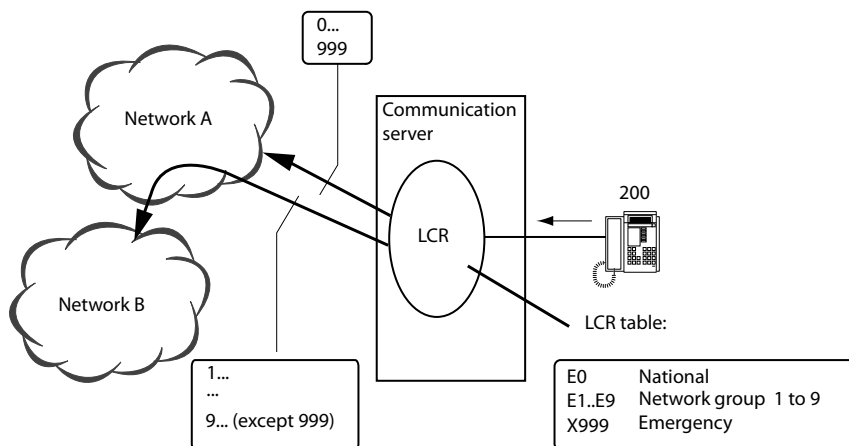


Fig. 105 Routing the emergency number 999

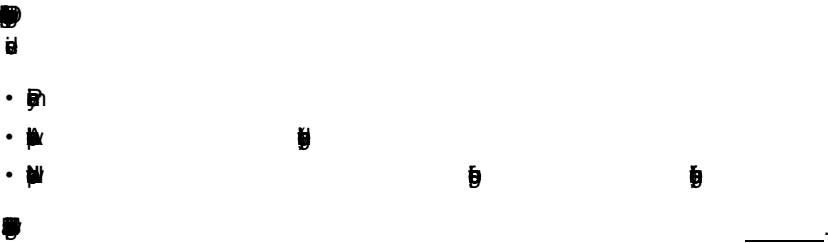
Tab. 46 Difference in routing with the X prefix and the E prefix

6. 5. 4 Selecting the Network Provider (Routing Tables)



Tab. 47 Example of a routing table

| Area | Country | Area | Area | Area |
|------|---------|------|------|------|
| 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 1 | 1 | 1 |
| 3 | 3 | 1 | 1 | 1 |
| 4 | 4 | 1 | 1 | 1 |

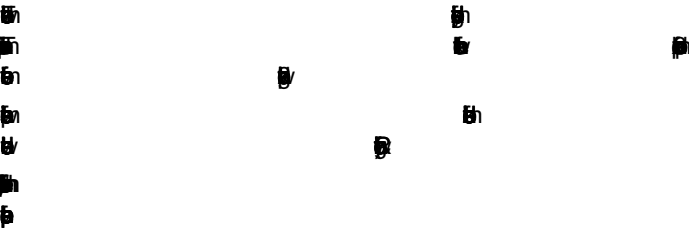


Tab. 48 Selection of the network provider depending on settings and situation

| Area | Area | Area |
|------|------|------|
| 1 | 1 | 1 |
| 2 | 2 | 2 |
| 3 | 3 | 3 |
| 4 | 4 | 4 |



6. 5. 4. 1 Time zones



Tab. 49 Example of overlapping time zones

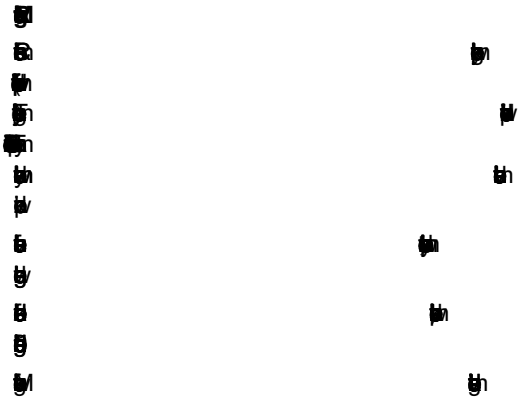
| Time zone | Time zone | Time zone | Time zone | Time zone |
|-----------|-----------|-----------|-----------|-----------|
| UTC | UTC+1 | UTC+2 | UTC+3 | UTC+4 |
| UTC | UTC+1 | UTC+2 | UTC+3 | UTC+4 |

Tab. 50 Zone 1 applies in the overlap area

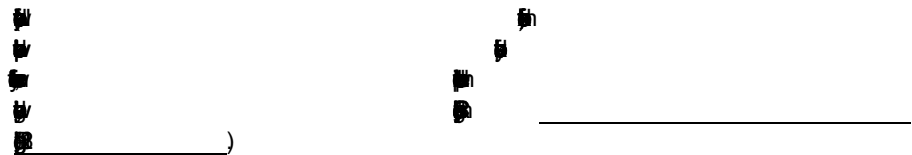
| Time zone | Time zone | Time zone | Time zone |
|-----------|-----------|-----------|-----------|
| UTC | UTC+1 | UTC+2 | UTC+3 |
| UTC | UTC+1 | UTC+2 | UTC+3 |

6. 5. 4. 2 Alternative Routing (Fallback Routing)





6. 5. 4. 3 Restricted scope of performance by a Network Provider



6. 5. 5 Conversion and Routing (Network Provider Table)


















Tab. 51 Network operator table

| № | № | № | № | № | № | № | № |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 |






- Accesscode :

Call routing









-  
- *Exclude:*
 -  
- *UserID / PIN:*
 - 
- *Chargecode length* 
 -  
 -  
 -  
 - 
- 
- 
- 

Tab. 52 Conversion rule parameters

|  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <i>E</i> |  |
|   | |
| <i>N</i> |  |
|   | |
| <i>Z</i> |  |
| <i>P_n</i> |  |
| <i>U</i> |  |
| <i>K</i> |  |
| <i>S</i> |  <i>So C)</i> |
| <i>C</i> |  <i>So C)</i> |

- x*  
- y*  
- z* 

Tab. 53 Examples for parameter <x-y>

|  |  |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |
|  |  |
|  |  |



| 0 | 0 |
|---|---|
| 0 | 0 |
| 0 | 0 |
| 0 | 0 |

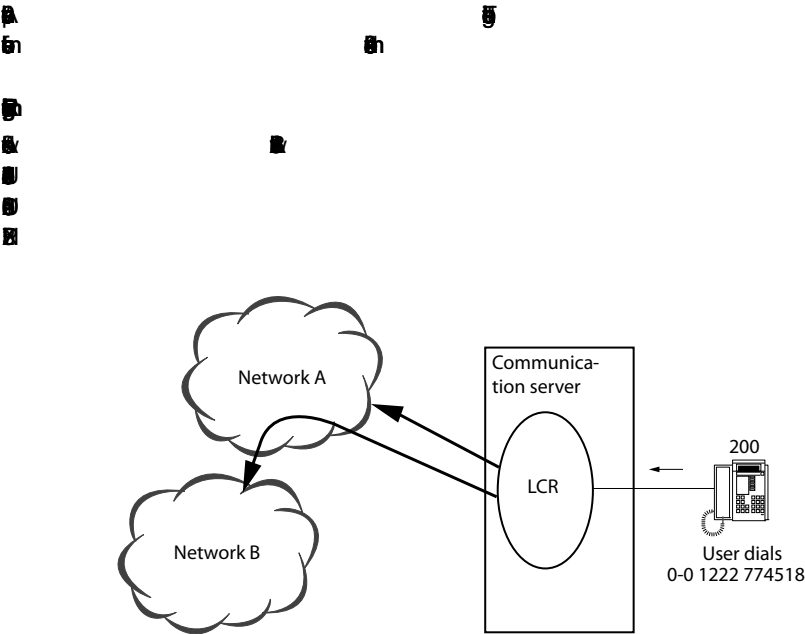


Fig. 106 Reference illustration for the following examples

Tab. 54 Table with examples of conversion rules and phone numbers converted accordingly

| | | |
|--------------------|-----------|------------|
| ᐃ | ᑭ | ᑭ |
| ᐄ | ᑬ | ᑬ |
| ᐅ ᑭᑦ | ᑭᑦ | ᑭᑦ |
| ᐆ ᑭᑦ | ᑮ | ᑮ |
| ᐇ ᑭᑦ | ᑯ | ᑯ |
| ᐈ ᑭᑦ | | ᑰ |
| ᐉ ᑭᑦ | ᑲ | ᑲ ᑳ |
| ᐊ ᑭᑦ | ᑴ | ᑴ ᑵ |
| ᐋ ᑭᑦ | ᑶ | ᑶ ᑷ |
| ᐌ ᑭᑦ | ᑸ | ᑸ ᑹ |

6.5.6 Bypassing LCR manually (Forced Routing)

Forced routing when LCR is activated

Tab. 55 Call routing to a directly connected network provider

| No | Nama | | Jenis |
|----|------|---|-------|
| | 1 | 2 | |
| 1 | 1 | 2 | |
| 2 | 3 | 4 | |
| 3 | 5 | 6 | |
| 4 | 7 | 8 | |



Tab. 56 Call routing to an indirectly connected network provider

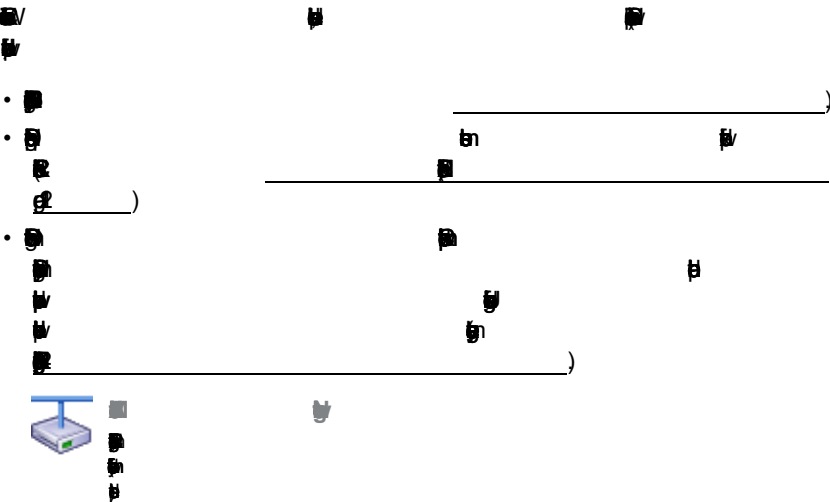
| | o | s |
|---|-----|---|
| e | B B | |

6. 5. 7 LCR with Key Telephones

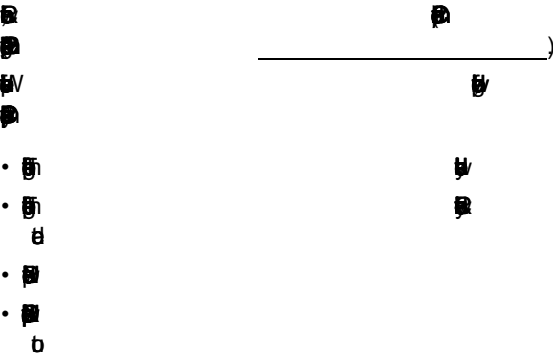
ForcedroutingwhenLCRisactivated

- *ForcedroutingwhenLCRisactivated*
- *ForcedroutingwhenLCRisactivated*

6. 5. 8 LCR in the private Leased-line Network



6. 5. 9 Call logging and Data Protection



6. 5. 10 Examples of LCR

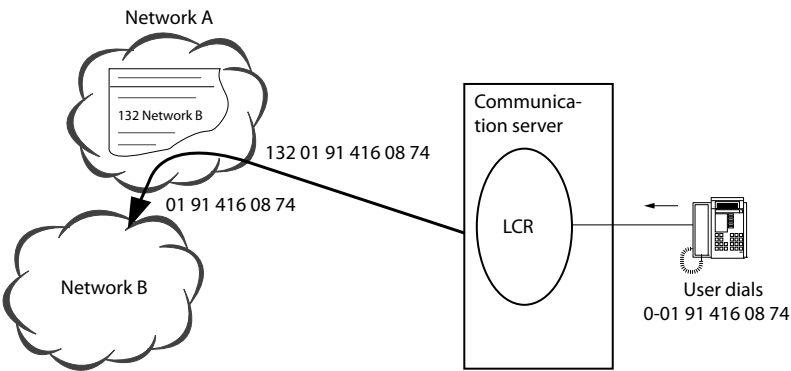


Fig. 107 Example 1: Network provider B is integrated in the numbering plan of network provider A

Tab. 57 Example 1: Entry in the network provider table

| Network | Country | Area | City | Area | City | Area | City | City |
|---------|---------|------|------|------|------|------|------|------|
| 132 | - | 01 | | | | - | - | - |

-
-
-

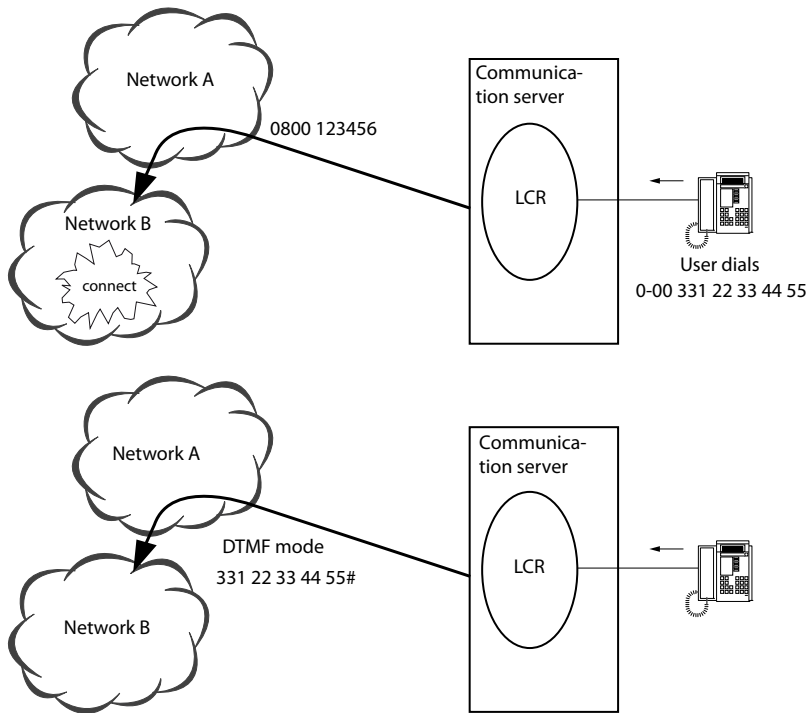


Fig. 108 Example 2: Network provider B is not integrated in the numbering plan of network provider A

Tab. 58 Example 2: Entry in the network provider table

| Network provider | Country code | Area code | Number | Extension | Number of digits | Number of digits | Number of digits |
|------------------|--------------|-----------|--------|-----------|------------------|------------------|------------------|
| B | 00 | - | - | - | - | - | - |

6.5.11 Higher-Level LCR Settings

Tab. 59 LCR settings

| Q | A | Diagram |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------|
| <p>Q = k3)</p> <ul style="list-style-type: none"> LeastCostRouting AlternativeRouting | <p>A</p> <p>B</p> <p>A</p> <p>B</p> | <p>A</p> <p>B</p> <p>A</p> <p>B</p> |
| <p>Q = cb)</p> <ul style="list-style-type: none"> LeastCostRouting(LCR) ForcedroutingwhenLCRIs activated Internaldigitbarring | <p>A</p> <p>B</p> <p>A</p> <p>B</p> <p>B</p> | <p>A</p> <p>B</p> <p>A</p> <p>B</p> <p>B</p> |

6.6 Exchange-to-Exchange Connection

6.6.1 Exchange-to-Exchange Connections



- *Notallowed*
- *Digital-digitalonly*
- *Digital-analoguealso*
- *Analogue-analoguealso*



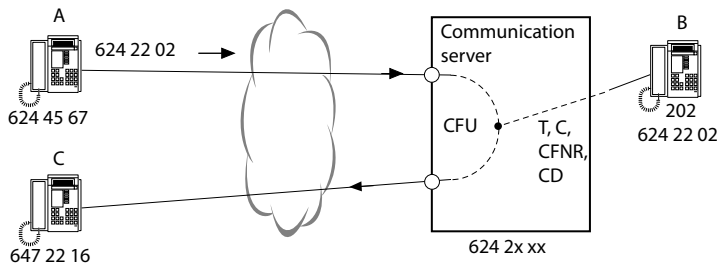
only.



Exchange-to-exchangeconnection = Digital-digital



6. 6. 1. 1 Setting up Exchange-to-Exchange Connections

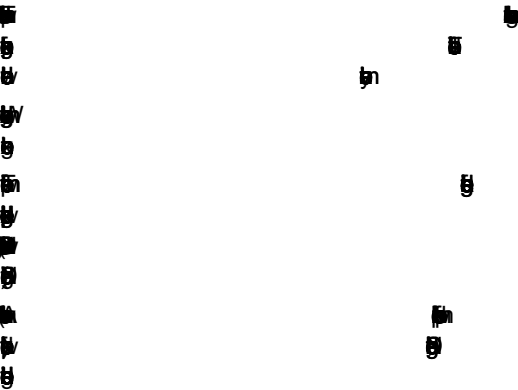


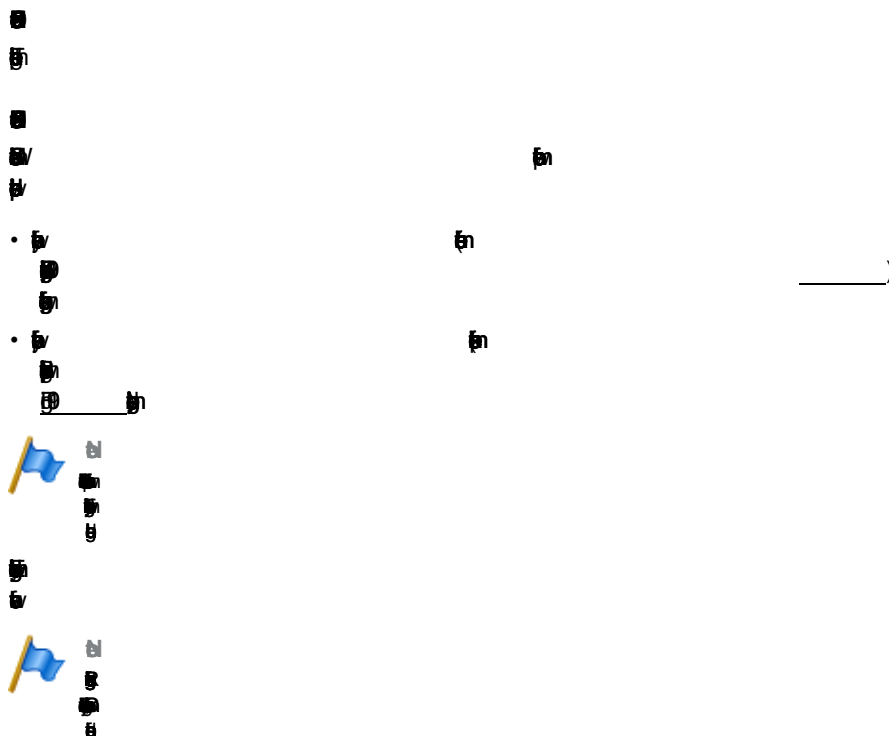
- V 5
- C 6
- B 7
- 8 8
- D 9

Fig. 109 Exchange-to-Exchange Connection

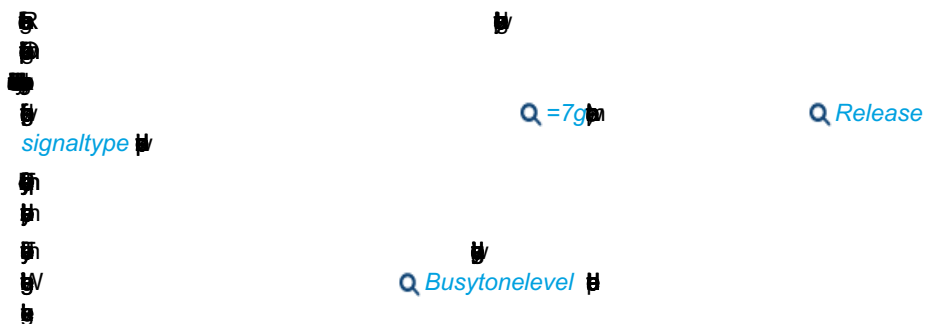
6. 6. 1. 2 Clearing down Exchange-to-Exchange Connections

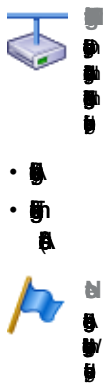
Digital to digital:





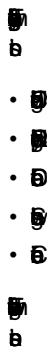
Analogue-to-analogue or digital-to-digital





 Disconnecttimeout 

6. 6. 1. 3 Possible Exchange-to-Exchange Connections





Tab. 60 Features supported

| | | | | |
|--|---|--------------|---|--|
| | → | | → | |
|--|---|--------------|---|--|

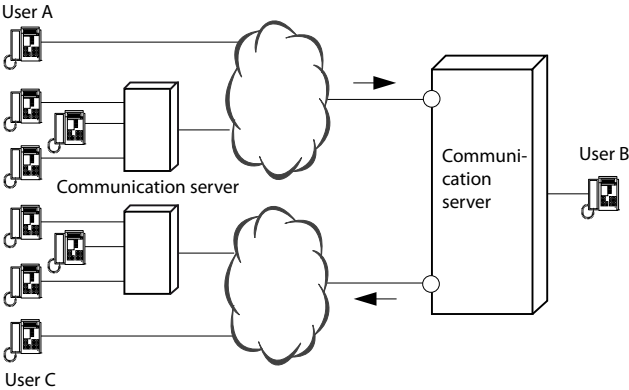


Fig. 110 Connecting an incoming call with an outgoing call



Call routing

- 
- 
- 
- 
- 

Tab. 61 Features supported

| | | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |   |  |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|

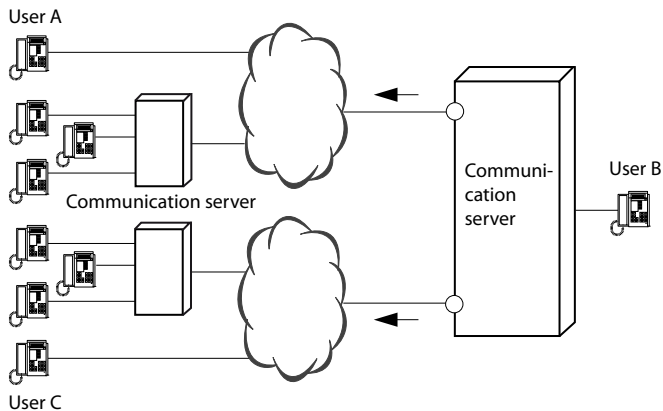


Fig. 111 Connecting two outgoing calls

Tab. 62 Features supported

| | | | | |
|---|---|---|---|---|
| 1 | → | 2 | ← | 3 |
|---|---|---|---|---|

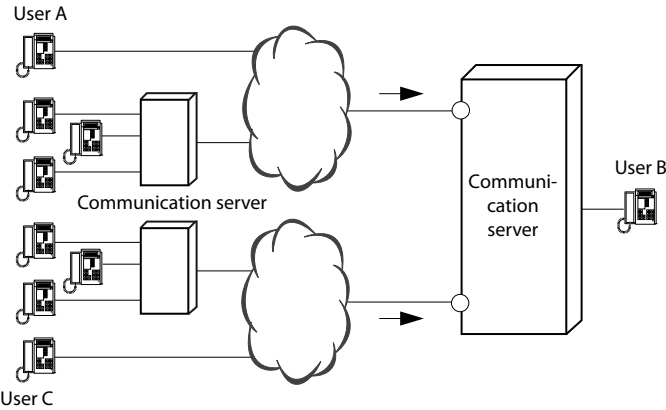
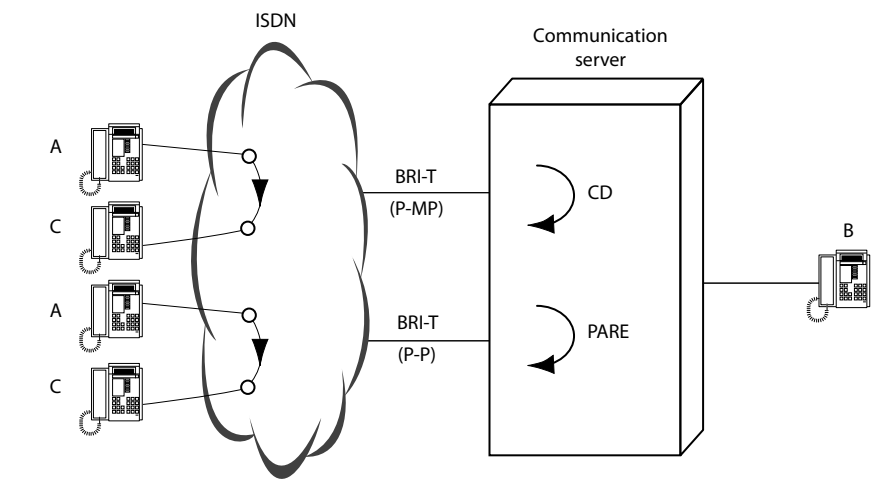


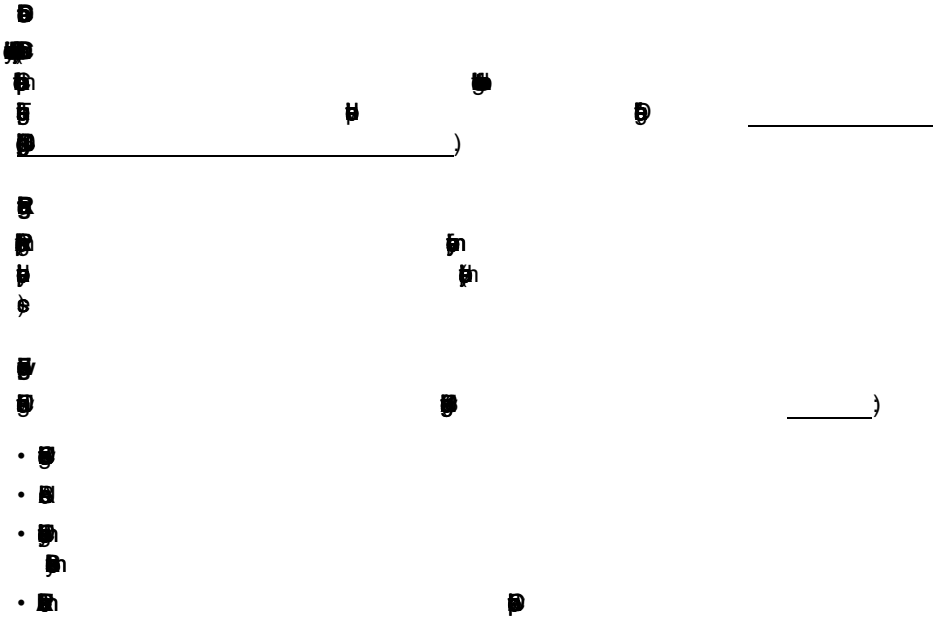
Fig. 112 Connecting two incoming calls

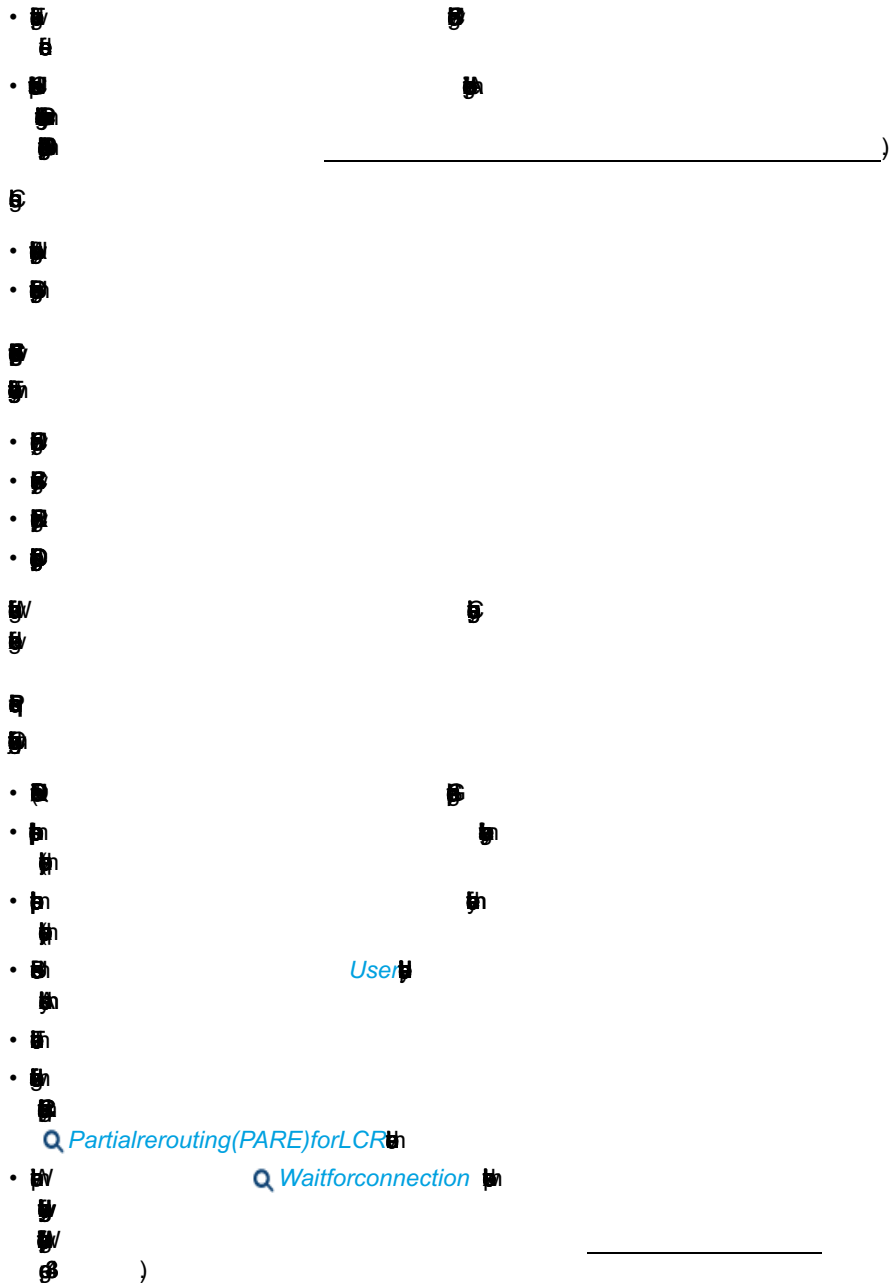
6. 6. 2 Transferring Call Forwarding Unconditional to the Exchange












RR
D
P
RR

Fig. 113 Transferring Call Forwarding Unconditional to the Exchange





Tab. 63 Transferring Call Forwarding Unconditional to the exchange: Settings

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <ul style="list-style-type: none"> • <i>Exchangeaccessauthorization</i> • <i>Partialrerouting(PARE)</i> |  |
|  <ul style="list-style-type: none"> • <i>Partialrerouting(PARE)</i> • <i>Publicnetworksupports'IdentityofCharge'</i> • <i>Networktype</i> • <i>Protocol</i> |   <i>Public</i> <i>DSS1</i> |
|  <ul style="list-style-type: none"> • <i>Calldestination:</i> |  <i>User</i> |
|  <ul style="list-style-type: none"> • <i>Partialrerouting(PARE)forLCR</i> |  |

6.6.3 Three-Party Connections in the Exchange

Tab. 64 Supplementary services take charge of features transferred to the exchange

| தமிழ் | தமிழ் | தமிழ் |
|-------|-------|-------|
| அ | அ | அ |
| ஆ | ஆ | ஆ |
| இ | இ | இ |
| ஈ | ஈ | ஈ |
| உ | உ | உ |
| ஊ | ஊ | ஊ |
| ஋ | ஋ | ஋ |
| ௌ | ௌ | ௌ |

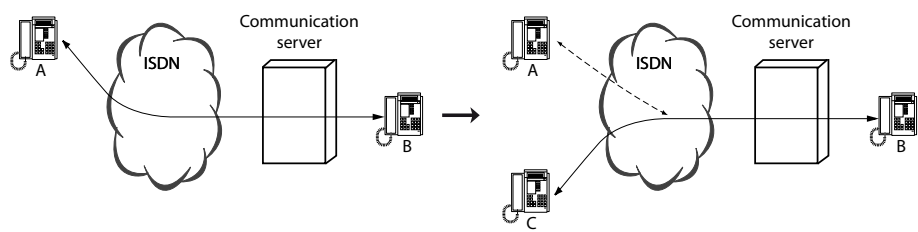


Fig. 114 External connection followed by hold and enquiry calls

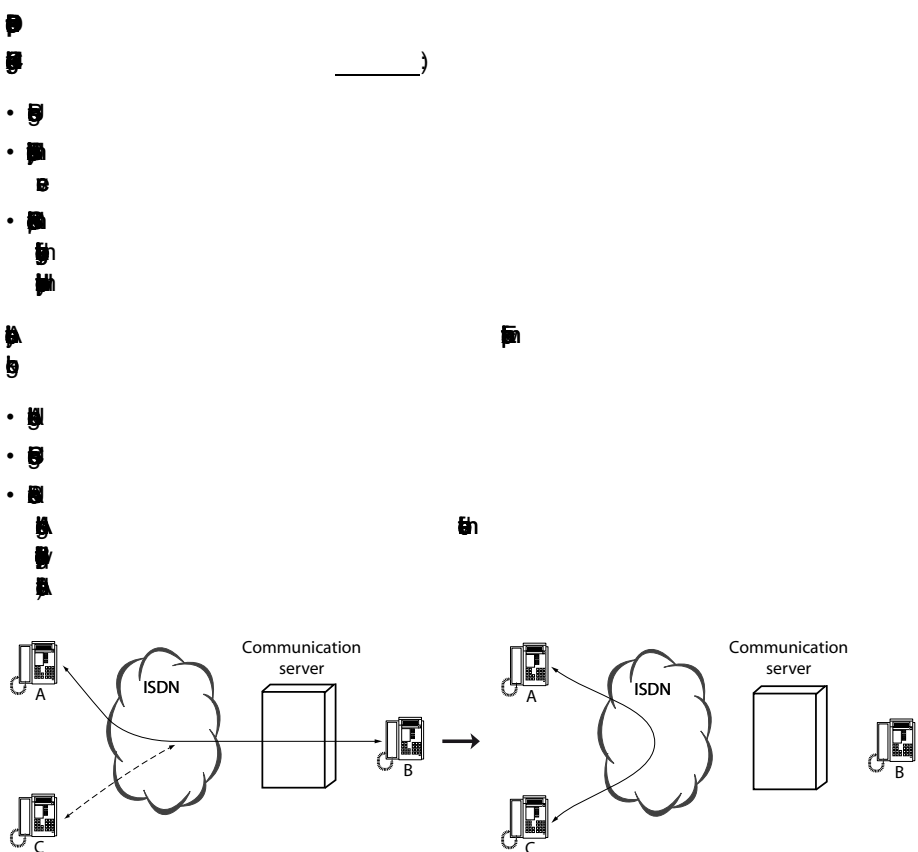


Fig. 115 Brokering followed by call transfer

Call routing

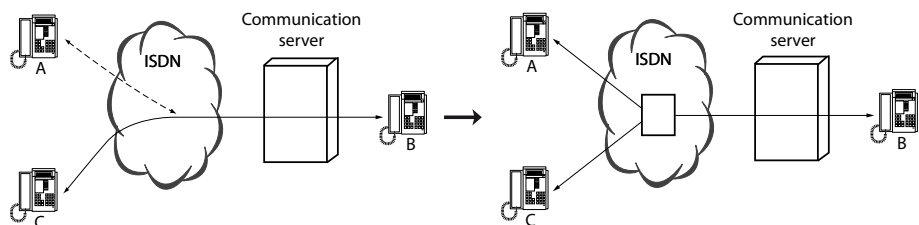
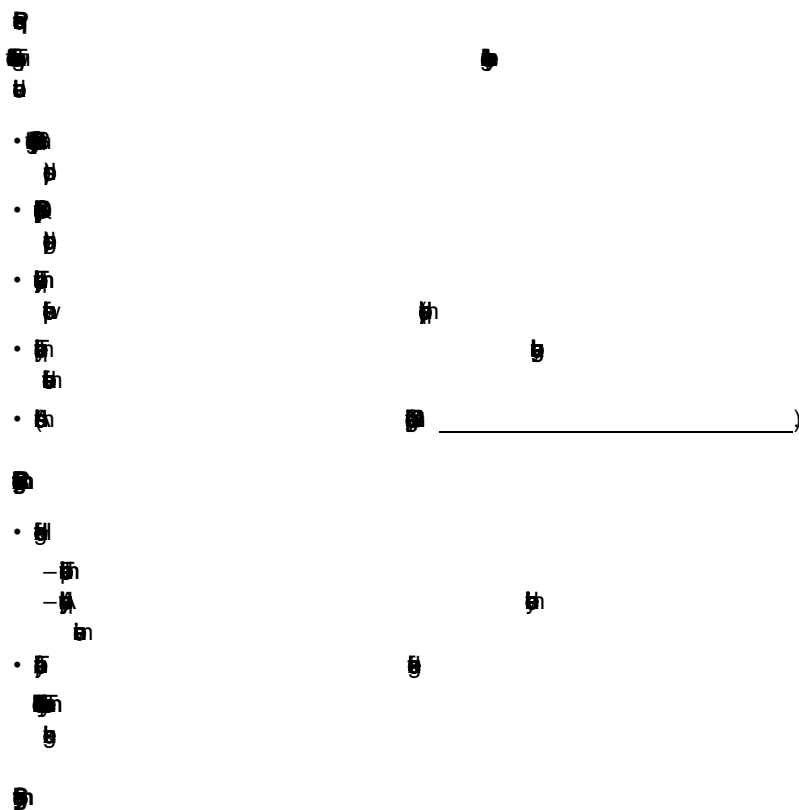










Fig. 116 Enquiry call and brokering, followed by three-party conference

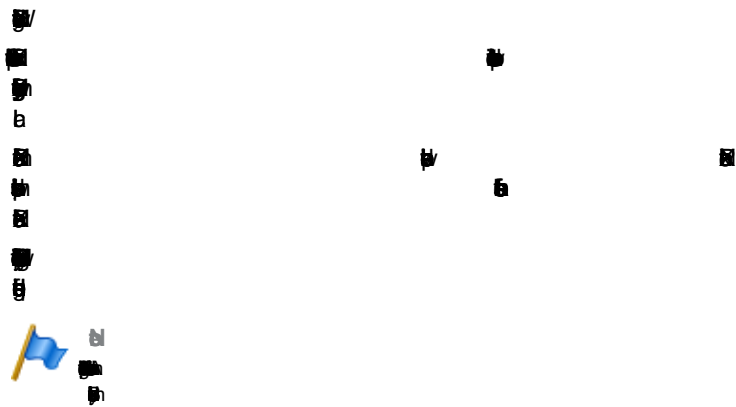


Tab. 65 Transferring three-party connections to the exchange: Settings

| | |
|-----------------------------------------------|---|
| 🏠 | 🏠 |
| 📁 | 📁 |
| • Exchangeaccessauthorization | 📁 |
| 📁 | |

|  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• <i>TEImanagement</i> | <i>P-MP(Point-to-Multipoint)</i> |
|  <ul style="list-style-type: none">• <i>Holdallowedinpublicnetwork (HOLD)</i>• <i>Three-partyinpublicnetwork (3PTY)</i>• <i>ExplicitCallTransfer(ECT)</i>• <i>Networktype</i>• <i>Protocol</i>• <i>Trunkconnections</i> | <div>   <i>Public</i> <i>DSS1</i>  </div> |

6.7 Transit Routing in the Private Leased-Line Network



6. 7. 1 From the Public Network to the Private Leased-Line Network

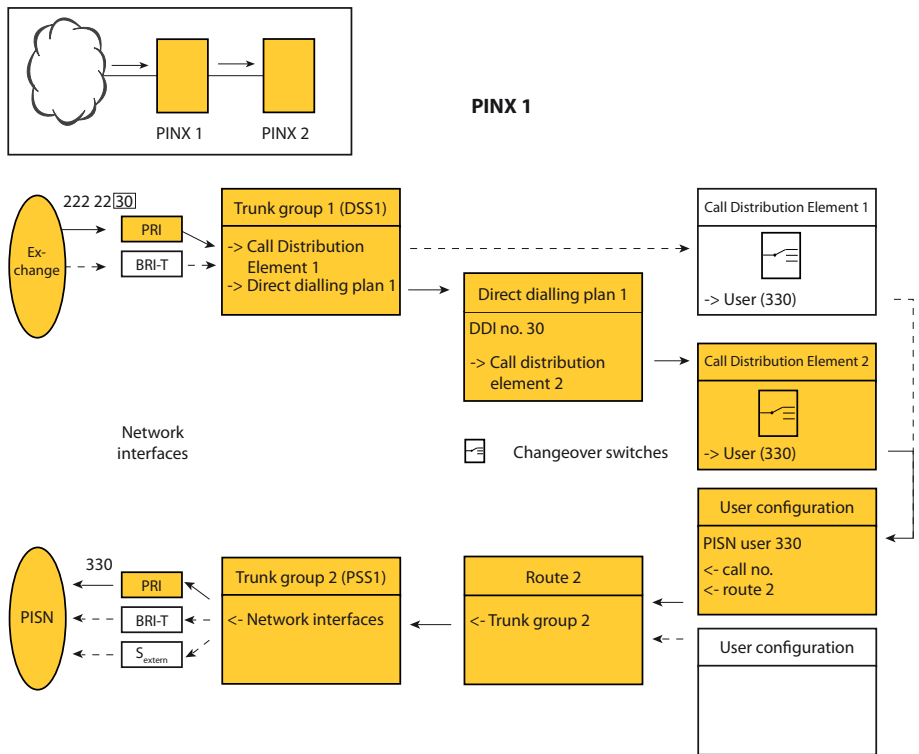





















Fig. 117 Transit routing from the public network into the private leased-line network with direct dialing

Tab. 66 Routing parameter settings

| <ul style="list-style-type: none">• Networkinterfaces• Max.incomingcalls• Maximumsimultaneousconnections• Networktype | Public |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |
| <ul style="list-style-type: none">• <i>Protocol</i>• <i>DDIplan</i>• <i>CallDistributionElement</i> | <i>DSS1</i>   |
|  <ul style="list-style-type: none">• <i>Directdiallingnumber</i>  |  |
|  <ul style="list-style-type: none">• <i>Calldestinations</i>• <i>Max.incomingcalls</i> | <i>Switchposition1</i>   |
|  <ul style="list-style-type: none">• <i>Route</i>• <i>Externalcallnumber</i> |   |
|  <ul style="list-style-type: none">• <i>Trunkgroup</i>• <i>Digitbarring</i>• <i>Maxoutgoingcalls</i>• <i>Numberingplanidentifier(NPI)</i>• <i>Typeofnumber(TON)</i> |    <i>PNP</i> <i>Unknown</i> |
|  <ul style="list-style-type: none">• <i>Networkinterfaces</i>• <i>Networktype</i>• <i>Protocol</i> |  <i>Private</i> <i>QSIGQSIG/PSS1ISO</i> |

Call routing

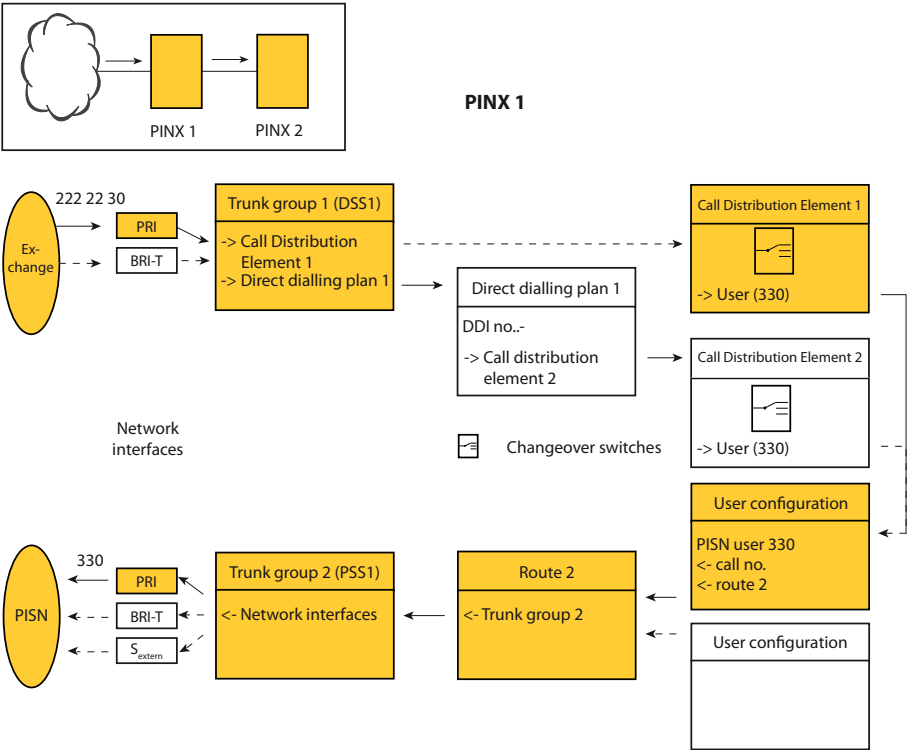


















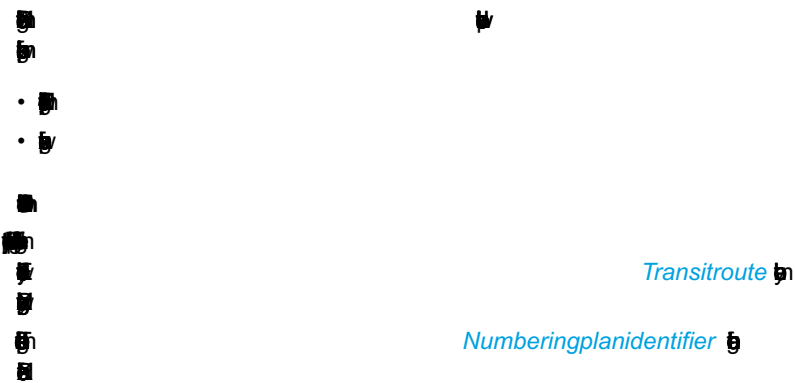
Fig. 118 Transit routing from the public network into the private leased-line network without direct dialling

Tab. 67 Routing parameter settings

| <ul style="list-style-type: none">• <i>Networkinterfaces</i>• <i>Max.incomingcalls</i>• <i>Maximumsimultaneousconnections</i>• <i>Networktype</i> | <i>Public</i> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |
| <ul style="list-style-type: none">• <i>Protocol</i>• <i>DDIplan</i>• <i>CallDistributionElement</i> | <i>DSS1</i>   |
|  <ul style="list-style-type: none">• <i>Calldestinations</i>• <i>Max.incomingcalls</i> | <i>Switchposition1</i>   |
|  <ul style="list-style-type: none">• <i>Route</i>• <i>Externalcallnumber</i> |   |
|  <ul style="list-style-type: none">• <i>Trunkgroup</i>• <i>Digitbarring</i>• <i>Maxoutgoingcalls</i>• <i>Numberingplanidentifier(NPI)</i>• <i>Typeofnumber(TON)</i> |    <i>PNP</i> <i>Unknown</i> |
|  <ul style="list-style-type: none">• <i>Networkinterfaces</i>• <i>Networktype</i>• <i>Protocol</i> |  <i>Private</i> <i>QSIGQSIG/PSS1ISO</i> |

6. 7. 2 From the private leased-line network into the public network



Call routing

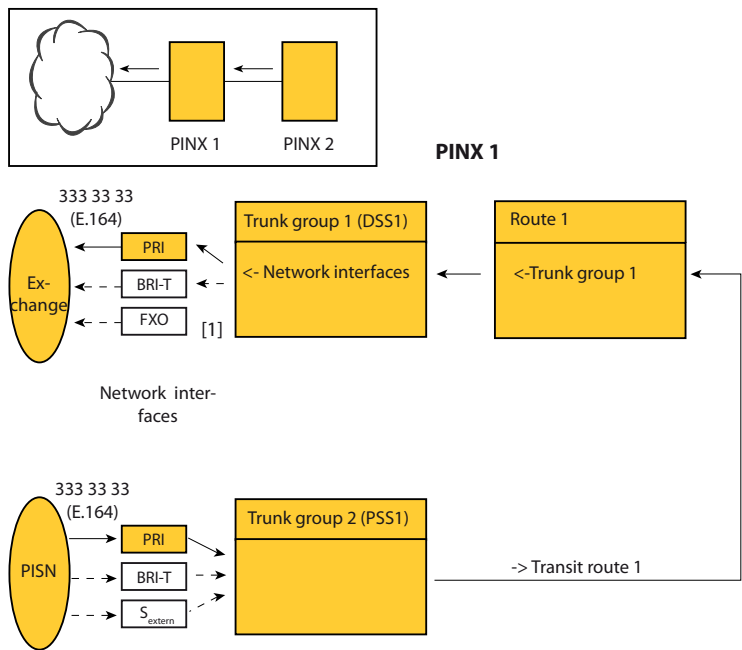



















Fig. 119 Transit routing from private leased-line network → public network with  = 

Tab. 68 Settings for PINX 2 routing parameters

|  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  <ul style="list-style-type: none">• <i>Trunkgroup</i>• <i>Numberingplanidentifier(NPI)</i> E.164• <i>Typeofnumber(TON)</i> Unknown• <i>Sendaccesscode</i> - |  |
|  <ul style="list-style-type: none">• <i>Networkinterfaces</i>• <i>Networktype</i> Private• <i>Protocol</i> PSS1(QSIG) |  |

Tab. 69 Settings for PINX 1 routing parameters

|  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  <ul style="list-style-type: none">• <i>Transitroute:</i> |  |
|  | |

|  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• <i>Trunkgroup</i>• <i>Digitbarring</i>• <i>Maxoutgoingcalls</i>• <i>Numberingplanidentifier(NPI)</i>• <i>Typeofnumber(TON)</i>• <i>Sendaccesscode</i> |    <i>E.164</i> <i>Unknown</i> — |
| <ul style="list-style-type: none">• <i>Networkinterfaces</i>• <i>Networktype</i>• <i>Protocol</i> |  <i>Public</i> <i>DSS1</i> |



Ex-

changeaccessbusiness , *Exchangeaccessprivate* , *Costcentreselection* 



Sendaccesscode 

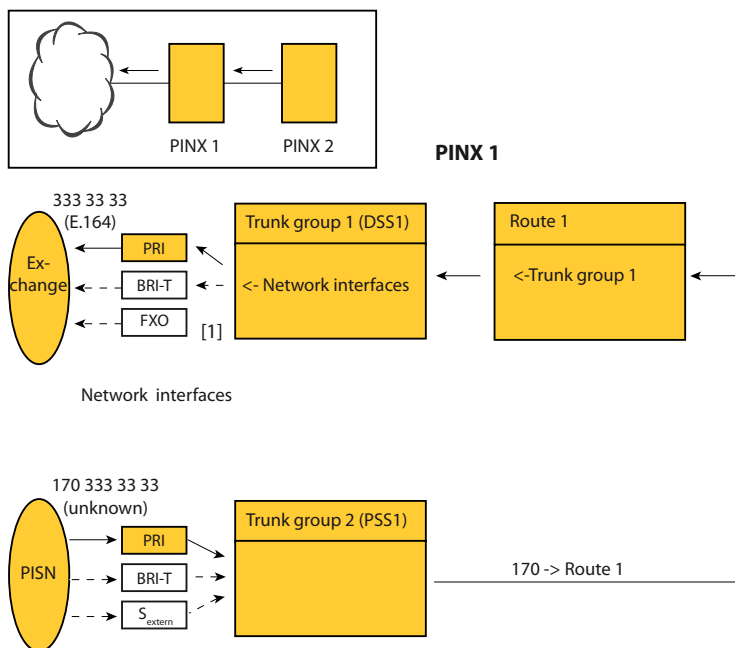


Fig. 120 Transit routing for private leased-line network → public network with exchange access prefix

Tab. 70 Settings for PINX 2 routing parameters

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • <i>Trunkgroup</i> • <i>Numberingplanidentifier(NPI)</i> • <i>Typeofnumber(TON)</i> • <i>Sendaccesscode</i> | <ul style="list-style-type: none"> • <i>Private</i> • <i>PSS1(QSIG)</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|

6. 7. 3 From the private leased-line network into the private leased-line network

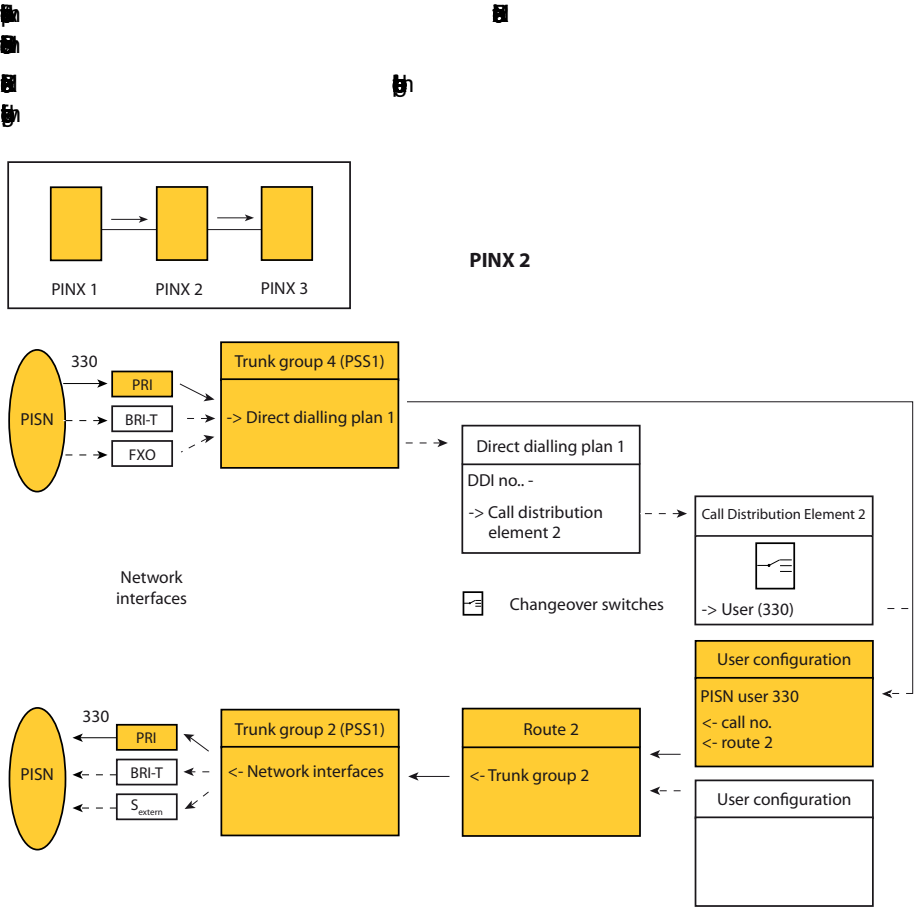
















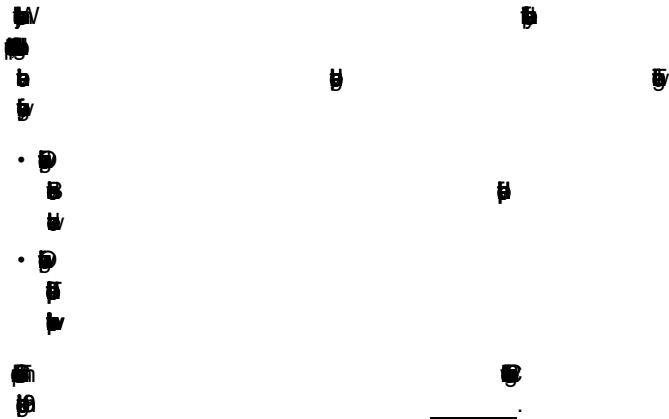
Fig. 121 Transit routing from the private leased-line network to another PISN user

Tab. 71 Routing parameter settings

| <ul style="list-style-type: none">• <i>Networkinterfaces</i>• <i>Max.incomingcalls</i>• <i>Maximumsimultaneousconnections</i>• <i>Networktype</i>• <i>Protocol</i> | <p><i>Private</i></p> <p><i>QSIGtoSIG/PSS1ISO</i></p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |
| <ul style="list-style-type: none">• <i>DDIplan</i>• <i>CallDistributionElement</i> |   |
|  <ul style="list-style-type: none">• <i>Route</i>• <i>Externalcallnumber</i> |   |
|  <ul style="list-style-type: none">• <i>Trunkgroup2</i>• <i>Digitbarring</i>• <i>Maxoutgoingcalls</i>• <i>Numberingplanidentifier(NPI)</i>• <i>Typeofnumber(TON)</i> |    <i>PNP</i> <i>Unknown</i> |
|  <ul style="list-style-type: none">• <i>Networkinterfaces</i>• <i>Networktype</i>• <i>Protocol</i> |   <i>QSIGo</i> <i>QSIG/PSS1/ISO</i> |

6. 8 Testing overflow routing in the PISN



6. 8. 1 Overflow routing within the private leased-line network

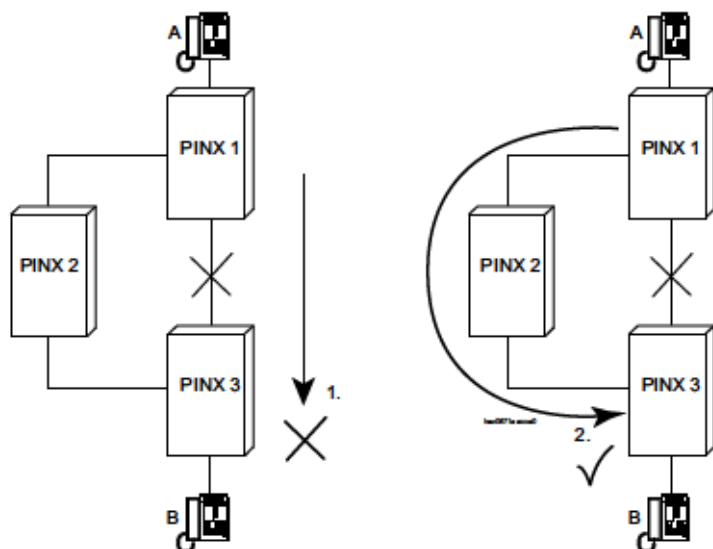


Fig. 122 Overflow routing in the private leased-line network via dedicated lines

Overflow routing in the private network can be resolved with the appropriate route configuration:

Configuration example

In PINX 1 let route 6 be provided for outgoing calls to PINX 3. If trunk groups 2 and 4 are allocated to this route, the first attempt will be to route the call via trunk group 2. If trunk group 2 is not available, the call will be routed via trunk group 4.

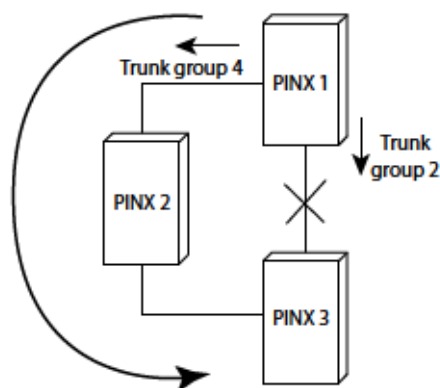


Fig. 123 Overflow routing in the private leased-line network using a sensible trunk group allocation in the route configuration

6. 8. 2 Overflow routing via the public network

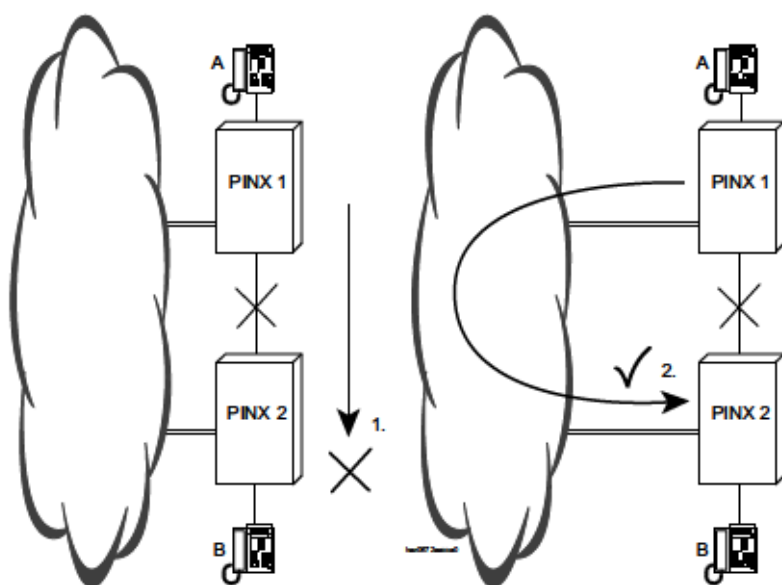


Fig. 124 Overflow via the public network -- the LCR function is used for this purpose

Overflow routing via the public network is resolved using Least Cost Routing.

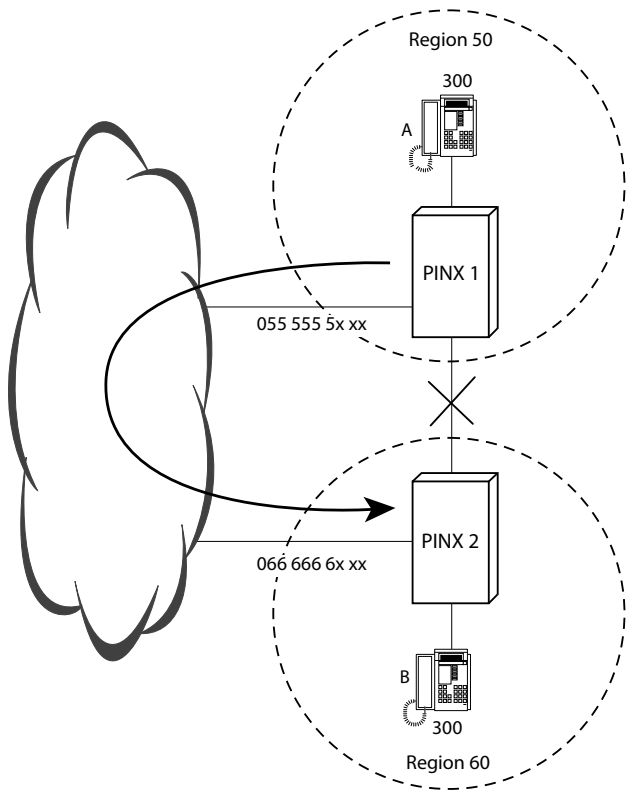
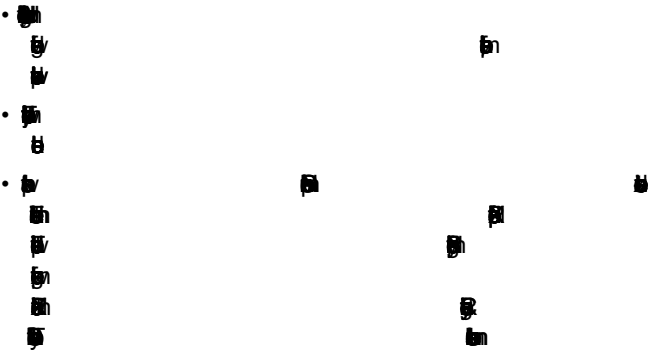


Fig. 125 Configuration example of overflow routing via the public network

Call routing



Tab. 72 Settings for overflow routing on PINX 1

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| | |
| <ul style="list-style-type: none"> | |
| <ul style="list-style-type: none">Timezone x | <ul style="list-style-type: none">Network provider :Alternative network providerTimes |
| <ul style="list-style-type: none">Network providerConversion rule | Route 6 |
| <ul style="list-style-type: none">NameTrunk groupExternal digit barringMax outgoing callsNumbering plan identifier (NPI)Type of number (TON) | 2 E.164 National |
| <ul style="list-style-type: none">NameNetwork interfacesNetwork typeProtocol | Public DSS1 |

6.9 Break-Out

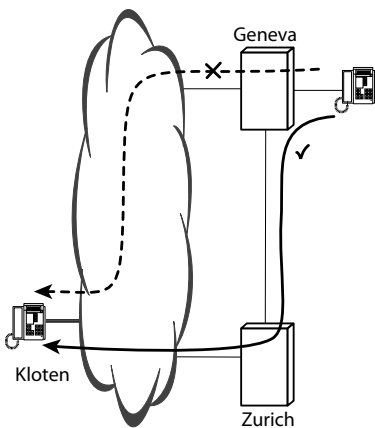
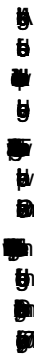


Fig. 126 Break-out



Call routing

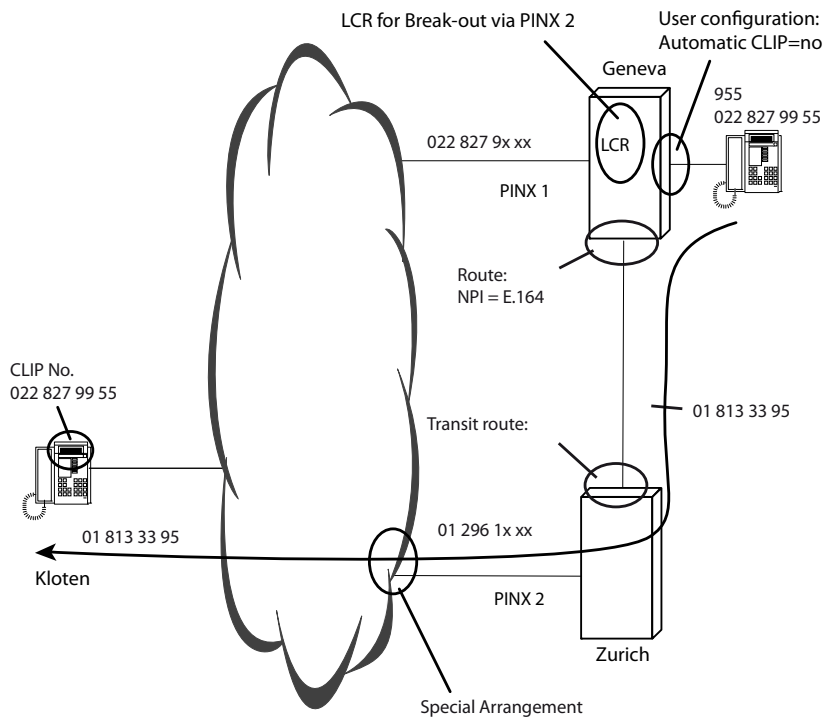
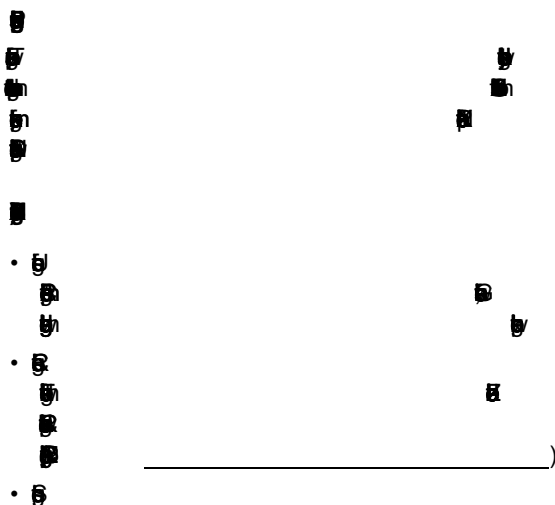


Fig. 127 Topology with important points



- ```

- Numberingplanidentifier(NPI) = 164
- Networktype = Private
- Protocol = PSS1
- CreateCLIPnumerautomatically

```

**Tab. 73** Settings for break-out routing at the source PINX (PINX 1 in Geneva)











|                                                                                                                                                                                                                |                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Create CLIP number automatically</li> <li>Numbering plan identifier (NPI)</li> <li>Type of number (TON)</li> <li>CLIP number</li> </ul>                                 | <ul style="list-style-type: none"> <li>E.164</li> <li>National</li> </ul>                       |
| <ul style="list-style-type: none"> <li>.</li> <li>0</li> <li>0</li> <li>0</li> <li>.</li> </ul>                                                                                                                | <ul style="list-style-type: none"> <li>.</li> <li>0</li> <li>0</li> <li>0</li> <li>.</li> </ul> |
| <ul style="list-style-type: none"> <li>Timezone</li> </ul>                                                                                                                                                     | <ul style="list-style-type: none"> <li>Network provider</li> <li>Times</li> </ul>               |
| <ul style="list-style-type: none"> <li>Network provider</li> <li>Conversion rule</li> </ul>                                                                                                                    | <ul style="list-style-type: none"> <li>Route 5</li> <li>Number</li> </ul>                       |
| <ul style="list-style-type: none"> <li>Name</li> <li>Trunk group</li> <li>External digit barring</li> <li>Max outgoing calls</li> <li>Numbering plan identifier (NPI)</li> <li>Type of number (TON)</li> </ul> | <ul style="list-style-type: none"> <li>2</li> <li>Unknown</li> </ul>                            |
| <ul style="list-style-type: none"> <li>Name</li> </ul>                                                                                                                                                         | <ul style="list-style-type: none"> <li></li> </ul>                                              |

Call routing

|                                                                                                                                                                  |                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                   |                                                               |
| <ul style="list-style-type: none"><li>• <i>Networkinterfaces</i></li><li>• <i>Networktype</i></li><li>• <i>Protocol</i></li><li>• <i>AutomaticCLIP</i></li></ul> | <br><i>Private</i><br><i>QSIG/QSIG/PSS1/ISO</i><br><i>yes</i> |



Tab. 74    Settings for the break-out routing at the gateway PINX  
(PINX 2 in Zurich)

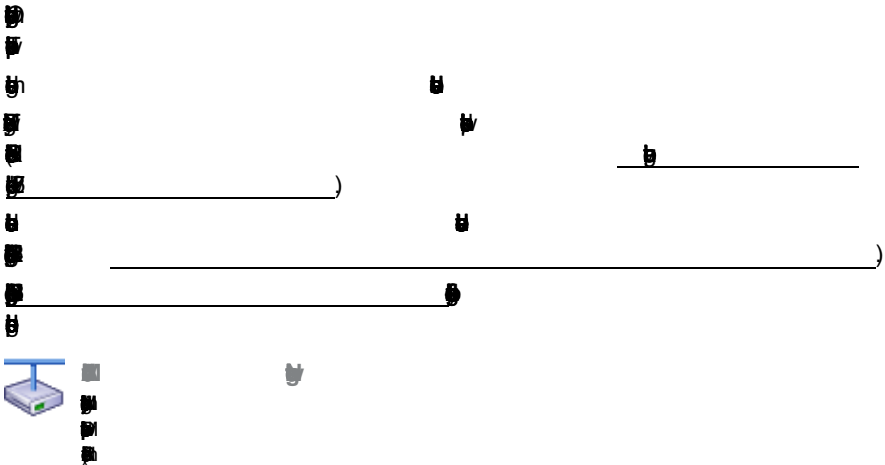
|                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                            |                                                                                                                                                                                                            |
| <br><ul style="list-style-type: none"><li>• <i>Route</i></li></ul>                                                                                                                                         |                                                                                                                                                                                                            |
| <br><ul style="list-style-type: none"><li>• <i>Name</i></li><li>• <i>Trunkgroup</i></li><li>• <i>Numberingplanidentifier(NPI)</i></li><li>• <i>Typeofnumber(TON)</i></li></ul>                             | <br>1<br><i>E.164</i><br><i>Unknown</i>                                                                                                                                                                    |
| <br><ul style="list-style-type: none"><li>• <i>Name</i></li><li>• <i>Networkinterfaces</i></li><li>• <i>Networktype</i></li><li>• <i>Protocol</i></li><li>• <i>CreateCLIPnumberautomatically</i></li></ul> | <br><br><i>Public</i><br><i>DSS1</i><br> |



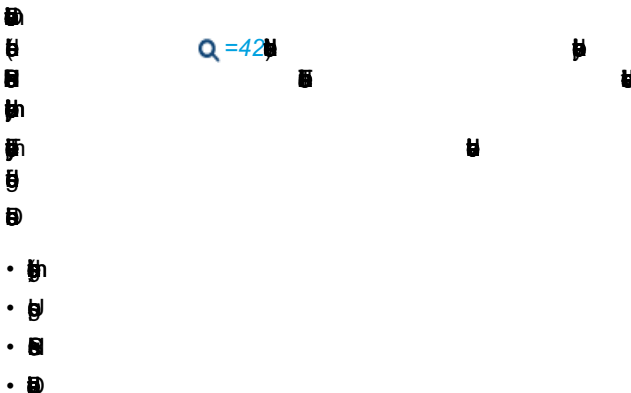
## 7 Data service

This Chapter deals with outgoing and incoming data service connections. It looks at types of data services, the configuration of data service destination tables, and how data services are routed in the private leased-line network. This section also deals with user-to-user signalling and the fax service on a CPU2 applications card (Mitel 470 only).

### 7.1 Overview



### 7.2 Data-service connections and destination tables



Unknown.

Tab. 75 Data-service destination table

| FAX2,3              | <ul style="list-style-type: none"><li>•</li><li>•</li></ul> |
|---------------------|-------------------------------------------------------------|
| FAX4                | <ul style="list-style-type: none"><li>•</li><li>•</li></ul> |
| Teletex             |                                                             |
| Telex               |                                                             |
| Videotex            |                                                             |
| TelepacX.25/X.31A   |                                                             |
| TAV.110             |                                                             |
| TAV.120             |                                                             |
| Bchanneltransparent | <ul style="list-style-type: none"><li>•</li><li>•</li></ul> |
| Analoguemodem       | <ul style="list-style-type: none"><li>•</li><li>•</li></ul> |
| Unknown             |                                                             |

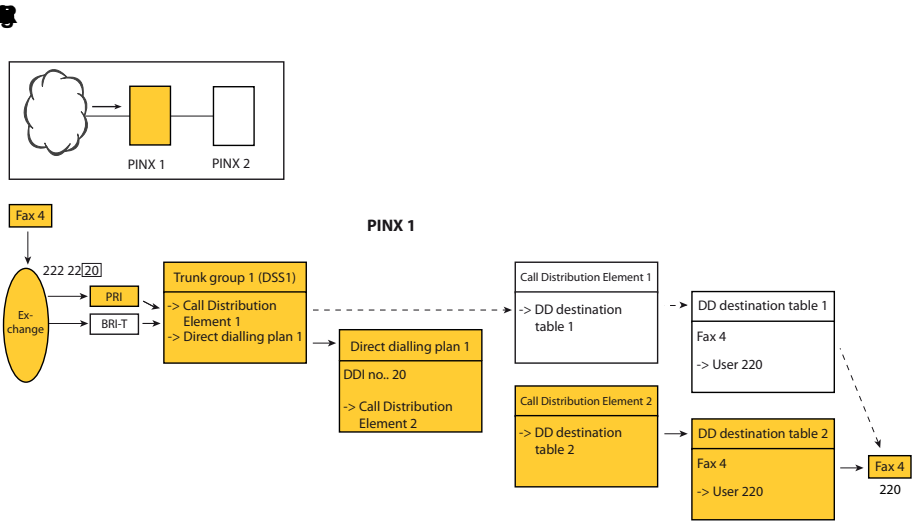


Fig. 128 Incoming data-service routing from the public network with direct dialling to a destination in the data-service destination table

Tab. 76 Routing parameter settings

|                                                                                                                                                                                                                                                                                                |                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• <i>Networkinterfaces</i></li> <li>• <i>Max.incomingcalls</i></li> <li>• <i>Maximumsimultaneousconnections</i></li> <li>• <i>Networktype</i></li> <li>• <i>Protocol</i></li> <li>• <i>DDIplan</i></li> <li>• <i>CallDistributionElement</i></li> </ul> | <ul style="list-style-type: none"> <li>• <i>Public</i></li> <li>• <i>DSS1</i></li> <li>• <i>1</i></li> </ul> |
| <ul style="list-style-type: none"> <li>• <i>Directdiallingnumber</i> 0</li> </ul>                                                                                                                                                                                                              |                                                                                                              |
| <ul style="list-style-type: none"> <li>• <i>Data-servicedestinationtable</i></li> </ul>                                                                                                                                                                                                        |                                                                                                              |
| <ul style="list-style-type: none"> <li>• <i>Max4</i></li> </ul>                                                                                                                                                                                                                                |                                                                                                              |

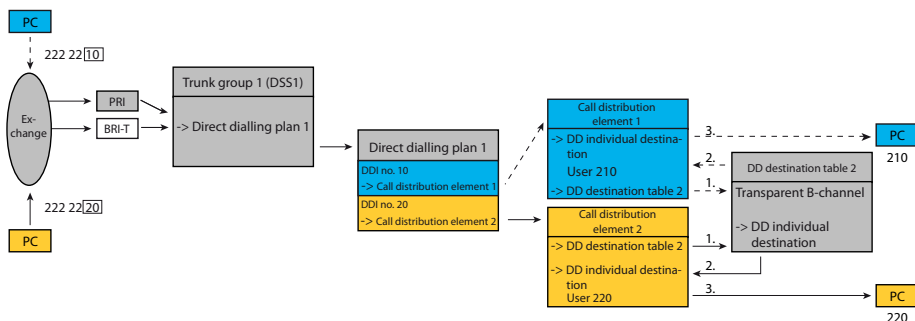
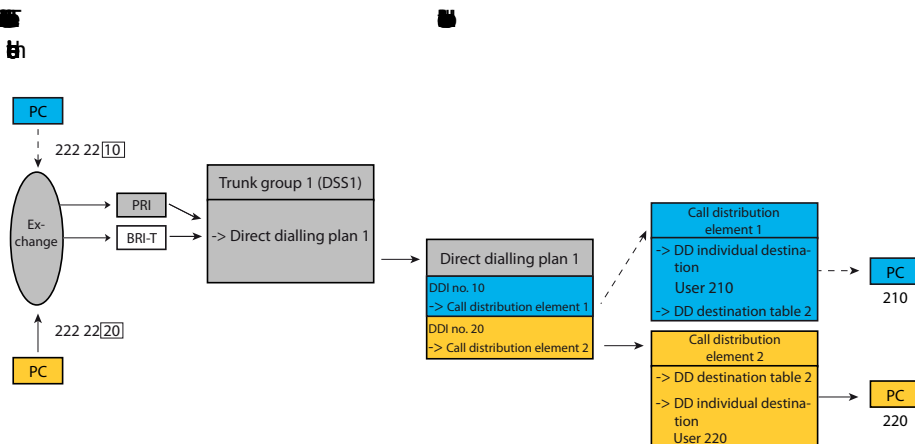


Fig. 129 Incoming data-service routing from the public network with direct dialling to a data-service individual destination

Tab. 77 Routing parameter settings

|                                                                                                                                                                   |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <ul style="list-style-type: none"> <li>• <i>Networkinterfaces</i></li> <li>• <i>Max.incomingcalls</i></li> <li>• <i>Maximumsimultaneousconnections</i></li> </ul> |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

|                                                                                                                                             |                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• <i>Networktype</i></li> <li>• <i>Protocol</i></li> <li>• <i>DDIplan</i></li> </ul>                 | <ul style="list-style-type: none"> <li>• <i>Public</i></li> <li>• <i>DSS1</i></li> <li>• <i>1</i></li> </ul> |
| <ul style="list-style-type: none"> <li>• <i>Directdiallingnumber 0</i></li> <li>• <i>Directdiallingnumber 2</i></li> </ul>                  | <ul style="list-style-type: none"> <li>• <i>0</i></li> <li>• <i>2</i></li> </ul>                             |
| <ul style="list-style-type: none"> <li>• <i>Data-servicedestinationtable</i></li> <li>• <i>Data-serviceindividualdestination</i></li> </ul> | <ul style="list-style-type: none"> <li>• <i>Table</i></li> <li>• <i>Individual</i></li> </ul>                |
| <ul style="list-style-type: none"> <li>• <i>Data-servicedestinationtable</i></li> <li>• <i>Data-serviceindividualdestination</i></li> </ul> | <ul style="list-style-type: none"> <li>• <i>Table</i></li> <li>• <i>Individual</i></li> </ul>                |
| <ul style="list-style-type: none"> <li>• <i>Channeltransparent</i></li> </ul>                                                               | <ul style="list-style-type: none"> <li>• <i>Transparent</i></li> </ul>                                       |



**Fig. 130** Incoming data-service routing from the public network with direct dialling to a data-service individual destination but without entry in a data-service destination table

## 7.3 Routing in the private leased-line network

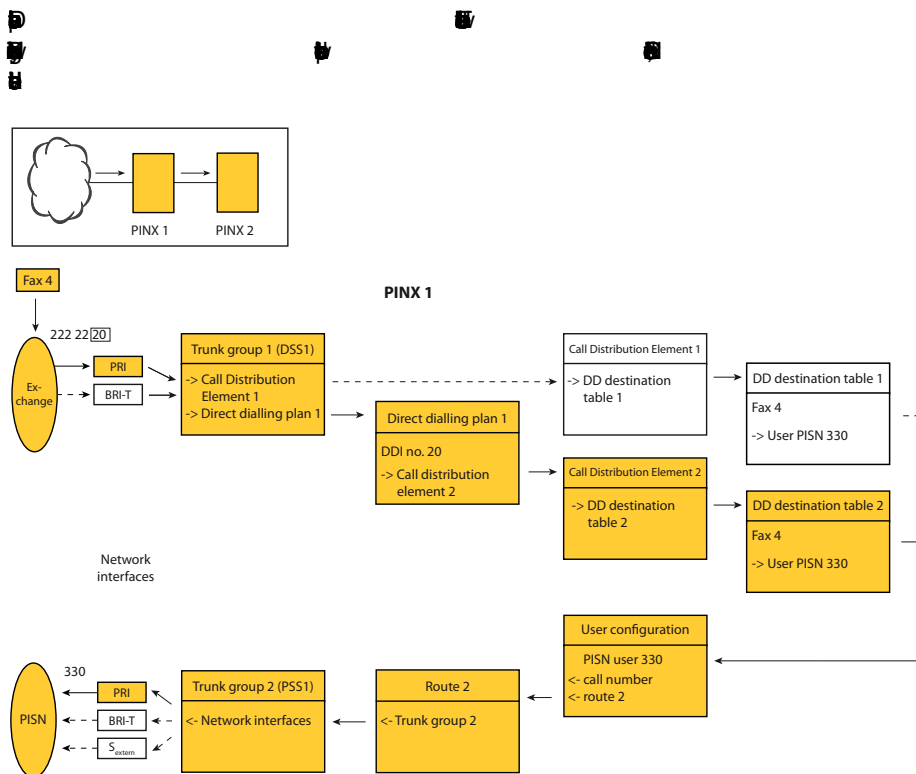












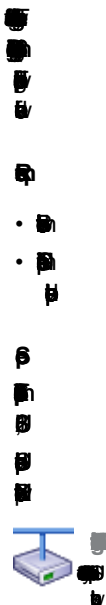
Fig. 131 Data-service routing transit from the public network with direct dialling to another PINX in the private leased-line network.

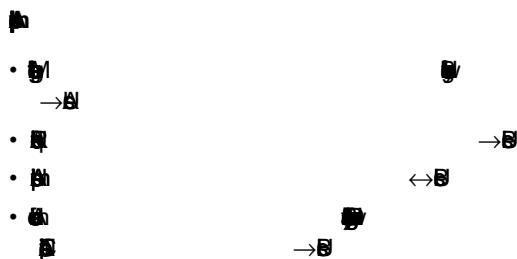
Tab. 78 Routing parameter settings

| <ul style="list-style-type: none"> <li>• <i>Networkinterfaces</i></li> <li>• <i>Max.incomingcalls</i></li> <li>• <i>Maximumsimultaneousconnections</i></li> <li>• <i>Networktype</i></li> <li>• <i>Protocol</i></li> <li>• <i>DDIplan</i></li> <li>• <i>CallDistributionElement</i></li> </ul> | <ul style="list-style-type: none"> <li>Public</li> <li>DSS1</li> <li>1</li> </ul> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• <i>Directdiallingnumber</i> 0</li> </ul>                                                                                                                                                                                                              |                                                                                   |

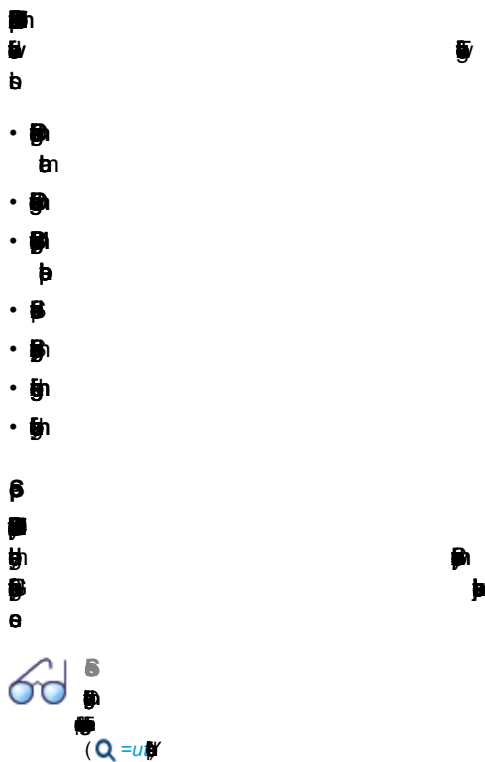
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                    |                                                                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>• <i>Data-servicedestinationtable</i></li> </ul>                                                                                                                                            |                                                                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>• <i>Sax4</i></li> </ul>                                                                                                                                                                    |                                                                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>• <i>Route</i></li> <li>• <i>Number</i></li> </ul>                                                                                                                                          | <br>                                                                                                                      |
| <ul style="list-style-type: none"> <li>• <i>Trunkgroup</i></li> <li>• <i>Externaldigitbarring</i></li> <li>• <i>Maxoutgoingcalls</i></li> <li>• <i>Numberingplanidentifier(NPI)</i></li> <li>• <i>Typeofnumber(TON)</i></li> </ul> | <br><br><br><i>PNP</i><br><i>Unknown</i> |
| <ul style="list-style-type: none"> <li>• <i>Networkinterfaces</i></li> <li>• <i>Networktype</i></li> <li>• <i>Protocol</i></li> </ul>                                                                                              | <br><i>Private</i><br><i>QSIG<sub>D</sub></i> <i>QSIG/PSS1/ISO</i>                                                                                                                                         |

## 7.4 User-to-user signalling (UUS)





## 7.5 Fax service<sup>1)</sup>



Multimedia- Faxserver



## 8 Call logging (CL)

Call data and call charges can be logged and evaluated in great detail with the aid of the system. This Chapter explains the concept of individual charge counting (ICC) and the setting options for logging call data for outgoing (OCL) and incoming (ICL) calls. It also examines other aspects such as the output concept, interface configuration for call data output, output types and the various output formats.

### 8.1 Overview

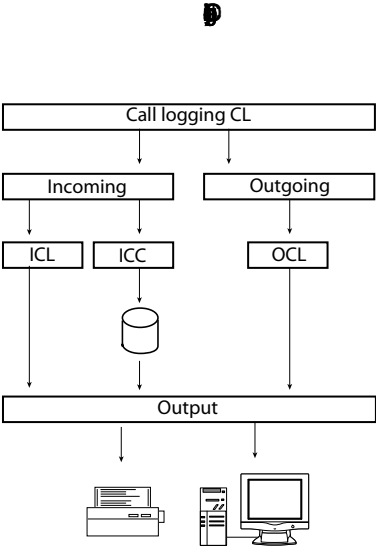


Fig. 132 Call logging at a glance



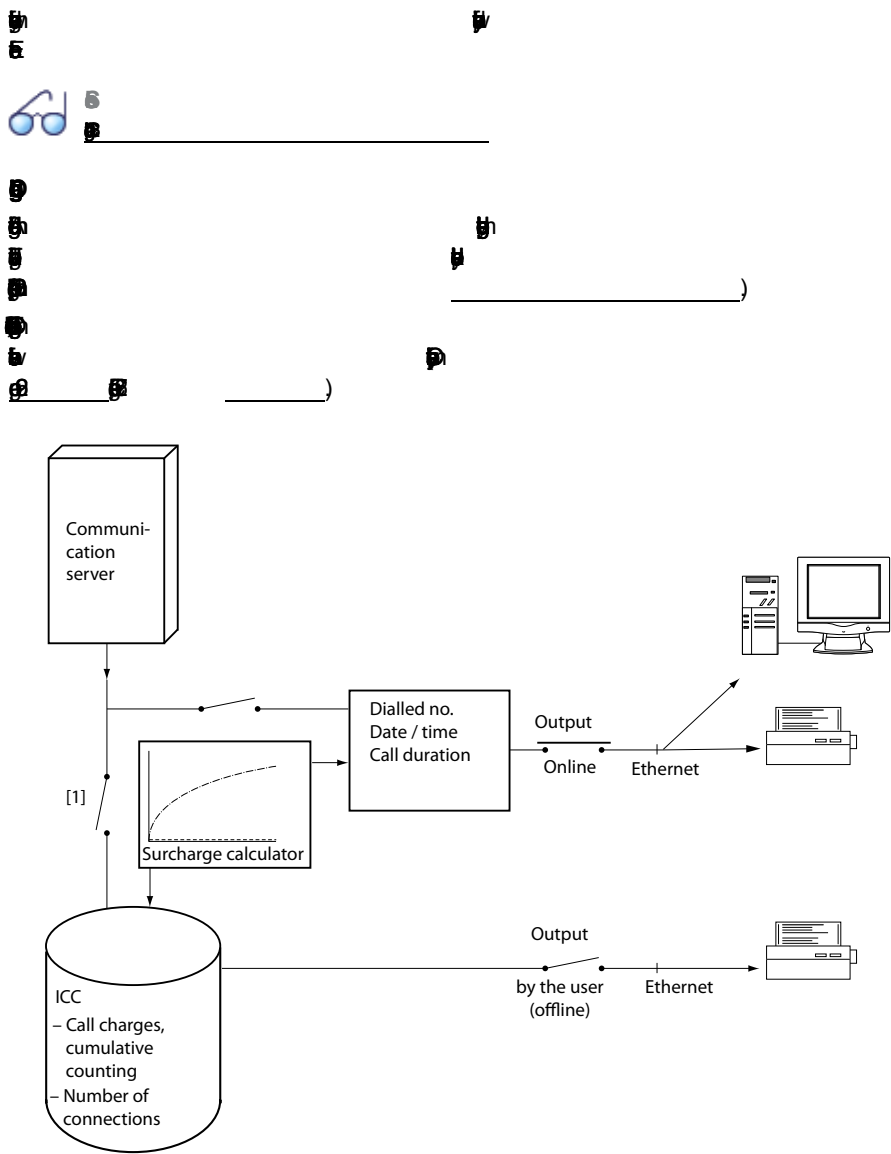


Fig. 133 Call logging and charge acquisition for outgoing traffic

# Call logging (CL)

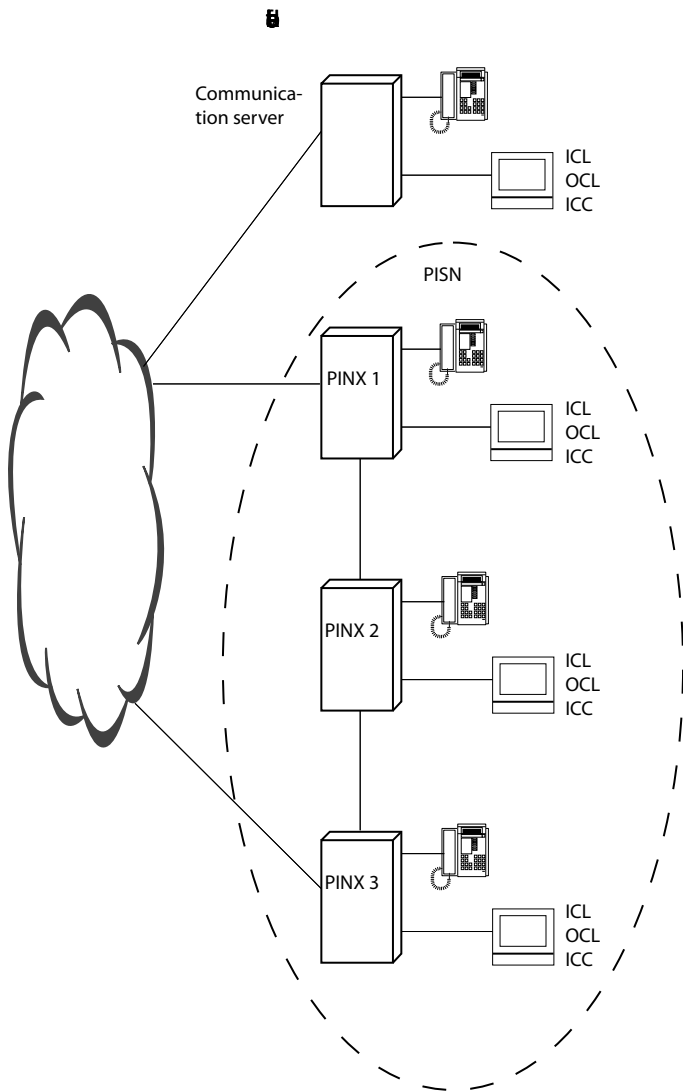


Fig. 134 Call logging in the PISN

## 8. 2 Individual charge counting or ICC

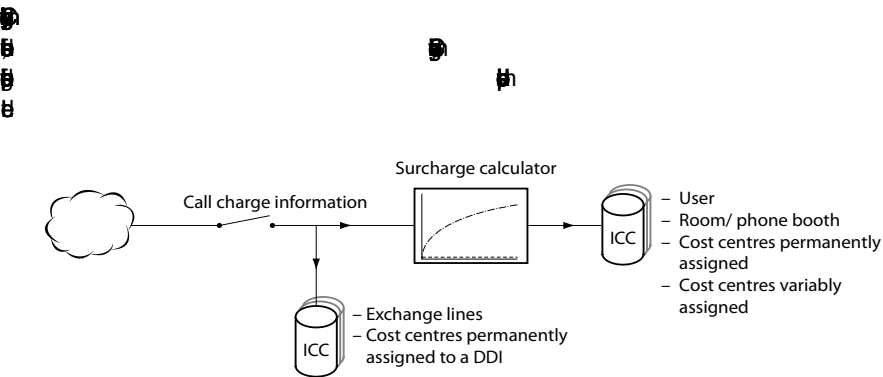


Fig. 135 Call charge allocation

### 8. 2. 1 Cumulative counter



- Private:



*Exchangeaccess,private .*

- Business:



*changeaccess,business.*

*Ex-*



- Ex

- Ex

- Ex

- Ex

Call logging (CL)

|                           |                               |                       |                 |             |
|---------------------------|-------------------------------|-----------------------|-----------------|-------------|
| Exchange line             | Counter per network interface | Number of connections | Last connection |             |
|                           | 24.50                         | 5                     | 8.30            |             |
| Exchange line             | 2'135.60                      | 102                   | 5.20            |             |
|                           |                               |                       |                 |             |
| Counters per user         |                               | No of connect.        | Last connection | User        |
| Business calls            | 23'477.80                     | 1'356                 | 65.80           |             |
| Business data connections | 856'330.00                    | 85                    | 1'757.50        |             |
| Private connections       | 210.60                        | 20                    | 11.40           | Room        |
| Counters per cost centre  |                               | No of connect.        | Last connection |             |
| 8'255.00                  |                               | 78                    | 6'535.00        | Cost centre |
| Counters per cost centre  |                               | No of connect.        | Last connection |             |
| 00                        |                               |                       |                 |             |
| 01                        |                               |                       |                 |             |
| ...                       |                               |                       |                 |             |
| 99                        |                               |                       |                 | Cost centre |
| Drain counter             |                               |                       |                 |             |
| 100                       |                               |                       |                 |             |
|                           |                               |                       |                 |             |
| Total amount              |                               | Max. number           | Max. amount     |             |
| 2'147'483.00              |                               | 2 Mrd                 | 2'147'483.00    |             |

Fig. 136 Example of ICC cumulative counter



=zzb  
 chargevalue .

exchangerate 6n



Business/ Privateb



## 8. 2. 2 Surcharge calculator

- 
- 
- 







\_\_\_\_\_.

## 8. 2. 3 ICC reports



# Call logging (CL)

- 
- 
- 
- 

|                                                         |                   |                  |        |
|---------------------------------------------------------|-------------------|------------------|--------|
| ***** any text (max. 68 characters configurables) ***** |                   |                  |        |
| CALL FEES                                               |                   |                  | 0032   |
| FROM 21.06.04 14:02                                     | TO 30.06.04 16:00 | OFFICE TELEPHONY |        |
| NUMBER 20                                               | 51 CALLS          | EURO             | 123.80 |

Fig. 137 Individual report for business telephony calls

|                                                         |                   |                     |        |
|---------------------------------------------------------|-------------------|---------------------|--------|
| ***** any text (max. 68 characters configurables) ***** |                   |                     |        |
| CALL FEES                                               |                   |                     | 0032   |
| FROM 21.06.04 14:02                                     | TO 30.06.04 16:00 | OFFICE DATA SERVICE |        |
| NUMBER 20                                               | 51 CALLS          | EURO                | 123.80 |

Fig. 138 Individual report for business data service calls

|                                                         |                   |                    |       |
|---------------------------------------------------------|-------------------|--------------------|-------|
| ***** any text (max. 68 characters configurables) ***** |                   |                    |       |
| CALL FEES                                               | SERVICE INCLUDED  |                    | 0033  |
| FROM 21.06.04 14:02                                     | TO 30.06.04 16:00 | PRIVATE PHONE+DATA |       |
| NUMBER 20                                               | 12 CALLS          | EURO               | 15.20 |

Fig. 139 Individual report for private calls (telephony and data service)

|                                                         |                   |             |       |
|---------------------------------------------------------|-------------------|-------------|-------|
| ***** any text (max. 68 characters configurables) ***** |                   |             |       |
| CALL FEES                                               |                   |             | 0033  |
| FROM 21.06.04 14:02                                     | TO 30.06.04 16:00 | COST CENTRE |       |
| NUMBER 02                                               | 23 CALLS          | EURO        | 23.50 |

Fig. 140 Individual report for a cost centre

|                                                         |                   |      |        |
|---------------------------------------------------------|-------------------|------|--------|
| ***** any text (max. 68 characters configurables) ***** |                   |      |        |
| CALL FEES                                               |                   |      | 0035   |
| FROM 21.06.04 14:02                                     | TO 30.06.04 16:00 |      |        |
| EXCH 2.2/1                                              | 78 CALLS          | EURO | 124.30 |

Fig. 141 Individual report for a network interface

|                                                         |                   |      |       |
|---------------------------------------------------------|-------------------|------|-------|
| ***** any text (max. 68 characters configurables) ***** |                   |      |       |
| CALL FEES                                               | SERVICE INCLUDED  |      | 0036  |
| FROM 21.06.04 14:02                                     | TO 30.06.04 16:00 |      | ROOM  |
| NUMBER 34                                               | 4 CALLS           | EURO | 18.20 |

Fig. 142 Individual report for all calls made by Room 34

b

Tab. 79 Additional information between NUMBERS and CONNECTIONS

|   |  |
|---|--|
|   |  |
| * |  |
| B |  |

Tab. 80 Additional information after the cumulative counter

|   |  |
|---|--|
|   |  |
| + |  |
| ! |  |

En  
Ey

- 5
- 5
- 6
- 7

ara

:00



|                                                         |       |                     |       |       |             |
|---------------------------------------------------------|-------|---------------------|-------|-------|-------------|
| ***** any text (max. 68 characters configurables) ***** |       |                     |       |       |             |
| CALL FEES                                               |       | FROM 30.07.04 18:00 |       |       | 1822        |
| EXCH. LINES                                             |       |                     |       |       |             |
| EXCH                                                    | STATE | RECORD              | SINCE | CALLS | FEE IN EURO |
| 2.1                                                     |       | 01.07.04            | 18:05 | 4     | 21.10       |
| 2.2                                                     |       | 27.05.04            | 13:00 | 27    | 78.30       |
| 3.1.                                                    |       | .                   | .     | 68    | 278.30      |
| .                                                       |       | 27.05.04            | 13:00 | .     | .           |
| 0.2                                                     |       | 14.07.04            | 22:10 | 824   | 848.90      |
| .                                                       |       |                     | TOTAL | 2763  | 4213.20     |

Fig. 146 Complete report for all network interfaces

### 8.3 Call logging for outgoing calls (OCL)

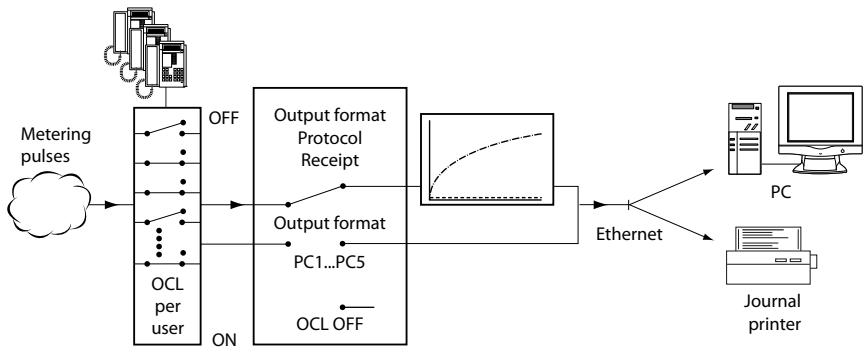
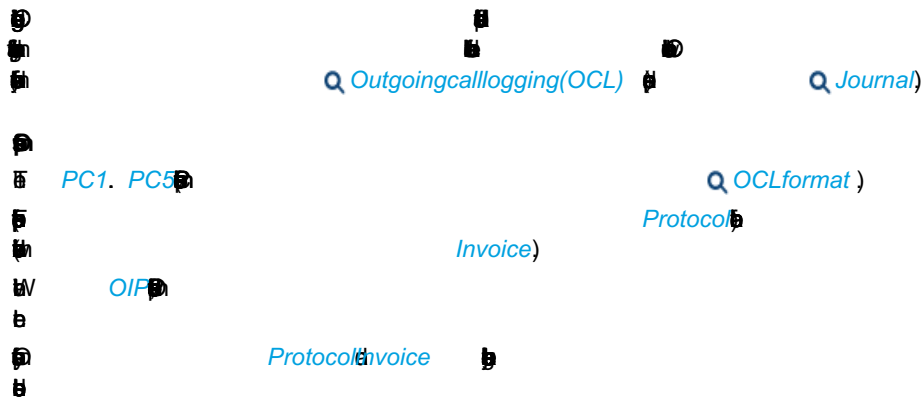


Fig. 147 Schematic sequence



### 8. 3. 1 General OCL settings

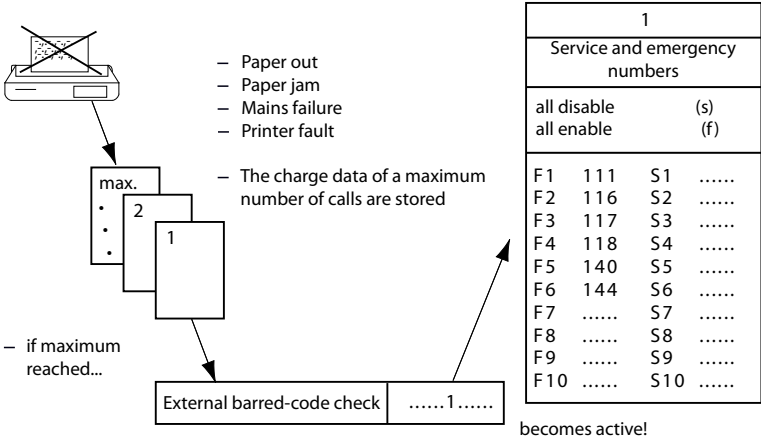
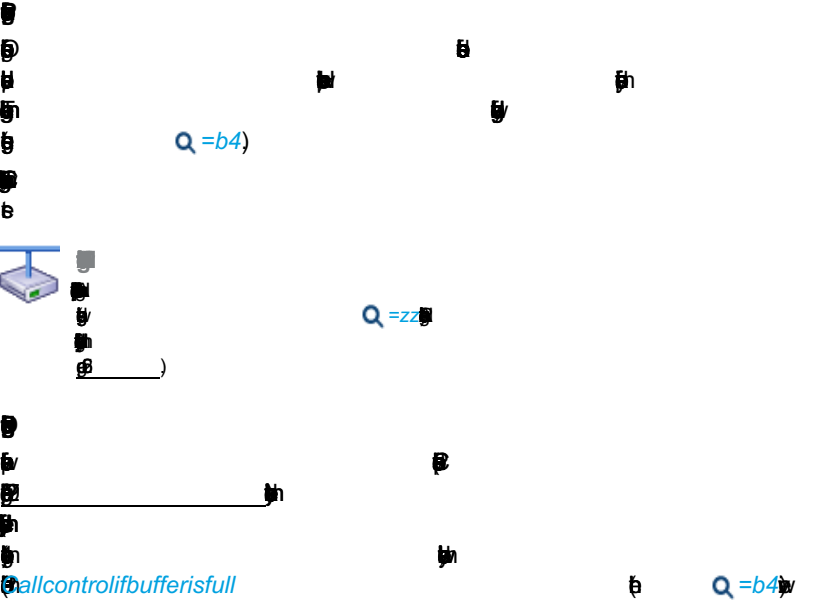
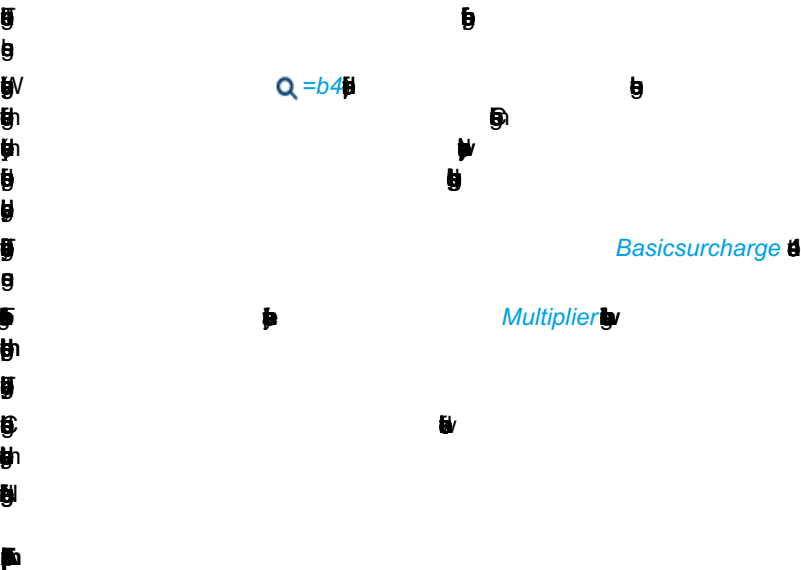


Fig. 148 Situation if output is blocked

8. 3. 2 Surcharge calculator



Tab. 81 Example: A user incurs 30.- in call charges. He pays 61.50.

| Q | b |   |   | Q |   | Q |
|---|---|---|---|---|---|---|
|   | Q | b | Q | Q | Q |   |
| Q | - | - | - | - | 2 | 2 |
| Q | 0 | 0 | 0 | 0 |   | 2 |
| Q | 0 | 5 | 5 | 0 | 0 | 2 |
| Q | 5 | 2 | 5 | 0 | 0 | 0 |
| Q | 2 | 5 | 0 | 0 | 2 | 0 |

## 2



Tab. 82 Fee multiplier values

| Icon | Fee multiplier |
|------|----------------|
| 0    | 0              |
| <1   | <1             |
| >1   | >1             |

8. 3. 3 Data protection

Q Dataprotection

8. 3. 4 Cost centres

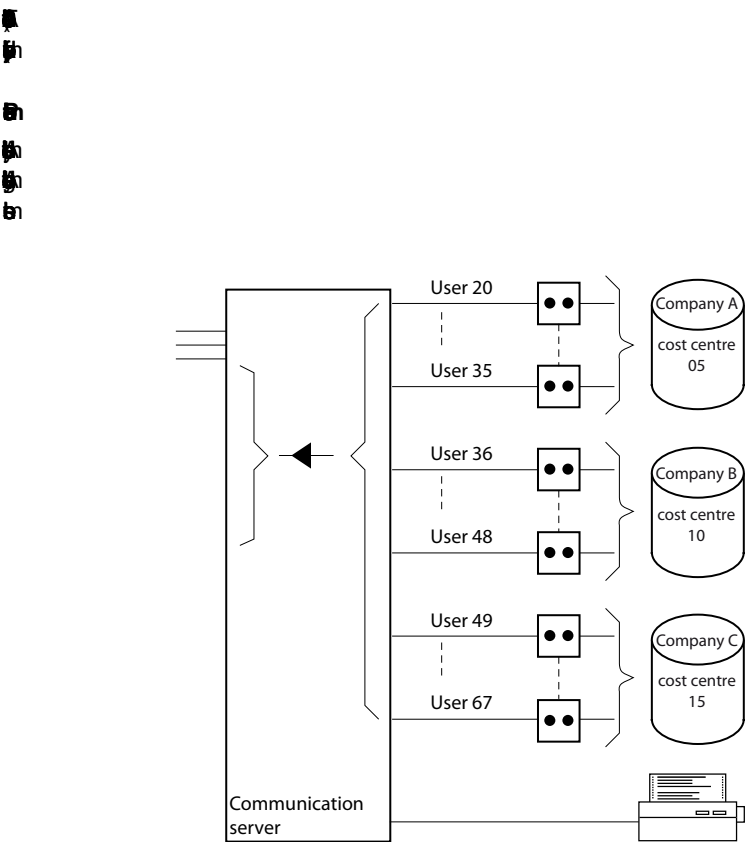


Fig. 150 Permanent cost centre allocation

Call logging (CL)

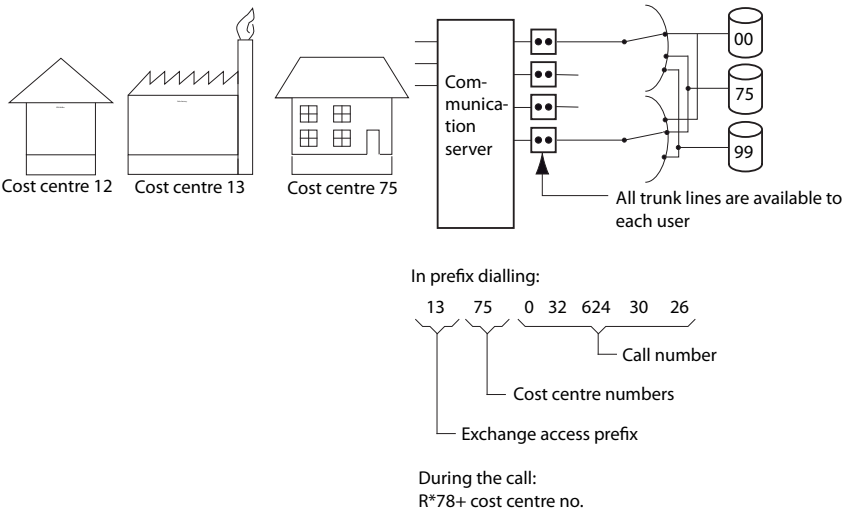
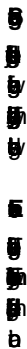


Fig. 151    Variable cost centre allocation



8. 3. 5 Charge management



[Q chargemanagement](#)

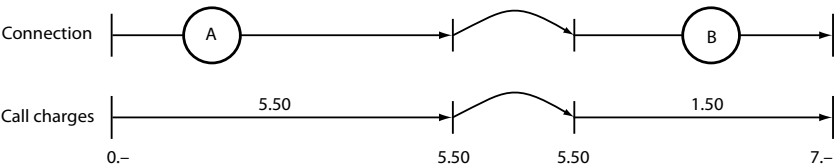
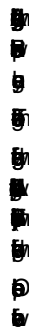


Fig. 152 Handing over the call charges from user A to user B



8. 3. 6 Virtual charges



[virtualcharges](#)

([Q=b4](#))

[Pulseintervalfor](#)

[Pulseintervalforvirtualcharges](#)  
[Chargevalue](#)



## 8.4 Call logging for incoming calls (ICL)

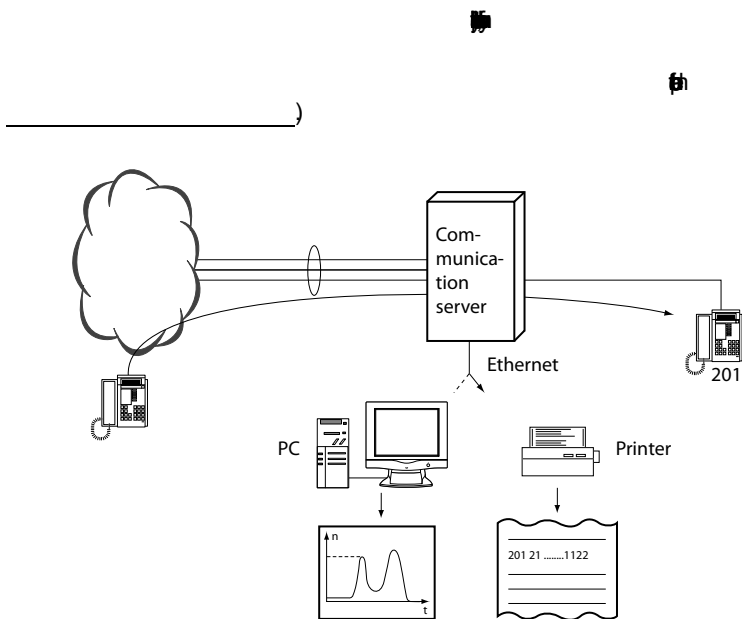


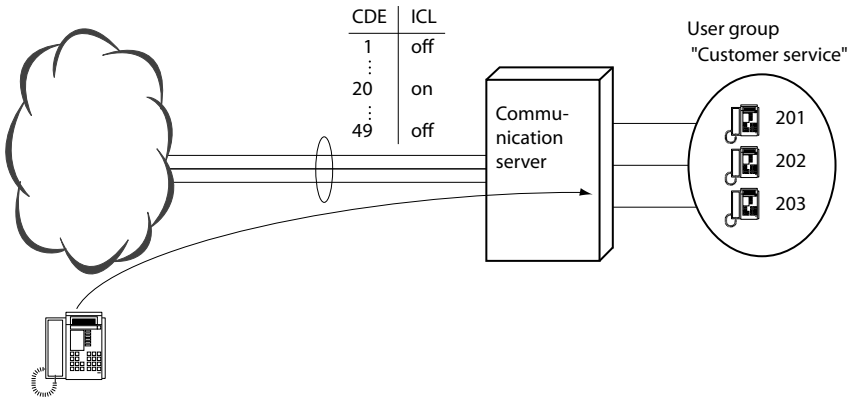
Fig. 153 Incoming call logging



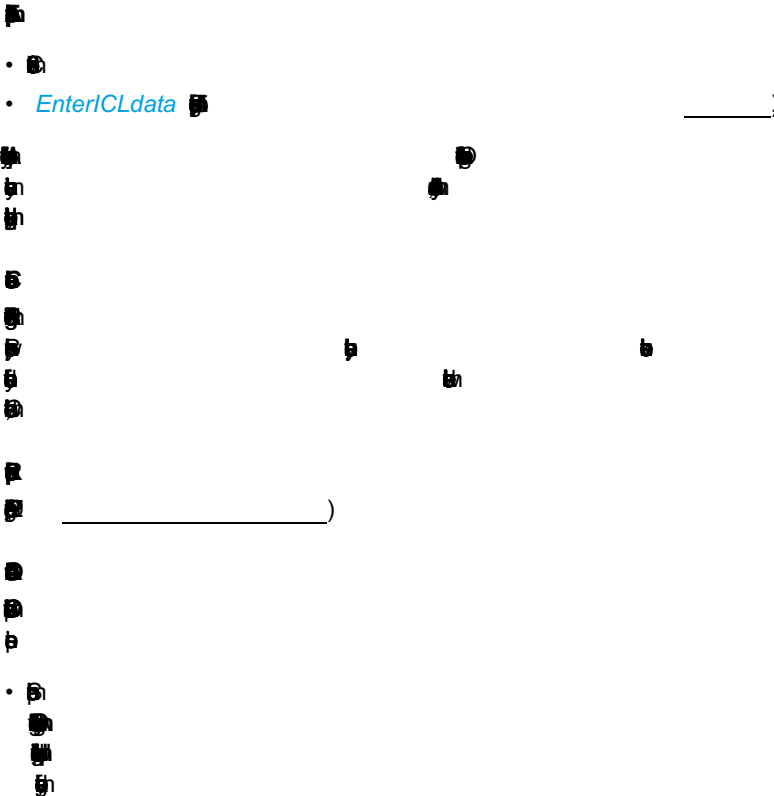
 [EnterICLdata](#) .







**Fig. 154** ICL can be switched on or off in each call distribution element



Call logging (CL)

- [icon]
- [icon]
- [icon]
- [icon]
- [icon]

8.5 Call data output

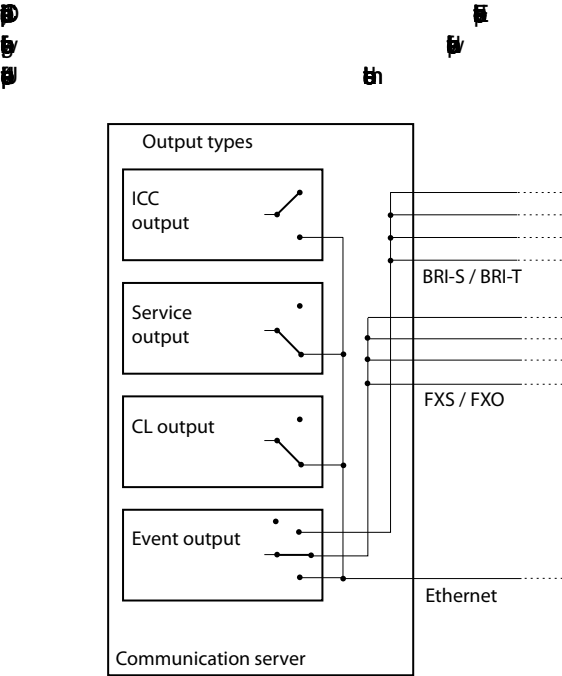


Fig. 155 Output concept









8. 5. 1      Output types







|      |    |    |
|------|----|----|
| ௧    | ௨  | ௩  |
| ௪    |    |    |
| • ௫  | ௬  |    |
| • ௭  |    |    |
| ௮    |    |    |
| • ௯  | ௧௦ |    |
| • ௧௧ |    |    |
| • ௧௨ |    |    |
| ௧௩   |    |    |
| • ௧௪ |    |    |
| • ௧௫ |    |    |
| • ௧௬ |    |    |
| ௧௭   |    |    |
| • ௧௮ |    |    |
| • ௧௯ |    |    |
| – ௨௦ |    |    |
| – ௨௧ |    |    |
| ௨௨   |    |    |
| ௨௩   | ௨௪ |    |
| ௨௫   | ௨௬ |    |
| ௨௭   | ௨௮ | ௨௯ |
| ௩௦   | ௩௧ | ௩௨ |
| ௩௩   | ௩௪ | ௩௫ |
| ௩௬   | ௩௭ | ௩௮ |
| ௩௯   | ௪௦ | ௪௧ |
| ௪௨   | ௪௩ | ௪௪ |
| ௪௫   | ௪௬ | ௪௭ |
| ௪௮   | ௪௯ | ௫௦ |







8. 6      Printer faults







|   |   |
|---|---|
| ௧ | ௨ |
| ௩ | ௪ |
| ௫ | ௬ |







Call logging (CL)











*controlifbufferisfull*

*Call*

Tab. 83    Buffering when output is blocked

| №  | З  |
|----|----|
| 1  | 1  |
| .  | 2  |
| .  | 3  |
| .  | 4  |
| %  | 5  |
| .  | 6  |
| .  | 7  |
| .  | 8  |
| .  | 9  |
| ка | 10 |
| ка | 11 |
| .  | 12 |
| .  | 13 |
| .  | 14 |





*callloggingrecordsinthebuffer*

*ag*

8.7    Output formats





*format*

*ICLformat*

*b4*

*OCL*

[illegible]

### 8.7.1 Structure of the PC5 output format

- 6h
- 1h

Tab. 84 Control characters for separating data fields and data record

|    |    |    |         |
|----|----|----|---------|
| D  | 91 | 11 | 4       |
| 11 | 9  |    | 6       |
| R  | 0  |    | 15<br>5 |
| E  |    | A  |         |

• **Ed**

Call logging (CL)

- ௩
- ௪
- ௫

௫ \_\_\_\_\_)

௩

௩

௩

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Tab. 85 Symbols used to describe the data format

| ௩   | ௪ | ௫       |
|-----|---|---------|
| i   | ௪ | ௫ _____ |
| d   | ௪ | ௫ _____ |
| ௪ ௪ |   | ௩       |
| m ௪ |   | ௩       |
| m ௪ | m | ௩       |
| p ௪ | m | ௩       |

௪

௪

௪ \_\_\_\_\_.

Tab. 86 Symbols used for describing the data field formatting

| ௩ | ௪   |
|---|-----|
| † | ௪   |
|   | † ௪ |
| 0 | ௪   |
| B | ௪   |

௪

௪

௪

8. 7. 2 Data fields of the PC format

8. 7. 2. 1

Tab. 87 PC5 format

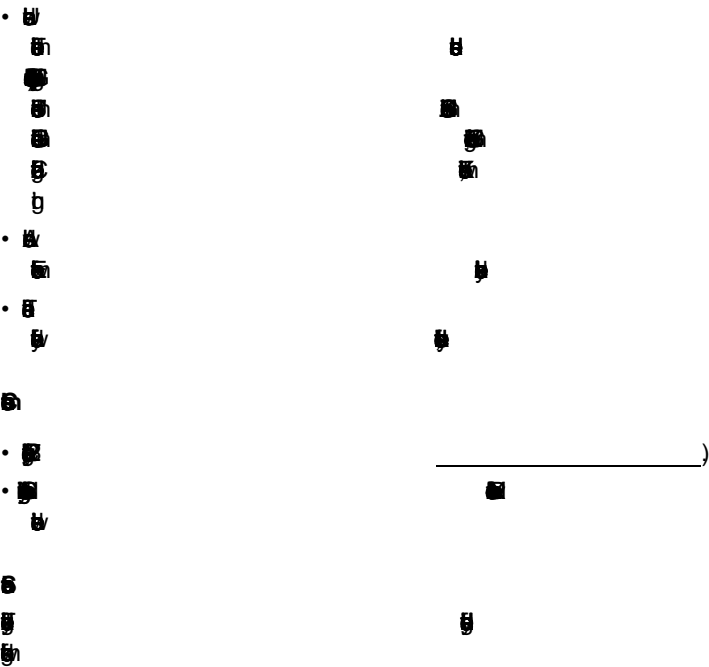
| 1  | 2 | 3 | 4 | 5 | 6 |
|----|---|---|---|---|---|
| 7  |   |   |   |   |   |
| 8  |   |   |   | 1 | 0 |
| 9  | 0 | i | 8 | 2 | 1 |
| 10 | C | i | 8 | 9 | 4 |
| 11 | S | i |   | 0 | 3 |
| 12 | 0 | 6 | 2 |   |   |
| 13 | 0 | 5 | 5 |   |   |
| 14 | 0 | 8 | 4 |   |   |
| 15 | 0 | 8 | 0 | 0 |   |
| 16 | 0 | 5 | 6 |   |   |
| 17 | 0 | 5 | 0 | 5 | 0 |
| 18 | 0 | i | 8 | 2 | 3 |
| 19 | 0 | i | 8 | 2 | 0 |
| 20 | 0 | i | 8 | 0 | 5 |
| 21 | 0 | i | 8 | 0 | 6 |
| 22 | 0 | i |   | 0 | 3 |
| 23 | 0 | i |   | 0 | 3 |
| 24 | 0 | i |   | 0 | 4 |
| 25 |   |   |   | 1 | 0 |
| 26 |   |   |   | 1 | 0 |

8. 7. 2. 1 Explanation of the data fields

8. 7. 2. 1

- 8. 7. 2. 1
- 8. 7. 2. 1
- 8. 7. 2. 1
- 8. 7. 2. 1

Call logging (CL)



Tab. 88 Meaning of the digits used in the sort character

| D | M |
|---|---|
| x | x |
| y | y |
| z | z |

Tab. 89 Value and meaning of the digit x

| x | M |
|---|---|
| 0 | 0 |
| 1 | 1 |
| 3 | 3 |
| 4 | 4 |

Tab. 90 Value and meaning of the digit y

| y | M |
|---|---|
| 0 | 0 |
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |



| W | U |
|---|---|
| 6 | U |
| 7 | U |
| 8 | U |
| 9 | U |

Tab. 91 Value and meaning of the digit z

| W | C | D |
|---|---|---|
| 0 | U | U |
| 1 | U | - |
| 2 | U | - |
| 3 | U |   |
| 4 | U | U |
| 5 | - | U |
| 6 | U | U |
| 7 | - | U |
| 8 | - | U |
| 9 | U |   |

Tab. 92 Examples of sort characters

| W | U |
|---|---|
| 0 | U |
| 0 | U |
| 0 | U |
| 0 | U |
| 0 | U |
| 2 | U |
| 2 | U |
| 3 | U |
| 0 | U |
| 2 | U |

Tab. 93 Example for the output in PC5 format

| N | C | S   | E   | M | M | S | M | E |
|---|---|-----|-----|---|---|---|---|---|
| 0 |   | 2 0 | 6 0 |   |   |   |   | 0 |
|   |   | 3 0 | 7 0 |   |   |   |   | 0 |
|   |   | 4 0 | 8 0 |   |   |   |   | 0 |
| 0 |   | 2 0 | 9 0 |   |   |   |   | 0 |

Call logging (CL)

| D | D | D | D | A | R | R |
|---|---|---|---|---|---|---|
| 2 | 2 |   | 6 | 0 | 0 | 8 |
| 0 | 3 |   | 5 | 0 | 0 | 2 |
| 0 | 0 | 0 | 5 |   |   | 2 |
| 0 | 0 |   | 0 | 0 | 0 |   |

01

• 01  
01

• 01  
01

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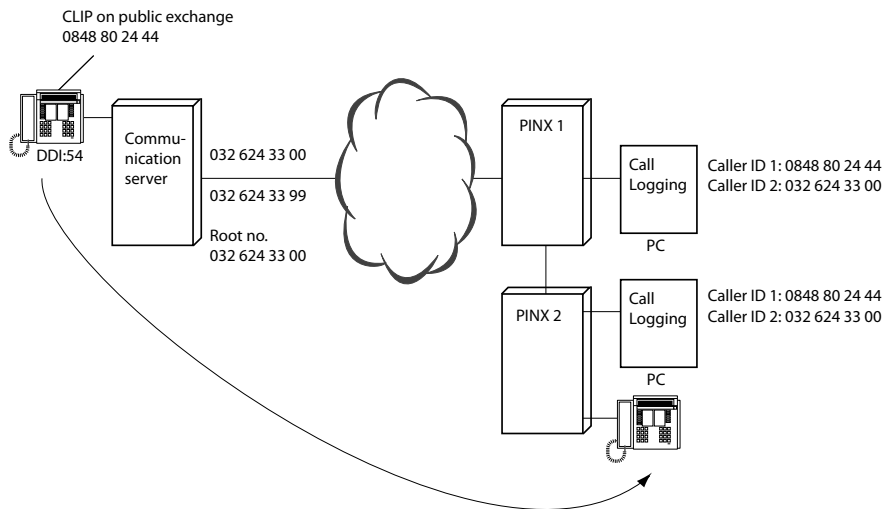


Fig. 156 Caller identification incoming

Call logging (CL)

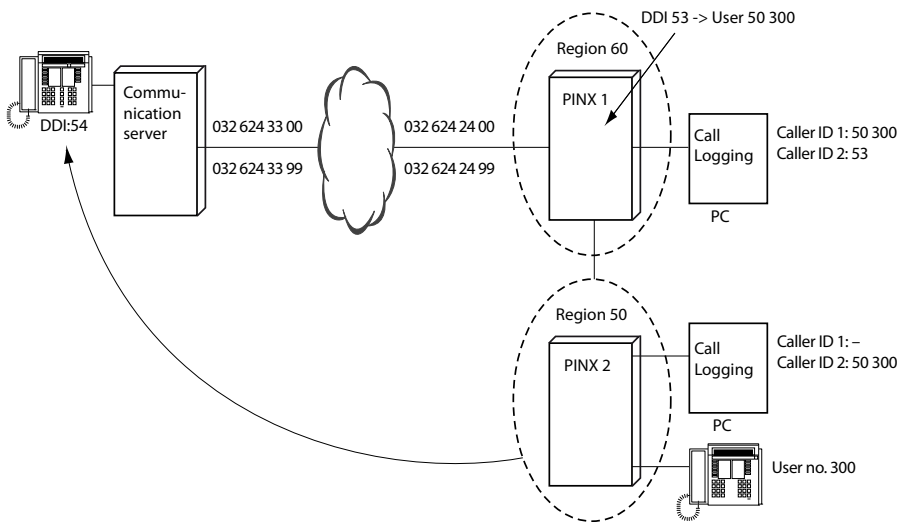
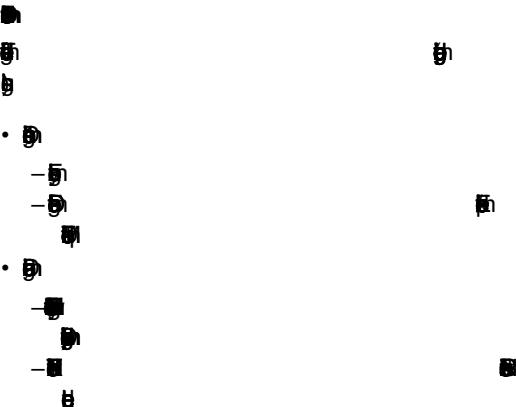


Fig. 157 Caller identification outgoing



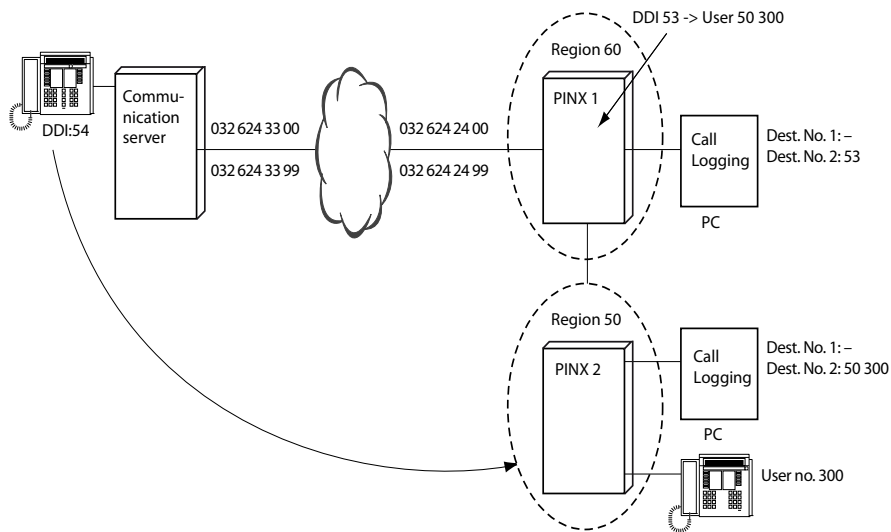


Fig. 158 Destination number incoming

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# Call logging (CL)

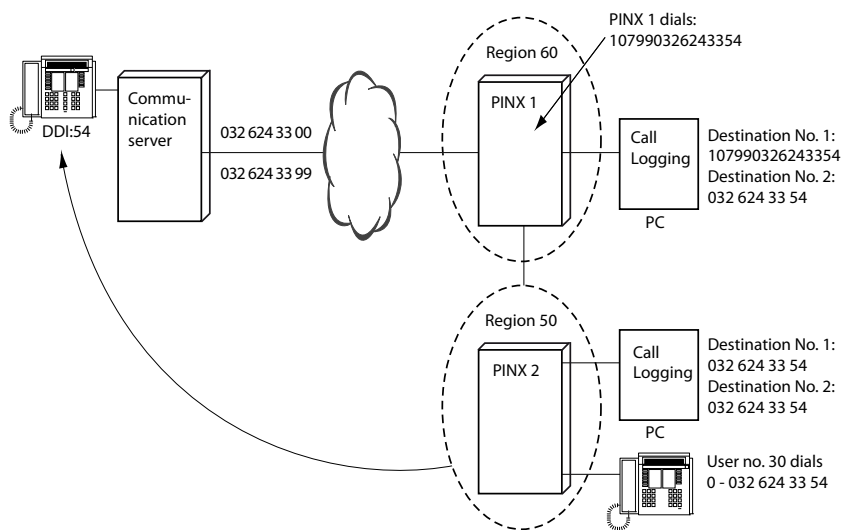
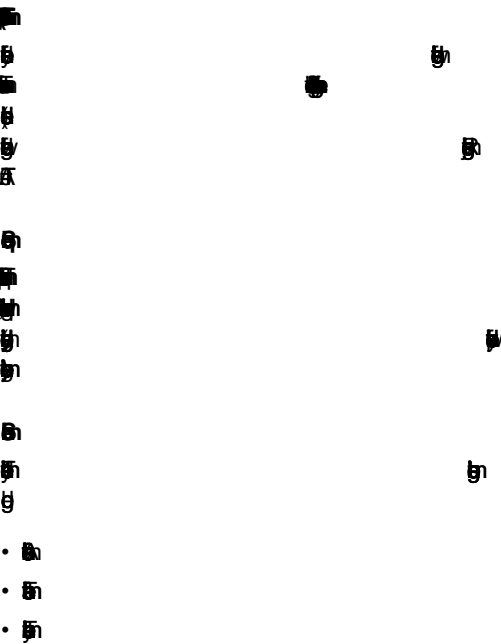


Fig. 159 Destination number outgoing



8. 7. 3      Examples of the PC5 output on a stand-alone communication server

8. 7. 3. 1      Outgoing calls to the public network

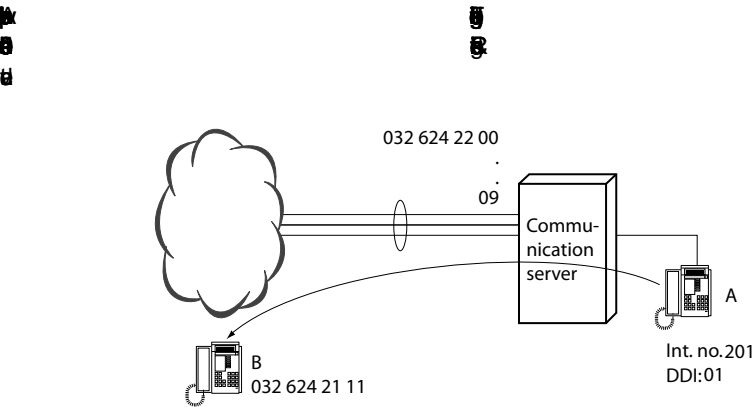


Fig. 160      Outgoing call to the public network

Tab. 94      OCL output for an outgoing call to the public network

| D | C | S   | D   | M | S | D | D   | D |
|---|---|-----|-----|---|---|---|-----|---|
| 0 |   | 0 0 | 0 0 | 0 |   |   | 0 0 |   |

| D | D | D   | D | A | D | D |
|---|---|-----|---|---|---|---|
|   | 0 | 0 0 |   |   |   | 0 |

8. 7. 3. 2      Incoming calls from the public network

TIME      DATE  
TTA

Call logging (CL)

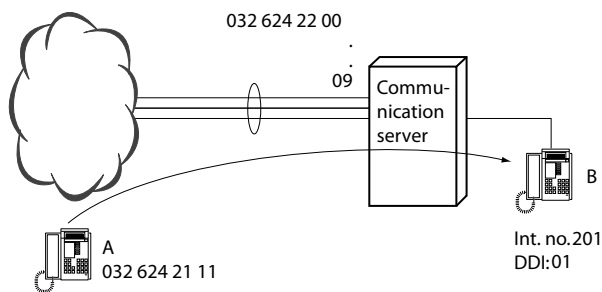


Fig. 161 Call to a free user and phone conversation

- [icon]
- [icon]
- [icon]
- [icon]
- [icon]

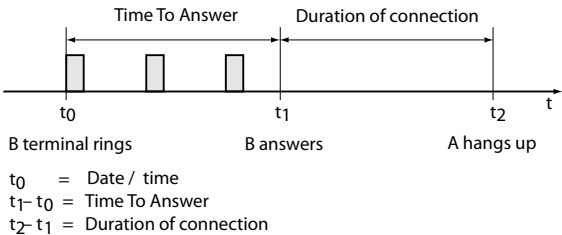


Fig. 162 Duration of ringing phase and established connection

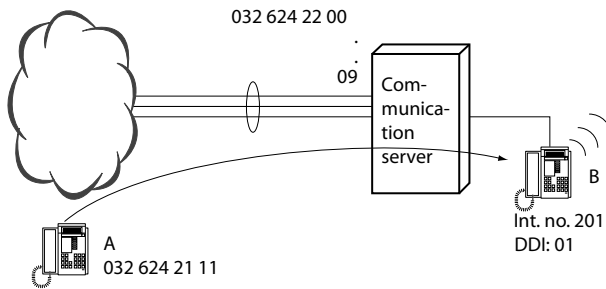
Tab. 95 ICL output for an answered incoming call

| 0 | C | 6 | 0 | 0 | 0 | 0 | 0 | 0 |
|---|---|---|---|---|---|---|---|---|
| 0 |   | 2 | 0 | 0 | 0 |   |   | 0 |

| D | D | D | D | A | D | D |
|---|---|---|---|---|---|---|
| 0 | 0 |   | 0 | 0 | 5 | 0 |

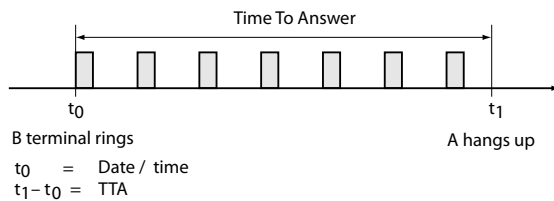
[icon] DURATION [icon] TIME [icon]  
DATE [icon] TTA [icon]  
[icon]





**Fig. 163** Call to an absent user

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**Fig. 164** Duration of the TTA ringing phase

Tab. 96 ICL output for an unanswered incoming call

| Q | C | S   | R   | I | E | A | T |
|---|---|-----|-----|---|---|---|---|
| 2 |   | 2 0 | 0 0 |   |   |   | 0 |

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| D | D | D | D | A | D | D |
| 1 |   |   | 0 | 0 | 5 | 2 |

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**UTIONTIME**

d *DATE*



*DURA-*



Call logging (CL)

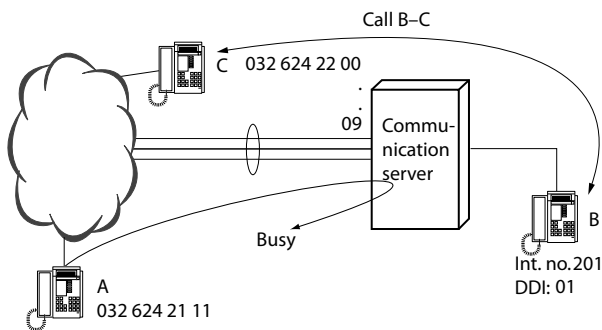


Fig. 165 Call to a busy user

- [Icon]
- [Icon]
- [Icon]

Tab. 97 ICL output for a call to a busy user

| 0 | C | S   | D   | M | N | E | N | E |
|---|---|-----|-----|---|---|---|---|---|
| 2 |   | 2 0 | 2 0 |   |   |   |   | 0 |

| D   | D | B | B | A   | S | D |
|-----|---|---|---|-----|---|---|
| 1 1 |   |   | 0 | 0 5 |   | 0 |

- [Icon]
- [Icon]
- [Icon]
- [Icon]
- [Icon]
- [Icon]

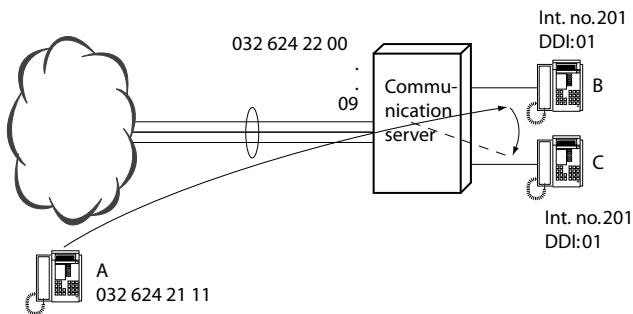


Fig. 166 Transferred call

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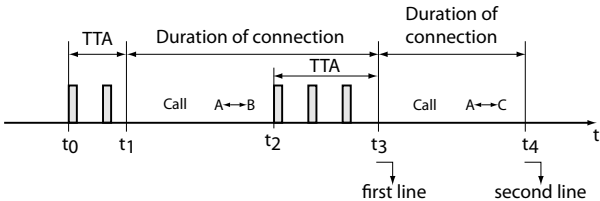


Fig. 167 Time phases for a transferred call without prior notice

Tab. 98 ICL output for a transferred call without prior notice

| 0 | C | S   | D   | M | N | P | Q |
|---|---|-----|-----|---|---|---|---|
| 0 |   | 2 0 | 0 0 |   |   |   | 0 |
| 0 |   | 0 0 | 0 0 |   |   |   | 0 |

Call logging (CL)

| D   | D | D | D | А   | В | В |
|-----|---|---|---|-----|---|---|
| 1 1 |   |   | 0 | 0 6 |   | 0 |
| 1 1 |   |   | 0 | 0 6 |   | 0 |

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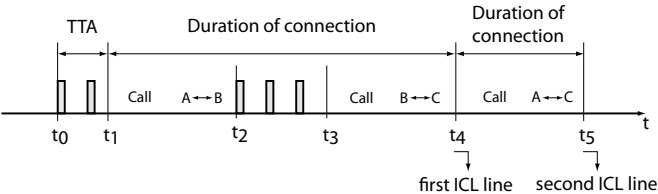


Fig. 168 Time phases for a transferred call with prior notice

Tab. 99 ICL output for a transferred call with prior notice

| 0 | C | S   | В   | В | В | В | В |
|---|---|-----|-----|---|---|---|---|
| 0 |   | 2 0 | 0 0 |   |   |   | 0 |
| 0 |   | 0 0 | 2 0 |   |   |   | 0 |

| D   | D | D | D | А   | В | В |
|-----|---|---|---|-----|---|---|
| 1 1 |   |   | 0 | 0 5 |   | 0 |
| 1 1 |   |   | 0 | 0 5 |   | 0 |



Tab. 100 ICL output for a call to a busy user

| D | C | S   | D   | M | A | N | E |
|---|---|-----|-----|---|---|---|---|
| 0 |   | 0 0 | 0 0 |   |   |   | 0 |

| D | D | D | A   | S | E |
|---|---|---|-----|---|---|
| 0 |   | 0 | 0 6 |   | 9 |

8. 7. 4 Examples of PC5 output in a PISN

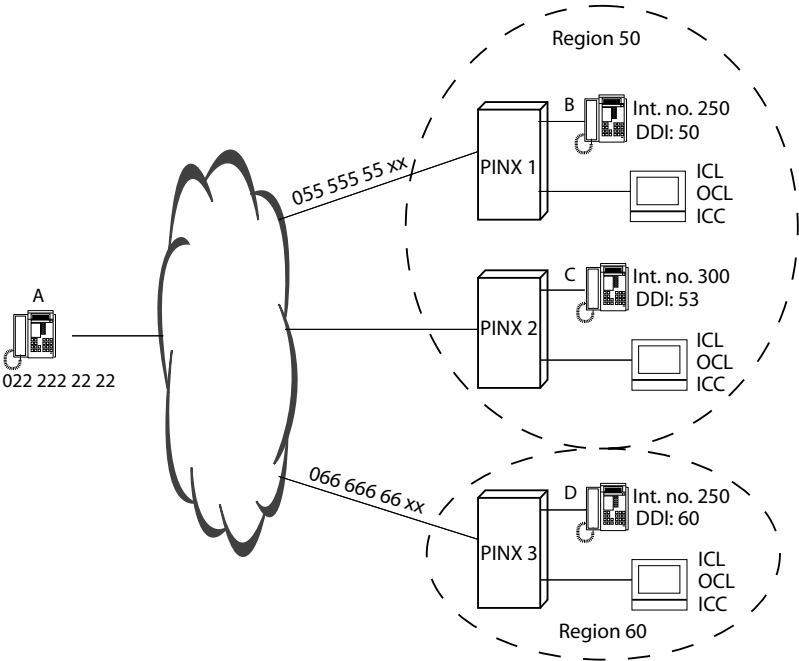


Fig. 169 PISN with two regions and shared numbering plan for Region 50

Call logging (CL)

Tab. 101 Configuration of the PISN above

|  | 6 | 0 | 0 |
|--|---|---|---|
|  | 6 | 0 | 0 |
|  | 6 | 0 | 0 |

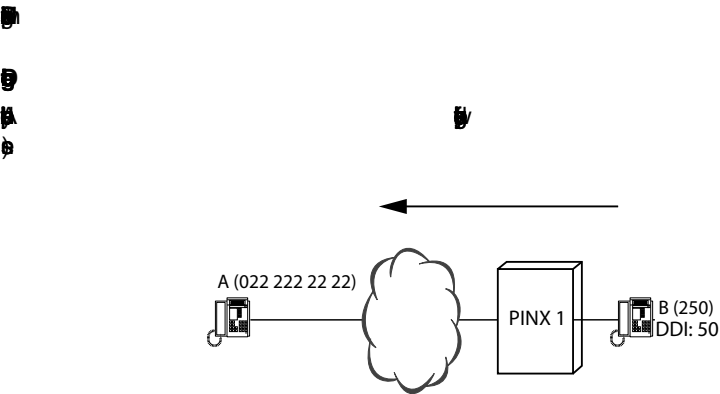


Fig. 170 User B dials user A (0 022 222 22 22)

Tab. 102 OCL output on PINX 1

| N | C | S   | D   | M | P | T | Q   | R |
|---|---|-----|-----|---|---|---|-----|---|
| 0 |   | 0 0 | 0 0 | 0 |   |   | 0 0 |   |

| D | D | D   | D | A | D | D |
|---|---|-----|---|---|---|---|
|   | 6 | 0 0 |   |   |   | 2 |

- N
- S
- D
- D
- B
- B
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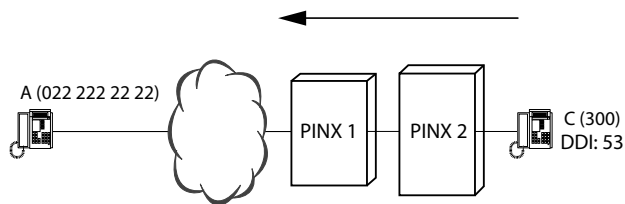


Fig. 171 User C dials user A (0 022 222 22 22)

Tab. 103 OCL output on PINX 2 (source PINX)

| N | C | S   | D   | M |  |  |     |  |
|---|---|-----|-----|---|--|--|-----|--|
| 0 |   | 0 0 | 0 0 | 0 |  |  | 0 0 |  |

| ID | D | B   | B | A | R | M |
|----|---|-----|---|---|---|---|
|    | 0 | 2 2 |   |   |   | 0 |

N  
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D  
M  
B  
D  
D  
D

Tab. 104 OCL output on PINX 1 (gateway PINX)

| N | C | S   | D   | M |  |  |     |  |
|---|---|-----|-----|---|--|--|-----|--|
|   |   | 0 0 | 0 0 | 0 |  |  | 0 0 |  |

| ID | D | B | B   | A | R | M |
|----|---|---|-----|---|---|---|
| 0  | 5 |   | 2 2 |   |   | 2 |

N  
S  
D  
M  
B





Tab. 106 ICL output (line 1) and OCL output (line 2) at PINX 1 (gateway-PINX)

| N | C | S   | D    | M | A | E | I   | R |
|---|---|-----|------|---|---|---|-----|---|
|   |   | 3 0 | 6 0h |   |   |   |     | 0 |
|   |   | 4 0 | 6 0h | 0 |   |   | 0 9 |   |

| D     | D | D | A | R   | R |
|-------|---|---|---|-----|---|
| 0 2   |   |   | 5 | 0 0 | 2 |
| 0 0 6 |   |   | 5 |     | 3 |

0 0h  
6 0h  
0h  
0 0h  
0 0h  
0h  
0h  
0h

Tab. 107 ICL output at PINX 2

| N | C | S   | D    | M | A | E | I | R |
|---|---|-----|------|---|---|---|---|---|
| 0 |   | 2 0 | 6 0h |   |   |   |   | 0 |

| D   | D | D | A | R   | R |
|-----|---|---|---|-----|---|
| 0 2 |   |   | 0 | 0 0 | 6 |

0 0h  
6 0h  
0h  
0 0h  
0h  
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8. 7. 5 Protocol format

0h  
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0h  
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Tab. 108 Page header for protocol format

| செயல்பாடு | பெயர்   | பக்கம் | பக்க எண் |
|-----------|---------|--------|----------|
| செயல்பாடு | பெயர்   | 1      | 0        |
| செயல்பாடு | பெயர்   | 1      | 0        |
| செயல்பாடு | பெயர்   | 1      | 0        |
| செயல்பாடு | பெயர்   | 2      | 0        |
| செயல்பாடு | பெயர்   | 2      | 2        |
| செயல்பாடு | பெயர்   | 4      | 4        |
| செயல்பாடு | பெயர்   | 2      | 8        |
| செயல்பாடு | பெயர்   | 1      | 0        |
| செயல்பாடு | பெயர்   | 5      | 1        |
| செயல்பாடு | பெயர்   | 2      | 6        |
| செயல்பாடு | பெயர்   | 4      | 8        |
| செயல்பாடு | பெயர்   | 2      | 2        |
| செயல்பாடு | பெயர்   | 5      | 2        |
| செயல்பாடு | பெயர்   | 4      | 2        |
| செயல்பாடு | பெயர்   | 3      | 3        |
| செயல்பாடு | பெயர்   | 5      | 6        |
| செயல்பாடு | பெயர்   | 7      | 4        |
| செயல்பாடு | பெயர்   | 2      | 8        |
| செயல்பாடு | பெயர்   | 9      | 6        |
| செயல்பாடு | பெயர்   | 1      | 9        |
| செயல்பாடு | பெயர்   | 6      | 6        |
| செயல்பாடு | பெயர்   | 2      | 6        |
| செயல்பாடு | பெயர் 7 |        | 6        |
| செயல்பாடு | பெயர்   | 1      | 3        |
| செயல்பாடு | பெயர்   | 1      | 6        |
|           |         |        |          |
| செயல்பாடு | பெயர்   | 2      | 0        |
| செயல்பாடு | பெயர்   | 2      | 2        |
| செயல்பாடு | பெயர்   | 1      | 3        |
| செயல்பாடு | பெயர்   | 1      | 6        |



- செயல்பாடு
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Pagelength 9



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Tab. 109 Data lines for protocol format

| பு | க         | கா    | கூ | கீ |
|----|-----------|-------|----|----|
| பு | B         |       | 2  | 0  |
| பு | t         | 1 8 5 | 2  |    |
| க  | o         | 0 1 3 | 8  |    |
| க  | ph        | 0 1 6 | 2  |    |
| கா | lm        | 0 1 5 | 9  |    |
| க  | h         | 0 1 8 | 2  |    |
| கா | p         | 0 1 5 | 3  |    |
| கூ | g         | B 1 0 | 0  |    |
| கா | z 1 B 0 5 |       |    |    |
| க  | 0 1 4     | 2     |    |    |
| கூ | R 1       | 6     |    |    |
| க  | E         | 1 7   |    |    |

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Call logging (CL)

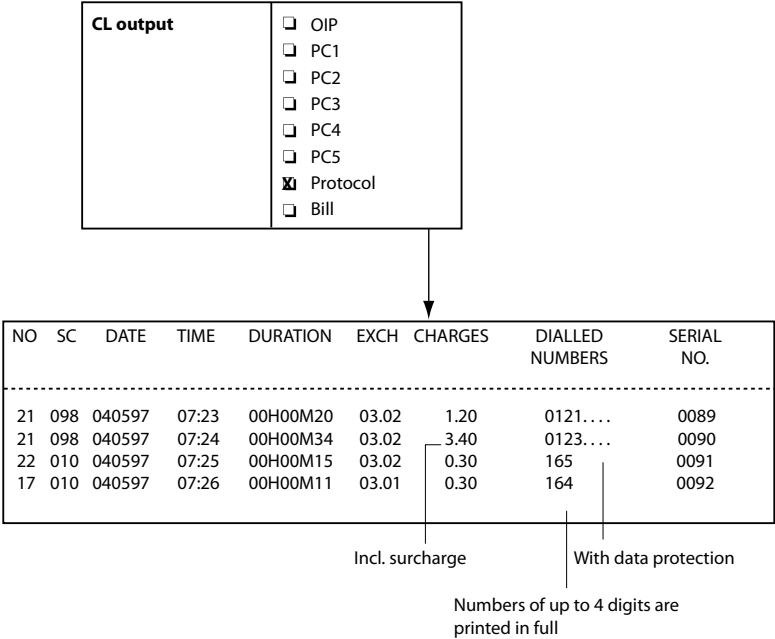


Fig. 174 CL output in protocol format

8. 7. 6 Invoice format



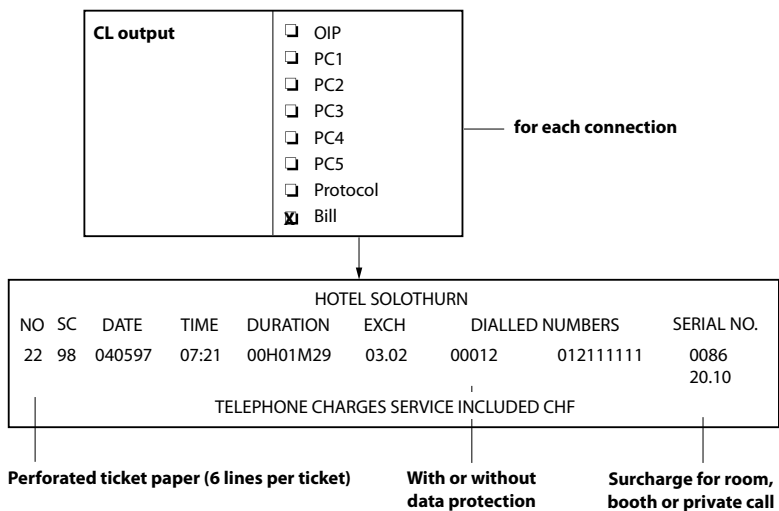


Fig. 175 CL output in invoice format

*Dataprotection* CALLNUMBERDIALLED

ETX

### 8. 7. 7 Output formats PC1 to PC4



Call logging (CL)

Tab. 110 Format conventions

| + |  |
|---|--|
| + |  |
| 0 |  |
| 8 |  |

01  
02

03  
04

05

Format

06  
07

08

09

10

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13

14

Tab. 111 Special characters

| D |   |   |   |
|---|---|---|---|
| 0 | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 |
| 8 | 9 | 0 | 1 |
| 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 |

10  
11

12

| NO  | SC | DATE   | TIME  | DURATION | EXCH  | CHARGES | DIALLED NUMBERS | SERIAL NO. |
|-----|----|--------|-------|----------|-------|---------|-----------------|------------|
| 691 | 10 | 311290 | 05:20 | 01H03M45 | 10.02 | 67.70   | 005688223211    | 0678       |
| 21  | 90 | 311290 | 07:18 | 00H01M20 | 03.01 | 0.80    | 065248755       | 0679       |
| 23  | 16 | 311290 | 07:22 | 00H19M50 | 04.03 | 11.90   | 065243024       | 0680       |

Sort character

Fig. 176 Printout with sort characters

Tab. 112 The first digit of the sort character.

| ୮ | ୨୩ |
|---|----|
| 0 | ୦  |
| 1 | ୧  |
| 2 | ୨  |
| 3 | ୩  |
| 4 | ୪  |
| 6 | ୬  |
| 7 | ୭  |
| 8 | ୮  |
| 9 | ୯  |

Tab. 113 The second digit means

| ୮ | ୨୩ |
|---|----|
| 0 | ୦  |
| 1 | ୧  |
| 2 | ୨  |
| 4 | ୪  |
| 5 | ୫  |
| 6 | ୬  |
| 7 | ୭  |
| 8 | ୮  |

Tab. 114 Examples

| ୮ | ୨୩ |
|---|----|
| 0 | ୦  |
| 0 | ୧  |
| 4 | ୨  |
| 6 | ୩  |
| 8 | ୪  |
| ୪ | ୫  |
| 8 | ୬  |
| 9 | ୭  |
| ୨ | ୮  |
| ୦ | ୯  |

୨୩  
୨୩  
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୨୩

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୨୩

#### 8.7.7.1 PC1 format

51

**စာ**

Tab. 115 PC1 format

| தமிழ் | க | ங | கூ | உ |
|-------|---|---|----|---|
| க     | ஈ |   |    | 1 |
| ங     | த | த | 8  | 5 |
| க     | o | 0 | த  | 2 |
| உ     | த | 0 | த  | 6 |
| க     | m | 0 | த  | 5 |
| உ     | ஊ | 0 | த  | 8 |
| தமிழ் | p | 0 | த  | 5 |
| த     | i | 0 | த  | 5 |
| க     | z | 4 |    |   |
| க     | l | 0 | த  | 4 |
| உ     | உ |   |    | 1 |
| க     | E |   |    | 1 |

[illegible]

























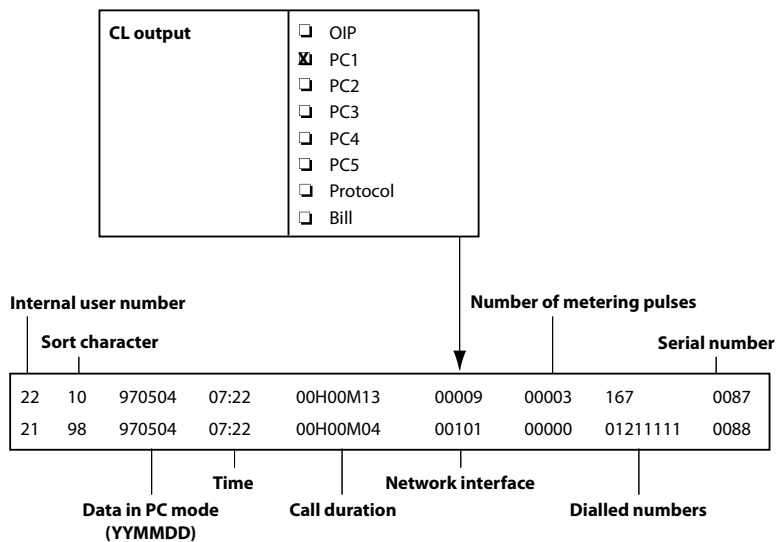



Fig. 177 CL output with PC1

8. 7. 7. 2 PC2 format



Tab. 116 PC2 format

| பெ       | செ | கி | பு  | வி |
|----------|----|----|-----|----|
| க        | ஈ  |    | 1   | 0  |
| ங        | t  | †  | 8 5 | 1  |
| கு       | k  | †  | 8 9 | 7  |
| செ       | o  | 0  | † 2 | 7  |
| வி       | gh | 0  | † 6 | 0  |
| கி       | m  | 0  | † 5 | 2  |
| பு       | m  | 0  | † 8 | 3  |
| பு<br>பு | p  | 0  | † 5 | 2  |
| பு<br>பு | d  | †  | 8 1 | 8  |
| பு<br>பு | i  | 0  | † 5 | 6  |
| பு<br>பு | z  | †  | 8 0 | 6  |

Call logging (CL)

|  | I | 0 | 1 | 4 | 8 |
|--|---|---|---|---|---|
|  | R |   |   | 1 | 9 |
|  | E |   |   | 1 | 2 |

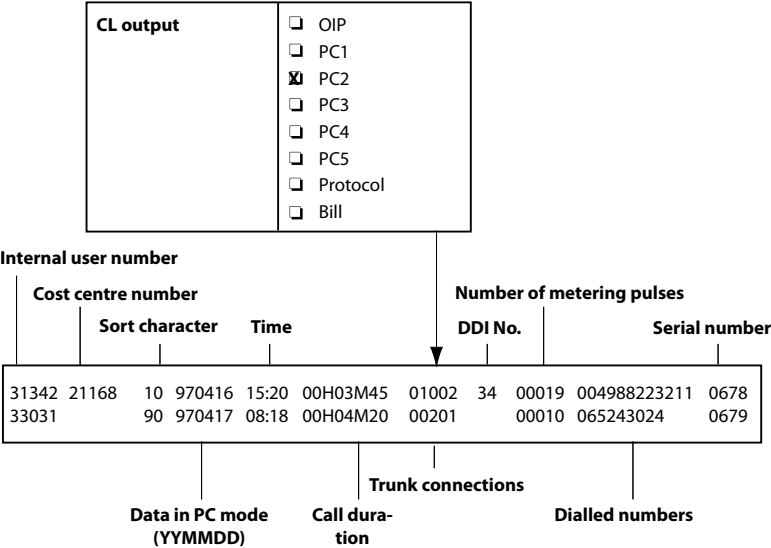


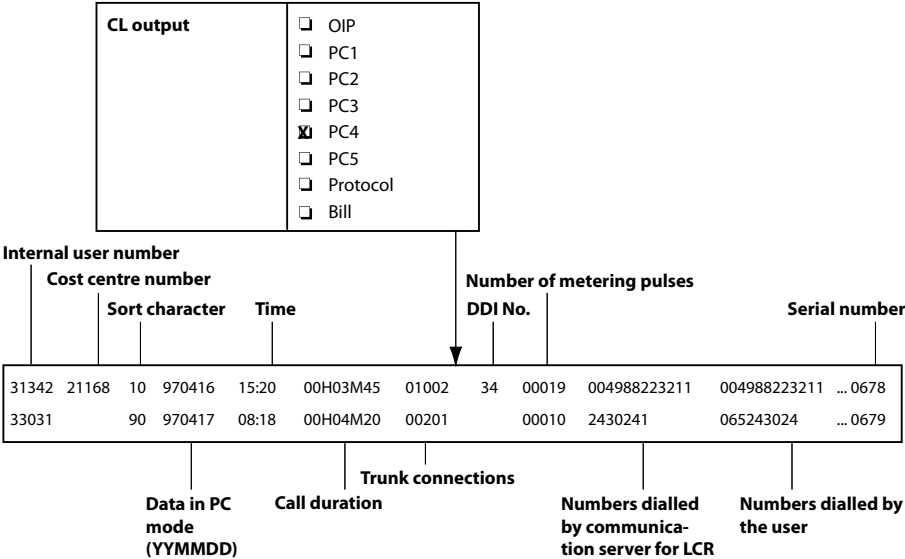
Fig. 178 CL output with PC2

8. 7. 7. 3 PC3 format





Call logging (CL)



Data in PC mode (YYMMDD)

Call duration

Trunk connections

Numbers dialled by communication server for LCR

Numbers dialled by the user

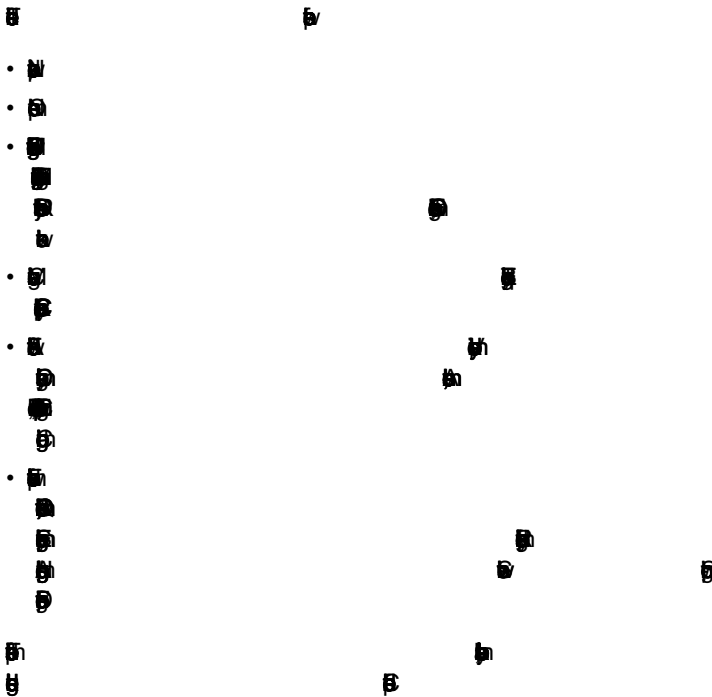
Fig. 179 CL output with PC4



## 9 Features

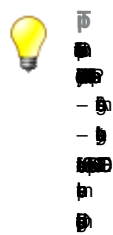
MiVoice Office 400 provides a multitude of features that can be activated or operated by the user. This Chapter contains a systematic description of all these features.

## 9.1 Overview



**Tab. 118** The following features / functions do not form part of this chapter:

|    |                 |
|----|-----------------|
|    |                 |
| 5  | 8 _____ 8 _____ |
| 6  | 9 _____         |
| 7  | 10 _____        |
| 8  | 11 _____        |
| 9  | 12 _____        |
| 10 | 13 _____        |
| 11 | 14 _____        |



Settings.

9. 1. 1 Description categories and terminology

- [icon]
  - [icon]
  - [icon]
  - [icon]
  - [icon]
- [icon]
- [icon]

Tab. 119 Symbols used

|        |        |
|--------|--------|
| [icon] | [icon] |
| [icon] | [icon] |
| [icon] | [icon] |
| [icon] | [icon] |
| [icon] | [icon] |
| [icon] | [icon] |
| [icon] | [icon] |
| [icon] | [icon] |

- [icon]
  - [icon]
  - [icon]
- [icon]
- [icon]
- [icon]





### 9.1.3 Terminology



Tab. 120 Terms are used

|   |   |   |
|---|---|---|
| က |   | က |
| ခ | ခ | ခ |
| ဂ | ဂ |   |
| ဃ | ဃ | ဃ |
| င | င | င |
| စ | စ |   |
| ဆ | ဆ |   |
| ဇ | ဇ |   |
| ည | ည |   |
| ဋ | ဋ |   |
| ဌ | ဌ |   |
| ဍ | ဍ |   |
| ဎ | ဎ | ဎ |
| တ | တ | တ |

## 9.2 Network services, authorizations and operation

### 9.2.1 ISDN services supported by the system



#### 9.2.1.1 External services and internal features





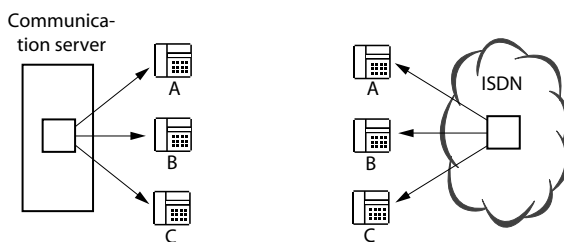
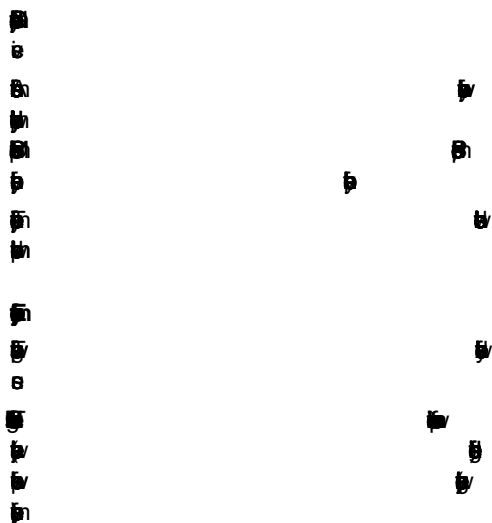


Fig. 180 Conference circuit feature and three-party conference supplementary service

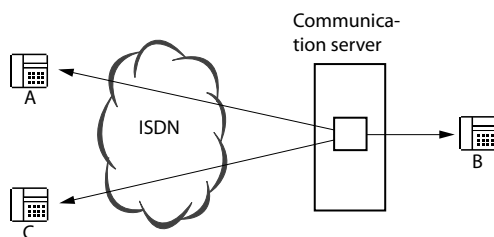


Fig. 181 Three-party conference feature with 1 internal and 2 external users



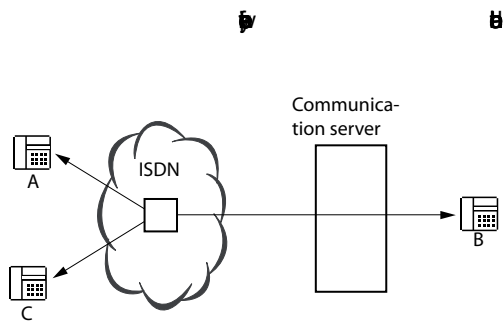


Fig. 182 Three-party conference as a service in the public network, with 1 internal and 2 external users

9. 2. 1. 2 ISDN supplementary services supported

- IS
- IS
- IS
- IS
- IS

Tab. 121 Identification services

|   |    |    | P | M |
|---|----|----|---|---|
| P | IS | IS | ✓ | ✓ |
| R | IS | IS | ✓ | ✓ |
| P | IS | IS | ✓ | ✓ |
| R | IS | IS | ✓ | ✓ |

| Icon |   | Icon | P | M |
|------|---|------|---|---|
| D    | h |      | ✓ | – |
| M    |   |      | ✓ | ✓ |
| M    |   |      | – | ✓ |



Tab. 122 Connection services

| Icon |  | Icon | P | M |
|------|--|------|---|---|
| B    |  |      | – | ✓ |
| E    |  |      | – | ✓ |
| S    |  |      | ✓ | ✓ |
| T    |  | –    |   | ✓ |



Tab. 123 Rerouting services

| Icon |  | Icon | P | M |
|------|--|------|---|---|
| B    |  |      | ✓ | ✓ |
| B    |  |      | ✓ | ✓ |
| B    |  |      | ✓ | ✓ |
| D    |  |      | – | ✓ |
| R    |  |      | ✓ | – |



Tab. 124 Call charge services

| Icon |  | Icon | P | M |
|------|--|------|---|---|
| B    |  |      | ✓ | ✓ |
| B    |  |      | ✓ | ✓ |



Tab. 125 Other services

| A |   | B | P | M |
|---|---|---|---|---|
| A |   | B | ✓ | ✓ |
| B |   | B | ✓ | ✓ |
|   | B | B | ✓ | ✓ |

### 9.2.2 Notifications supported by the system



tions.



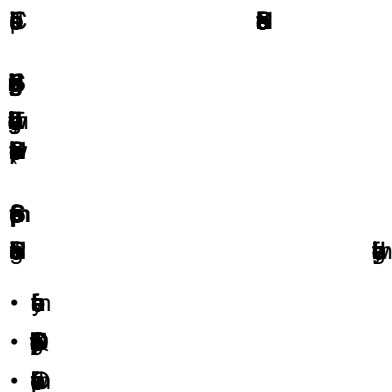
Tab. 126 Notifications supported:

[illegible]

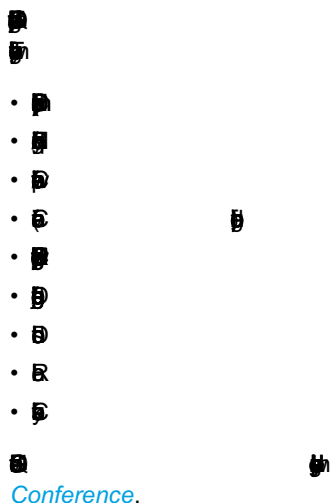
## 9. 2. 3 SIP-RFC supported by MiVoice Office 400



## 9. 2. 4 Features in the private network



### 9. 2. 4. 1 Networking with QSIG



9. 2. 4. 2 Virtual Networking in the ISDN Network

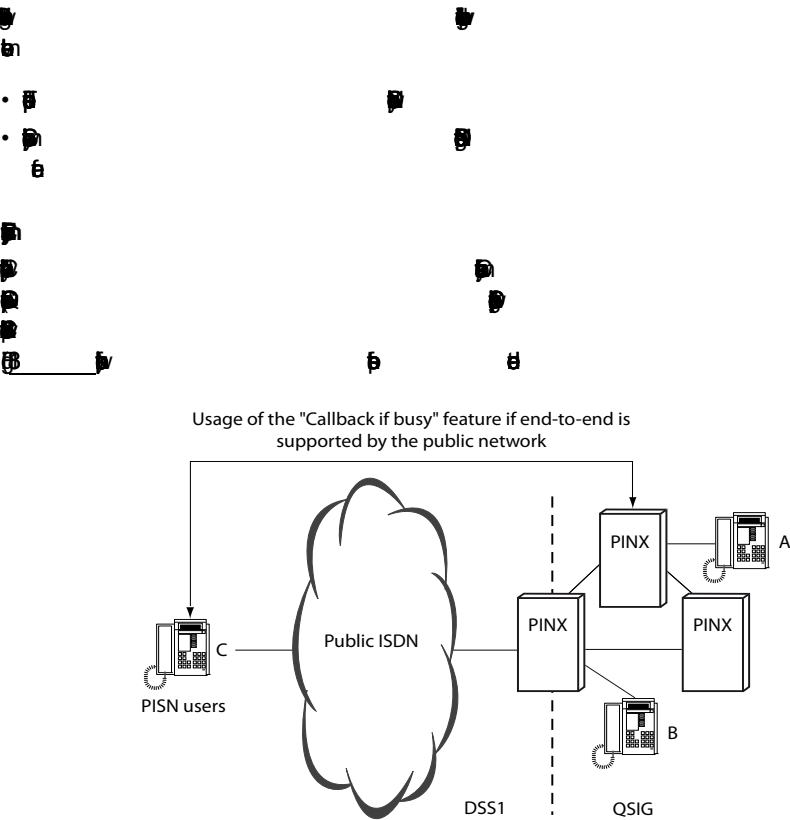
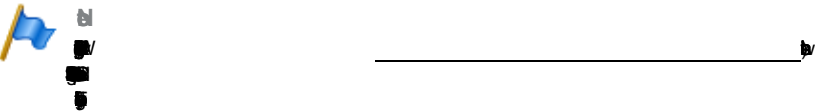


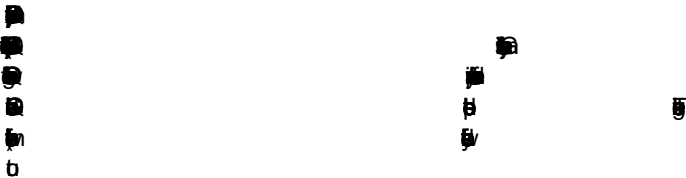
Fig. 183 Using a feature via the public network



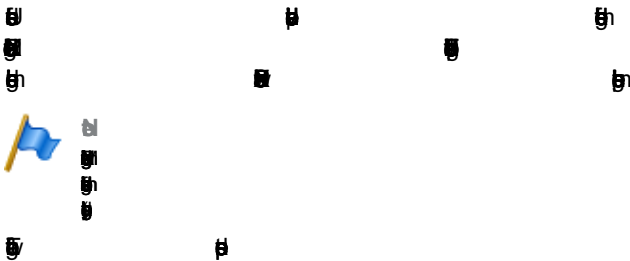
9. 2. 5 Features in the up-circuit communication server



9. 2. 6      Features operated via QSIG



9. 2. 6. 1      User-unrelated features

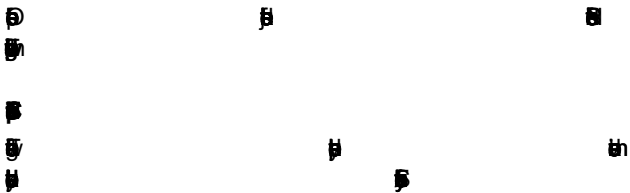


Tab. 127      User-unrelated QSIG features

| Q | Q | Q |
|---|---|---|
| Q | Q |   |
| Q | Q |   |
| Q | Q | Q |
| Q | Q | Q |
| Q | Q |   |
| Q | Q |   |
| Q | Q |   |

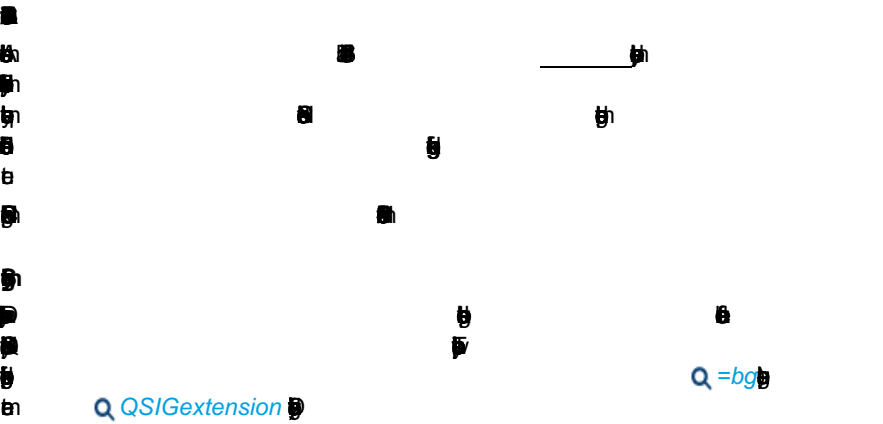
1 Q  
2 Q

9. 2. 6. 2      User-related features

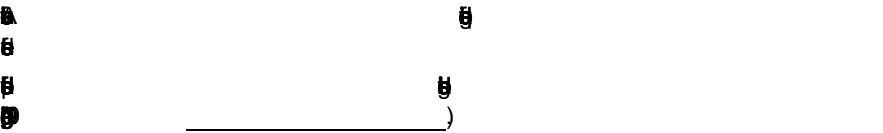


Tab. 128 QSIG features with call connection

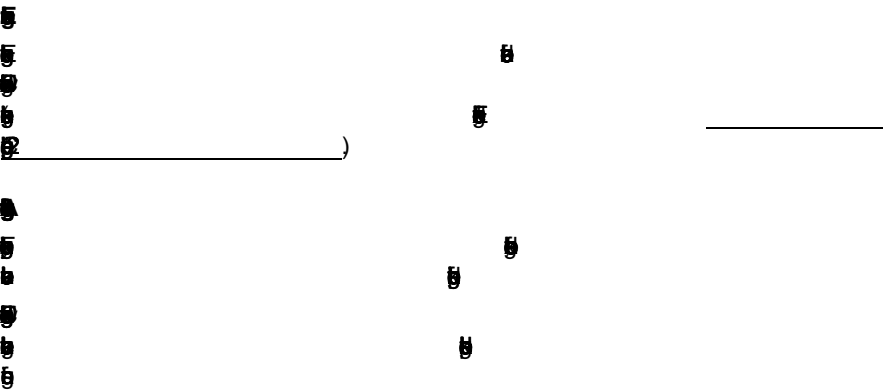
| QSIG | QSIG |
|------|------|
| QSIG | QSIG |



9. 2. 7 User-related authorizations



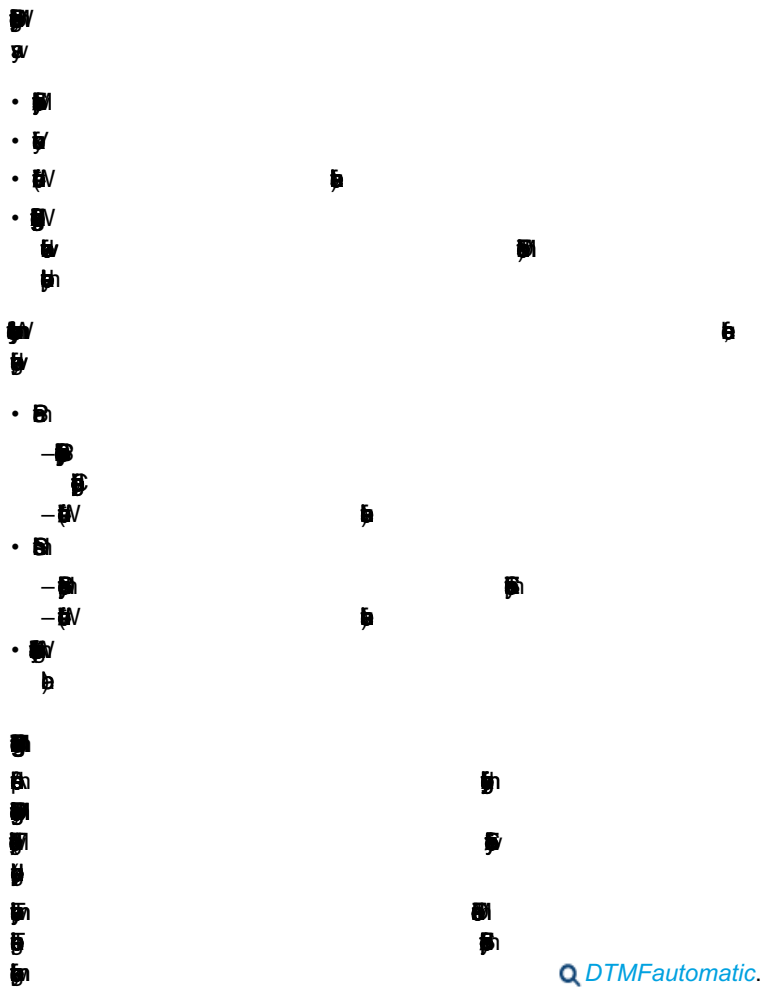
9. 2. 8 Exchange access authorizations





## 9. 2. 9 Operating the features on the terminal

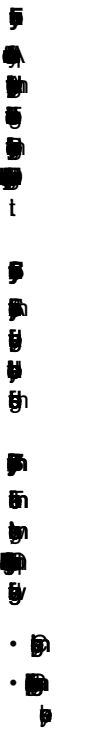
### 9. 2. 9. 1 Feature activation



### 9. 2. 9. 2 Configurable keys



Features







- **En**
- **En**

Handwritten notes:

Handwritten notes:

Tab. 129 Configurable keys of the system phones

| № | Имя      | Фамилия  | Пол | Возраст | Статус    |
|---|----------|----------|-----|---------|-----------|
| 1 | Иванов   | Иван     | М   | 25      | Активен   |
| 2 | Петров   | Петр     | М   | 30      | Активен   |
| 3 | Сидоров  | Сидор    | М   | 35      | Активен   |
| 4 | Климов   | Климов   | М   | 40      | Неактивен |
| 5 | Васильев | Васильев | М   | 45      | Неактивен |

|   |                                                                                   |
|---|-----------------------------------------------------------------------------------|
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |

### 9. 2. 10 Languages supported

10  
 11  
 12  
 13  
 14  
 15  
 16  
 17

## Features

•  $Q = e6$   
 •  $Q = ty$   
 •  $Q = h1$   
 •  $Q = nb$   
 •  $Q = b4$

## WebAdmin, SSP, and Hospitality Manager

- The available languages depend on the set sales channel. Other languages can be downloaded from the FTP server and installed with WebAdmin in the Localization menu (Q =e6). This also applies to online help languages.
- Many languages are not equally available for all applications.
- The language can be directly set in the applications. The online help is displayed in the same language as the user interface. If the online help is not available in the set language, it is displayed in English.

## Audio guides

- The available languages depend on the set sales channel. Other languages can be downloaded from the FTP server and installed with WebAdmin in the Localization menu (Q =e6).
- The audio guide language can be chosen for each mailbox (Q =tb).

## 9.3 One number concept and personal call routing

The One Number user concept is used to assigned several terminals to one user. The user has only one name and one call number with which to identify himself to his call partners, regardless of which of the terminals assigned to him he happens to be using to make his calls. The advantage is that a user can always be reached under the same call number, regardless of where he happens to be. An internal or external call to the user is routed to all or only some of the terminals assigned to him (configurable).

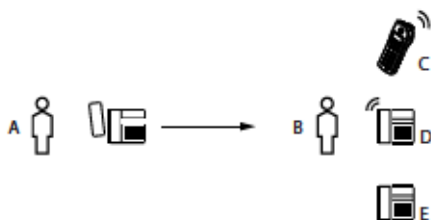




















Fig. 184 One Number

### Other properties:










- The user can use the *Personal call routing* function (\*45) to specify which terminals calls should be to. 5 additional call routings besides the default setting (call all terminals) can be defined in WebAdmin. For such a profile to be valid, at least one terminal has to be entered in the call routing. Only one call routing per user can be active at any one time.

Features

-  *Ring Alone* 
  - 
  - 
  - 
  - 
  - 
  - 

-  *Busyifbusy* 
  - 
  - 
- 
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- 
- 
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• 

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- 

## Functions in prefix dialling

Tab. 130 Functions

| Functions                        | Function codes           | Remarks                                        |
|----------------------------------|--------------------------|------------------------------------------------|
| Activate personal call routing   | *45 <Call routing 0...5> | The default setting is 0 (call all terminals). |
| Deactivate personal call routing | #45                      | #45                                            |
| Activate Ring Alone              | *41                      |                                                |
| Deactivate Ring Alone            | #41                      |                                                |

### System configuration

In the user list (**Q=th**) click on the user you want then navigate to the section **Q Absence and personal call routing**. You can define and also activate personal call routing there. More information can be found in the online help.

### Reference to Other Features

"Organising absences on the workstation", page 350

## 9. 4 Call Forwarding Unconditional functions

### 9. 4. 1 Call Forwarding Unconditional (CFU)

Calls intended for B are diverted to destination C.

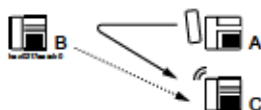


Fig. 185 Call forwarding

Call Forwarding Unconditional responds differently depending on the System Configuration and the function code used. The various CFU types are as follows:





























































- **CFU to a variable destination:**  
The user specifies the chosen call forwarding destination on his terminal. This CFU can be either unconditional or only if busy.
- **Preconfigured CFU:**  
The call forwarding is made unconditionally to a destination entered in the user configuration. This destination is also used with the *Leave message* feature if the caller is unable to read messages on his terminal.

## Features

- **5**



Tab. 131 Call forwarding

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | <ul style="list-style-type: none"> <li>•   </li> <li>•   </li> <li>•   </li> <li>•   </li> </ul>                                                                     | <ul style="list-style-type: none"> <li>•   </li> <li>•   </li> <li>•   </li> <li>•   </li> </ul> |
| B | <ul style="list-style-type: none"> <li>•   </li> <li>•   </li> <li>•   </li> <li>•   </li> </ul> <p><i>First call if call forwarding unconditional is active</i></p> | <ul style="list-style-type: none"> <li>•   </li> <li>•   </li> <li>•   </li> <li>•   </li> </ul> |
| C |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>•   </li> <li>•   </li> <li>•   </li> <li>•   </li> </ul> |



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- **Figure 1**



*Notavail-*





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Tab. 132 Call Forwarding Unconditional: Functions



Tab. 133 Call Forwarding Unconditional: System configuration

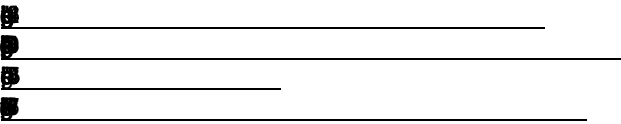
| <i>PredefinedCFU</i>                                  |         |
|-------------------------------------------------------|---------|
| <i>Firstcallifcallforwardingunconditionalisactive</i> |         |
| <i>Callforwardingtype</i>                             |         |
| <i>Callforwardingdestination</i>                      |         |
| <i>PartialRerouting(PARE)</i>                         |         |
| <i>PartialRerouting(PARE)</i>                         |         |
| <i>Waitforconnection</i>                              | _____ ) |
| <i>Lastmailboxwhenforwarded</i>                       | _____ ) |



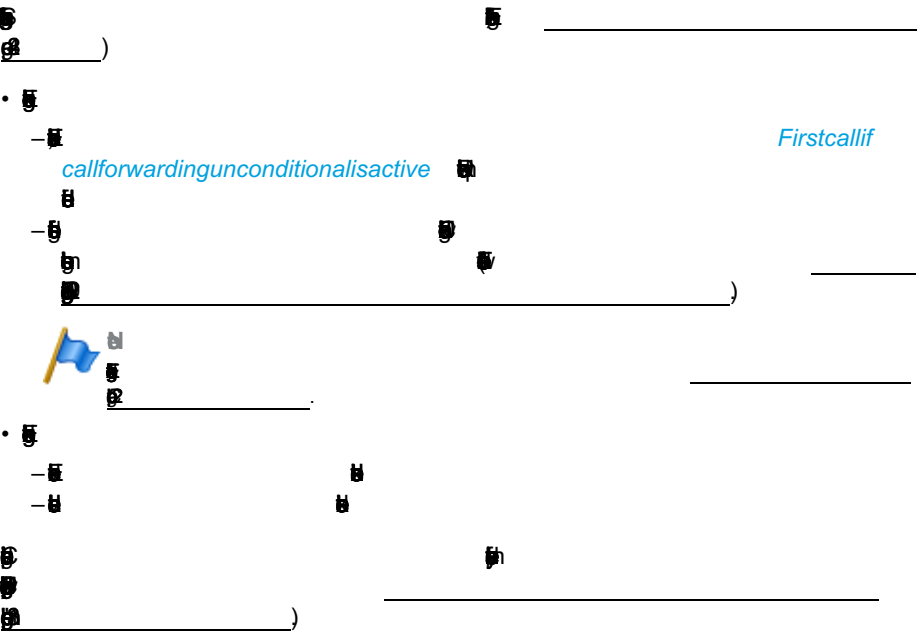
\_\_\_\_\_

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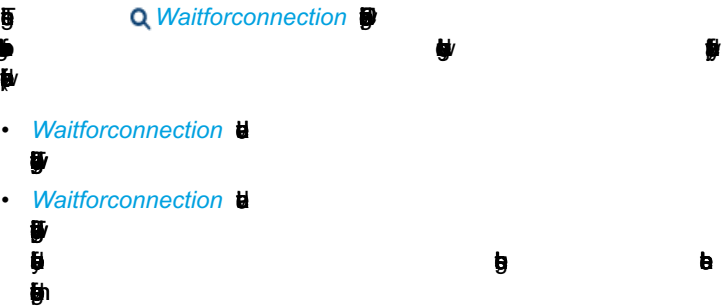
\_\_\_\_\_



9. 4. 1. 1      Call Forwarding Unconditional to exchange



9. 4. 1. 2      Wait for connection





- f *Waitforconnection* 



- f *Waitforconnection* 



### 9. 4. 1. 3 Examples of Call Forwarding Unconditional



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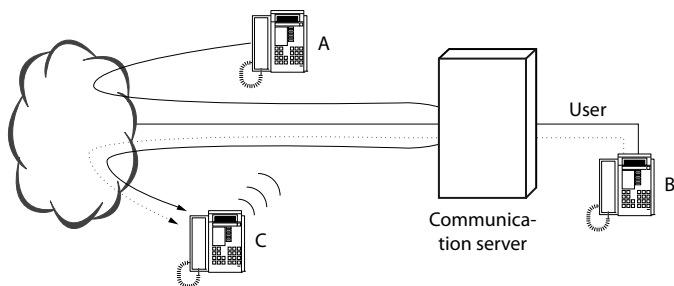


Fig. 186 Digital network interface without DDI or DDI number to user

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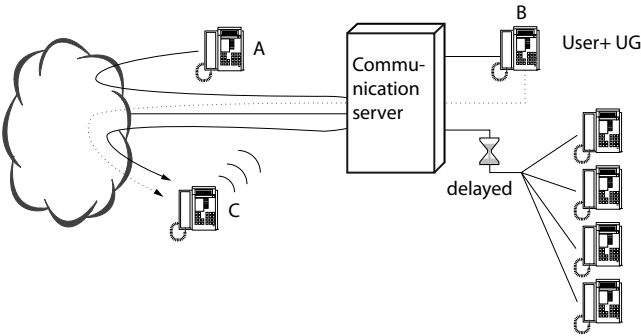


Fig. 187 DDI number to user + UG busy

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- *Waitfor*
- *connection*

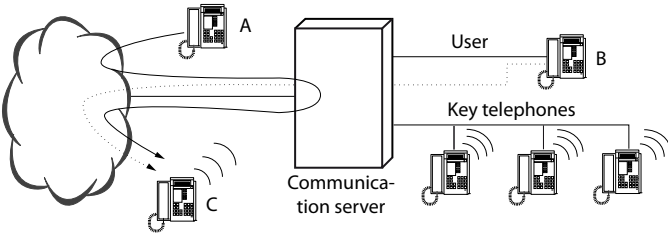


Fig. 188 DDI number to user + KT and user + KT busy

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## 9.4.2 Follow me

User B wants to divert calls originally made to his own terminal to a terminal C, where he is currently located. He therefore configures a call forwarding unconditional directly on destination terminal C.



Fig. 189 Follow me

### Detailed Description

Tab. 134 Follow me

| End point | Operating sequence / signalling on the terminal                                | Scope                            |
|-----------|--------------------------------------------------------------------------------|----------------------------------|
| C         | Once the feature has been activated, the user obtains an acknowledgement tone. | Possible interfaces:<br>Internal |

- The call forwarding from B to C remains active until user B cancels *Follow me* on his own terminal.
- The functions configured on the user's own terminal (e.g. exchange access) are not transferred to the destination terminal.
- A call forwarding already activated will be overwritten by *Follow me*.
- *Follow me* will interrupt any call forwarding unconditional chains.

### Functions in prefix dialling

Tab. 135 Follow me: Functions

| Functions                                          | Function codes   |
|----------------------------------------------------|------------------|
| Activate <i>Follow me</i> on the destination phone | *23 <user No. B> |
| Clear <i>Follow me</i> on the user's own phone     | #23              |

### System configuration

*Follow me* can also be activated for each user under **Q Call forwarding type**.

### Reference to Other Features

"Call Forwarding Unconditional (CFU)", page 331

### 9. 4. 3 Call Forwarding on No Reply (CFNR)

Unlike Call Forwarding Unconditional, the call to user B's terminal is initially signalled in the normal way when CFNR is activated. If the called party B does not answer the call after (0), 3, 5 or 7 ringing cycles, the call will also be signalled (in parallel) on the terminal of user C, who has been forwarded.

If the call was forwarded to C and was not answered by B, the next call will immediately be signalled to both users B + C. The delay in the call to C is reactivated only once the call has been answered directly by called party B. For the delay to be always active, the parameter *Direct forwarding (Immediate CFNR)*, valid throughout the system, must be deactivated.



Fig. 190 Call Forwarding on No Reply

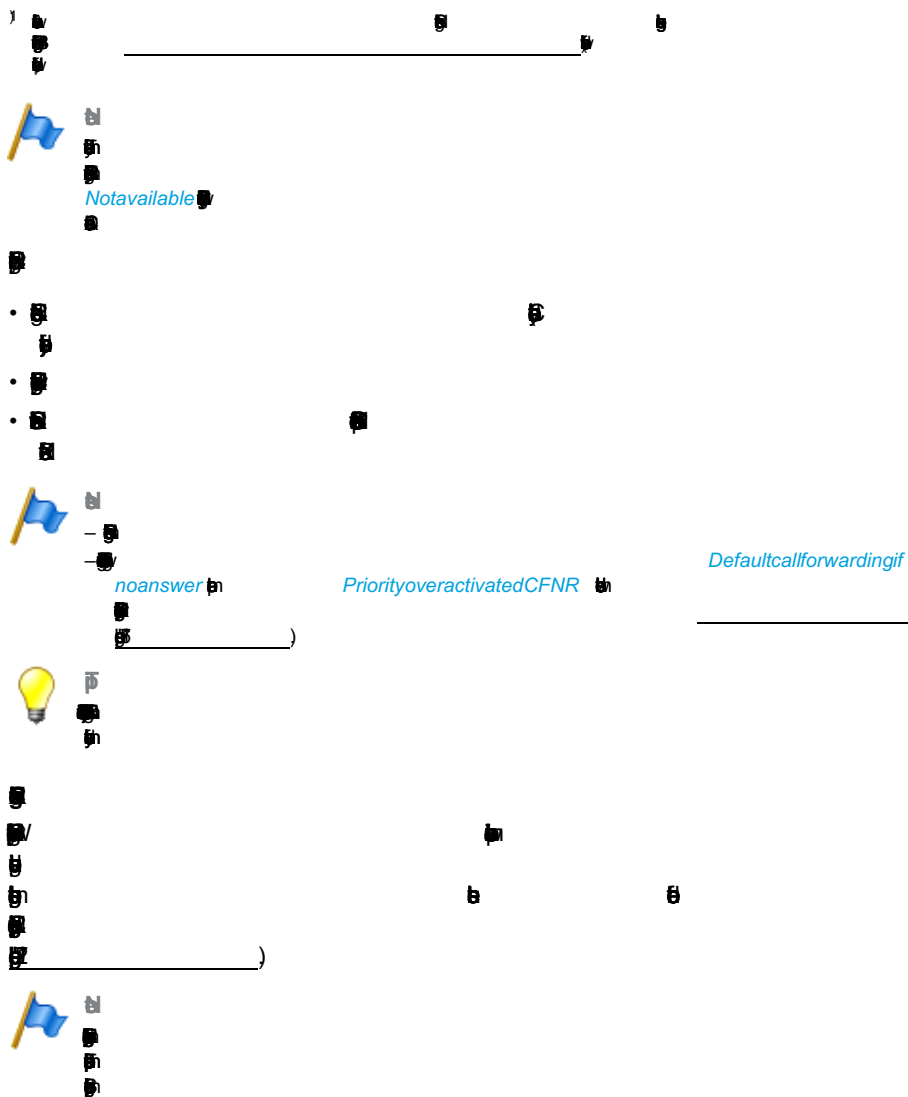
Call Forwarding Unconditional responds differently depending on the System Configuration and the function code used:

- Normal Call forwarding on no reply  
The user specifies the chosen call forwarding destination on his terminal.
- Preconfigured call forwarding on no reply (CFNR)  
The forwarding is implemented in the destination entered in the user configuration under *Preconfigured call forwarding on no reply (CFNR)*.
- CFNR can also be effected for both types if user B is busy. For this, user A must be assigned a permission set on which the parameter *Execute call forwarding on no reply even call destination is busy* is activated.

#### Detailed Description

Tab. 136 Call Forwarding on No Reply

| End point | Operating sequence / signalling on terminal                             | Scope                                                                                                                                                                                                                                                                                                                                                      |
|-----------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B         | Once the feature has been activated, B obtains an acknowledgement tone. |                                                                                                                                                                                                                                                                                                                                                            |
| C         |                                                                         | Possible destinations: <ul style="list-style-type: none"> <li>• User: internal, external<sup>1)</sup>, PISN</li> <li>• Coded ringing</li> <li>• UG: 25 to 29 (17 to 21 for Mitel 415(430) and user groups configured as "large".</li> </ul> Requirement:<br>C is not protected against calls (Do not disturb, *26) or Call Forwarding Unconditional (*02). |



Features



Tab. 137 Call Forwarding on No Reply: Functions

| Icon | Icon |
|------|------|
| Icon | Icon |
| Icon | Icon |
| Icon | Icon |
| Icon | Icon |
| Icon | Icon |
| Icon | Icon |
| Icon | Icon |
| Icon | Icon |
| Icon | Icon |
| Icon | Icon |
| Icon | Icon |



Tab. 138 Call Forwarding on No Reply: System configuration

| Icon                                                        | Icon |
|-------------------------------------------------------------|------|
| Q Callforwardingtransferdelay                               | Icon |
| Q Preconfiguredcallforwardingonnoreply(CFNR)                | Icon |
| Q Callforwardingtype                                        | Icon |
| Q Callforwardingdestination                                 | Icon |
| Q Executecallforwardingonnoreplyevenifcalldestinationisbusy | Icon |
| Q Immediatecallforwardingonnoreply                          | Icon |
| Q PriorityoveractivatedCFNR                                 | Icon |
| Q SuppressimmediateCFNR                                     | Icon |
| Q PartialRerouting(PARE)                                    | Icon |
| Q PartialRerouting(PARE)                                    | Icon |



9. 4. 4 Deflecting a call during the ringing phase (CD)







Fig. 191 Forwards a call during the ringing phase

### Detailed Description

The response and properties of Call Deflection are similar to those of Call Forwarding Unconditional.

Tab. 139 Call Deflection

| End point | Operating sequence / signalling on the terminal                                              | Scope                                                                                                                                                                                                                                    |
|-----------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B         | Once the feature has been activated, B obtains an acknowledgement indication on his display. | <ul style="list-style-type: none"> <li>System phones (without Office 10) via the Foxkey/softkeys</li> <li>ISDN terminals that support the feature.</li> </ul>                                                                            |
| C         |                                                                                              | Possible destinations: <ul style="list-style-type: none"> <li>User: internal, external<sup>1)</sup>, PISN</li> <li>Code d ringing</li> <li>UG</li> </ul> Requirement:<br>C is not protected against Call Forwarding Unconditional (*02). |



<sup>1)</sup> If caller A is an external user or a virtual network PISN user, the settings authorising exchange-to-exchange traffic (see "Call Forwarding Unconditional to exchange", page 334) will have to be observed. (If the connection is not authorized, the call is not forwarded.)

#### Other properties:

- The internal number of a call distribution element can only be used as the destination for a Call Deflection in a special case, namely if at least one CDE destination is configured on ACD. If not, *Not available* is displayed whenever the function is activated. Any configured CDE destinations that are not ACD are never executed.
- If the called user is busy and the calling user activates call waiting, the call can also be forwarded. The response and the options available are the same as for a user who is free.
- Calls on the line of a key telephone or an operator console cannot be forwarded (exception: the Personal key on an operator console).
- If the call is not answered at the destination, a recall is not made.
- If an attempt is made to forward the call to an invalid or busy internal call number, the function is not executed and the ringing is signalled as before. By contrast Call Deflection to an external user is always executed.

## Functions during the ringing phase

Tab. 140 Call Deflection: Functions

| Functions                                                    | System phones (without Office 10)                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Deflecting a call during the ringing phase (Call Deflection) | <ol style="list-style-type: none"> <li>1. </li> <li>2. The call number is entered via the keypad, using dialling by name, the call list, etc.</li> <li>3. </li> </ol> |

### System configuration

No settings

### Reference to Other Features

"Call Forwarding Unconditional (CFU)", page 331

"Call Forwarding on No Reply (CFNR)", page 338

"Call waiting", page 387

"Reject call", page 342

## 9. 4. 5 Reject call

Calls for B are rejected during the ringing phase. This immediately clears down the call set-up and therefore the ringing at B. User A obtains the busy tone.

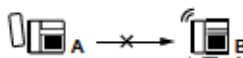


Fig. 192 Rejecting a call during the ringing phase

### Detailed Description

Tab. 141 Reject call

| End point | Operating sequence / signalling on the terminal | Scope                                                                                                                                                                                                                               |
|-----------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B         | The activation of the feature is not confirmed. | <ul style="list-style-type: none"> <li>• System phones with display via the Fox-key/Softkeys</li> <li>• ISDN terminals that support the feature. (The response after rejection varies from one manufacturer to the next)</li> </ul> |

Other properties:

- If the called user is busy and the calling user activates *Call waiting*, the call can also be rejected.
- A configured CFNR, a CFB or an entry in the CDE configuration under *CDE if no answer* or *CDE if busy* are not executed after a call has been rejected.

- If a user who is in a user group along with other users rejects a call, the other users continue to ring (unless *Default call forwarding if rejected* is configured, see section below). If all the UG members reject the call, the call set-up is cleared down and the calling user obtains the busy tone.
- For each user a *Default call forwarded if rejected* can be configured separately for internal and external calls. Possible redirection destinations include internal or external users, PISN users, abbreviated dialling numbers, user groups, CDE call numbers, etc. This means the response if the call is rejected can vary according to the call's origin, e.g. voice mail for internal calls and transfer for external calls (see "Default call forwarding per user", page 176).

## Functions during the ringing phase

Tab. 142 Rejecting a call: Function

| Function                                  | System phones (without Office 10)                                                 |
|-------------------------------------------|-----------------------------------------------------------------------------------|
| Rejecting a call during the ringing phase |  |

## System configuration

No settings

## Reference to Other Features

"Call Forwarding Unconditional (CFU)", page 331

"Call Forwarding on No Reply (CFNR)", page 338

"Call waiting", page 387

"Deflecting a call during the ringing phase (CD)", page 340

## 9. 4. 6 Twin Mode / Twin Comfort

Twin Mode and Twin Comfort are used to couple a user's desk phone and DECT phone.

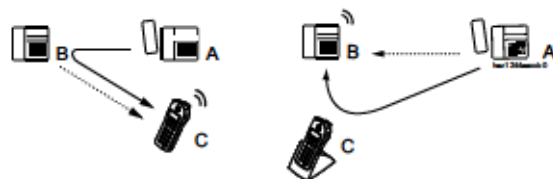


Fig. 193 Twin Mode / Twin Comfort

Twin Mode automatically activates a Call Forwarding Unconditional from user B to user C as soon as the cordless phone (user C) is removed from the charging bay. Conversely, a call for C is automatically diverted to B if C is in the charging bay.

Features



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Tab. 143 Twin Mode / Twin Comfort

| TWIN MODE / TWIN COMFORT |                                                               |
|--------------------------|---------------------------------------------------------------|
| B                        | <ul style="list-style-type: none"><li>• </li><li>• </li></ul> |



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Tab. 144 Twin Mode / Twin Comfort: Key configuration

| TWIN MODE / TWIN COMFORT: KEY CONFIGURATION |                        |
|---------------------------------------------|------------------------|
| <br><i>TwinMode</i>                         | <br><i>TwinComfort</i> |



*Chargingcontact*

## 9. 4. 7 Do not disturb

To ensure that user B is no longer disturbed, all incoming calls are automatically diverted to an alternative destination C, which has to be specified using the system configuration.



Fig. 194 Do not disturb

### Detailed Description

Tab. 145 Do not disturb

| End point | Operating sequence / signalling on terminal                             | Scope                                                                                                                                                                                                                                                 |
|-----------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B         | Once the feature has been activated, B obtains an acknowledgement tone. |                                                                                                                                                                                                                                                       |
| C         |                                                                         | Possible destinations: <ul style="list-style-type: none"> <li>• User: internal, PISN<sup>1)</sup></li> <li>• Operator phone</li> </ul> Requirement:<br>C is not protected against calls (Do not disturb, *26) or Call Forwarding Unconditional (*02). |

<sup>1)</sup> The settings authorising exchange-to-exchange traffic need to be observed for PISN users in the public network or on a virtually connected PINX (see "Exchange-to-Exchange Connections", page 222). (If the connection is not authorized, the call is not forwarded.)

- C is the only user who can still reach user B.  
Exception: If a user has assigned a permission set with the option *Override 'Do not disturb'* activated, he can still reach user B as the call forwarding from user B to user C is not active in this case.
- The alternative destination C (*Global call forwarding destination for do not disturb*) is valid for the entire system.
- The Do not disturb destination cannot be forwarded to the exchange.
- If user B is a guest in a room the alternative destination is always the *Reception/front desk call number*.

### Functions in prefix dialling

Tab. 146 Do not disturb: Functions

| Functions               | Function codes |
|-------------------------|----------------|
| Activate Do not disturb | *26            |
| Clear Do not disturb    | #26            |

## System configuration

Tab. 147 Do not disturb: System configuration

| Parameter                                                      | Remarks                             |
|----------------------------------------------------------------|-------------------------------------|
| Q <i>Global call forwarding destination for do not disturb</i> | Setting valid throughout the system |
| Q <i>Reception/front desk call number</i>                      | Setting valid throughout the system |
| Q <i>Override 'Do not disturb'</i>                             | Permission set                      |

## Reference to Other Features

"Call Forwarding Unconditional (CFU)", page 331

### 9.4.8 Substitution

In the attendant's absence, calls to operator console B can be forwarded to a preconfigured destination C.

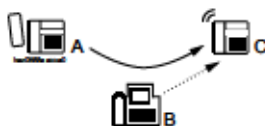



Fig. 195 Substitution activated

## Detailed Description

Tab. 148 Substitution




| End point | Operating sequence / signalling on the terminal                                                                                                                                                                                                                     | Scope                                                                                                                                                                                                                                                                  |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B         | <ul style="list-style-type: none"> <li>All the system operator consoles indicate the fact that the substitution is activated.</li> <li>When the substitution is activated, calls are still signalled at the operator console but no longer acoustically.</li> </ul> | Possible interfaces: <ul style="list-style-type: none"> <li>Operator phone</li> </ul>                                                                                                                                                                                  |
| C         |                                                                                                                                                                                                                                                                     | Possible destinations: <ul style="list-style-type: none"> <li>User: internal, PISN</li> <li>General Bell</li> <li>Both (user + general bell)</li> </ul> Requirement:<br>C is not protected against calls (Do not disturb, *26) or Call Forwarding Unconditional (*02). |

- The substitution can only be switched on and off at an operator console and is then valid for all the operator consoles in the system.
- Personal calls are not diverted.

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Tab. 149 Substitution: Function

|  |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |                                                                                   |



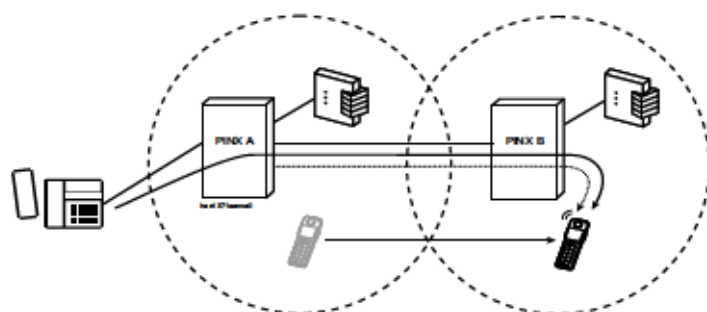
Tab. 150 Substitution: System configuration

|                                    |  |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  <i>Usernumberforsubstitution</i>  |  |
|  <i>Generalbellforsubstitution</i> |  |



### 9. 4. 9 DECT Follow Me






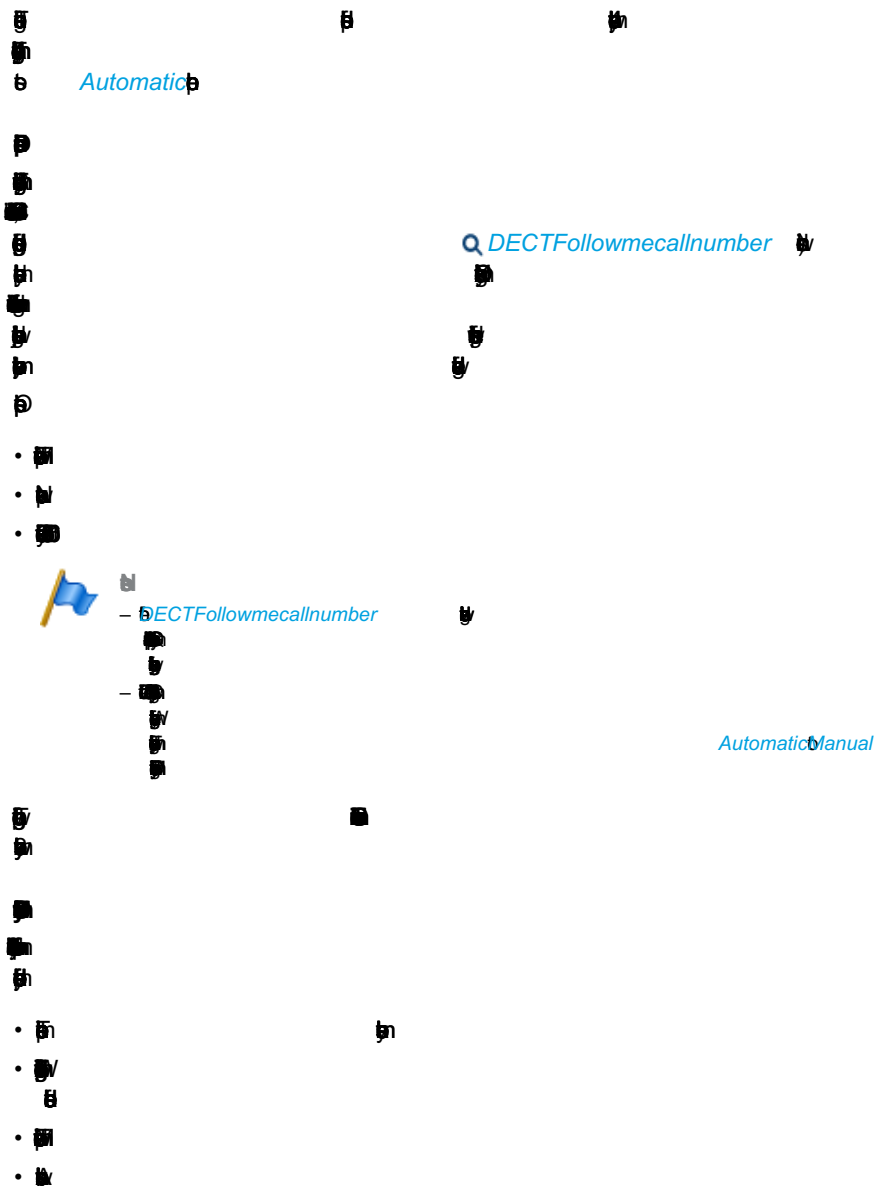
 DECT coverage area

Fig. 196 Automatic activation of DECT Follow me



### 9. 4. 9. 1 DECT Follow Me in a Network with 2, 3 or 4 Sys- tems



**Application Notes:**

Application Notes are available for both configuration options (see <https://pbxweb.aastra.com>)

**Mitel Advanced Intelligent Network:**

In an AIN the availability of the cordless phones across all the nodes is guaranteed even without the "DECT Follow me" feature (network-wide roaming). The phones are automatically registered whenever there is a switch from the coverage range of one node to that of another, and can then be called directly on the new node. Twin Mode/Twin Comfort between the nodes is also supported. However DECT handover between the nodes is not possible.

## 9. 4. 10 Organising absences on the workstation

The presence profiles allow a user A to manage his incoming calls individually, taking his presence status into account. When he leaves his workstation for example, he can activate the presence profile provided for absences. The presence status can be polled directly from user B without having to make a call. The detailed information depends on the type of phone.

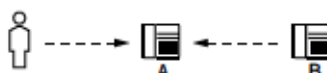


Fig. 197 Dialling by name

**Detailed Description**

Tab. 151 Presence

| End point | Operating sequence / signalling on the terminal                                                                                                                                                                                                       | Scope                                                                                                                                                         |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A         | Activating the presence status: <ul style="list-style-type: none"> <li>• Via the presence menu</li> <li>• Using the presence key or another function key</li> <li>• With a function code</li> </ul> The activated status is indicated on the display. | Possible interfaces: <ul style="list-style-type: none"> <li>• Internal</li> </ul>                                                                             |
| B         | Displaying A's presence status: <ul style="list-style-type: none"> <li>• For internal calls (prior to the call)</li> <li>• In the call lists</li> <li>• During dialling by name</li> <li>• On team keys</li> <li>• On busy lamp field keys</li> </ul> | Possible phones: <ul style="list-style-type: none"> <li>• MiVoice 5300, Mitel 600 DECT, Mitel 6000 SIP<sup>1)</sup>, MiVoice 2380 IP, MiVoice 1560</li> </ul> |

<sup>1)</sup> except Mitel 6863 SIP

**Presence profiles**

The following predefined presence profiles are available:

- **Available** (default setting)
- **Meeting**

- *Notavailable*
- *Absent*
- *Busy*



profilenames ( 🔍 =row)

Presence





Tab. 152 Presence status: Functions

| Icon   | Function   | Icon   |
|--------|------------|--------|
| Icon 1 | Function 1 | Icon 2 |
| Icon 2 | Function 2 | Icon 3 |
| Icon 3 | Function 3 | Icon 4 |
| Icon 4 | Function 4 | Icon 5 |



Search results: [=the](#) [Ab-](#)  
[senceandpersonalcallrouting](#)



## 9. 5 Connections involving several users

### 9. 5. 1 Music on hold



Search results: [Musiconhold](#) [=9e\)](#)

Tab. 153 Parameter values for Music on hold under services

| Icon   | Parameter           |
|--------|---------------------|
| Icon 1 | Silence             |
| Icon 2 | Externalaudiosource |
| Icon 3 | Internalaudiosource |
| Icon 4 | Holdtone            |
| Icon 5 | Welcomeannouncement |

Musiconhold



siconhold



=di

Musiconhold

Mu-

Externalaudiosource

Musiconhold

Tab. 154 Music on hold: Recording functions



[illegible]

## Music

$Q = 2s \frac{dh}{dt}$

Musiconhold 

$Q = 96$

## 9. 5. 2 Hold (enquiry call)

An A–B connection is put on hold if one of the callers, e.g. user B wants to set up an enquiry call connection with C.

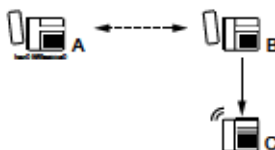


Fig. 198 Putting a call on hold

### Detailed Description

Tab. 155 Hold (enquiry call)

| End point | Operating sequence / signalling on terminal                            | Scope                                            |
|-----------|------------------------------------------------------------------------|--------------------------------------------------|
| A         | <i>Music on hold</i> is played to user A, who is on hold <sup>1)</sup> | Possible interfaces:<br>internal, external, PISN |
| C         |                                                                        | Possible interfaces:<br>internal, external, PISN |

<sup>1)</sup> With hold in the public exchange, the signalling depends on the network provider.

If A is on hold and B hangs up before setting up a ringing or call connection to C, B's terminal will ring continuously for 10 seconds. As soon as B picks up the handset, he is again connection with A.

If A is on hold and B waits for more than 10 seconds before setting up a ringing or call connection to C, B will obtain the busy tone. The return to the initial connection is not automatic.

### Suffix dialling functions

Tab. 156 Hold (enquiry call): Functions

| Functions                                                                                                                                                                                                                                                             | System phones                                                               | Analogue terminal                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------|
| Set up internal enquiry call                                                                                                                                                                                                                                          | ☎ with or without call preparation                                          | R <User No.><br>(R = control key) |
| Set up enquiry call to a user of the up-circuit communication server.<br>(Requirement: The user's own communication server is analogously connected down-circuit and the existing call connection already seizes a trunk line to the up-circuit communication server) | via function key with function command "I" to seize the line (macro "I*42") | R*42 <User No.>                   |

## System configuration

Tab. 157 Hold (enquiry call): System configuration

| Parameter                     | Remarks                                                                                                                         |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Q <i>Hold in the exchange</i> | <ul style="list-style-type: none"> <li>Trunk group configuration</li> <li>Local feature does not require any setting</li> </ul> |
| Q <i>Music on hold</i>        | see <u>"Music on hold", page 352</u>                                                                                            |

### Reference to Other Features

"Brokering (switching back and forth between two calls)", page 357

"Enquiry call with return to initial call", page 356

"Three-party conference from an enquiry call", page 361

"Call transfer (switching)", page 364

"Recall", page 370

"Call acceptance", page 371

## 9. 5. 3 Enquiry call with return to initial call

A user (B) can initiate an inquiry call connection during a call (A–B) and as a result hold a short conversation with another call partner (C), without interrupting the first connection. The original connection is restored once the enquiry call is completed.

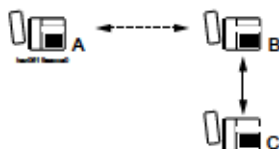


Fig. 199 Enquiry

### Detailed Description

Tab. 158 Enquiry call with return to initial call

| End point | Operating sequence / signalling on terminal                            | Scope                                            |
|-----------|------------------------------------------------------------------------|--------------------------------------------------|
| A         | <i>Music on hold</i> is played to user A, who is on hold <sup>1)</sup> | Possible interfaces:<br>internal, external, PISN |
| C         |                                                                        | Possible interfaces:<br>internal, external, PISN |

<sup>1)</sup> With hold in the public exchange, the signalling depends on the network provider.

### Suffix dialling functions

Set up enquiry call: see "Hold (enquiry call)", page 355



Tab. 159 Enquiry call with return to the initial call: Function

| Function                   | System phones           | Analogue terminal                                                                                                                                                                                                                     |
|----------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Return to the initial call | with the disconnect key | <ul style="list-style-type: none"> <li>• with R1 (R = control key) or wait for more than 2 seconds after pressing the control key</li> <li>• by putting the handset on-hook and then taking it off-hook again after recall</li> </ul> |

## System configuration

Tab. 160 Enquiry call with return to the initial call: System configuration

| Parameter                     | Remarks                                                                                                                             |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Q <i>Hold in the exchange</i> | <ul style="list-style-type: none"> <li>• Trunk group configuration</li> <li>• Local feature does not require any setting</li> </ul> |
| Q <i>Music on hold</i>        | see <a href="#">"Music on hold", page 352</a>                                                                                       |

## Reference to Other Features

["Hold \(enquiry call\)", page 355](#)

["Brokering \(switching back and forth between two calls\)", page 357](#)

["Three-party conference from an enquiry call", page 361](#)

["Call transfer \(switching\)", page 364](#)

["Call waiting", page 387](#)

## 9. 5. 4 Brokering (switching back and forth between two calls)

A user can switch back and forth as often as required between his call party and the user on hold.

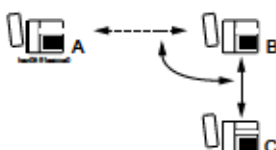


Fig. 200 Brokering

## Detailed Description

Tab. 161 Brokering (switching back and forth between two calls)

| End point | Operating sequence / signalling on terminal                            | Scope                                            |
|-----------|------------------------------------------------------------------------|--------------------------------------------------|
| A         | <i>Music on hold</i> is played to user A, who is on hold <sup>1)</sup> | Possible interfaces:<br>internal, external, PISN |
| C         |                                                                        | Possible interfaces:<br>internal, external, PISN |

Features



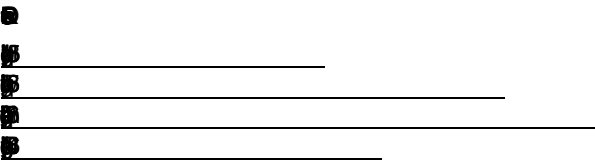
Tab. 162 Brokering (switching back and forth between two calls): Function

| Icon | Function         | Icon |
|------|------------------|------|
| Icon | • Icon<br>• Icon | Icon |

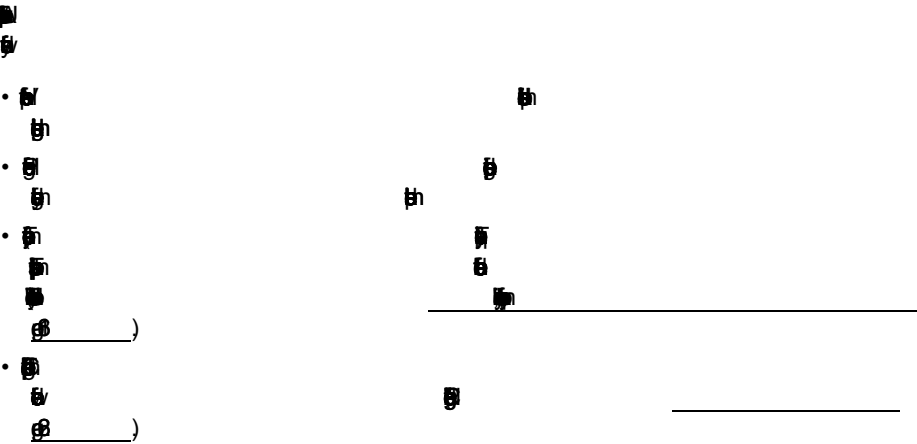


Tab. 163 Brokering: System configuration

| Icon                          | Icon             |
|-------------------------------|------------------|
| Icon <i>Holdintheexchange</i> | • Icon<br>• Icon |
| Icon <i>Musiconhold</i>       | Icon _____       |



9. 5. 5 Conference





## Notes

- Conference participants hear an attention tone when they join the conference. This tone can be switched off on the entire system. Comply with the national data protection terms. With a three-party conference in the public exchange, the signalling depends on the network provider.
- Conferences take up hardware resources.
- On SIP phones of the Mitel 6000 SIP series, the Mitel BluStar 8000i and a number of standard SIP phones, three-party conferences are possible locally on the phone. For this, the *number of line keys* in the terminal configuration must be at least 2 and the parameter *Conference circuit* = *In phone*.

### 9.5.5.1 Variable and preconfigured conference

A can set up a conference with B, C and D in prefix dialling.

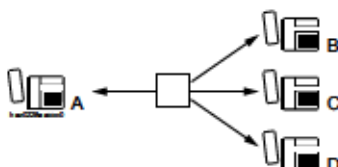


Fig. 201 Variable and preconfigured conference

Tab. 164 Variable and preconfigured conference

| End point | Operating sequence / signalling on terminal                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Scope                                                                                                                                                                                                                                                                                                            |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A         | The conference leader hears a ring-back tone when setting up the conference.                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                  |
| B, C, D   | <p>The preconfigured or dialled conference participants hear ringing signalling during the conference setup and during the conference - depending on the system configuration<sup>1)</sup>:</p> <ul style="list-style-type: none"> <li>no tone at all</li> <li>the conference tone only once</li> <li>the conference tone regularly</li> </ul> <p>The conference and, depending on system phone type, the number of conference participants or call numbers/names are displayed on the phone screen.</p> | <p>Possible interfaces: internal, external<sup>2) 3)</sup>, PISN<sup>4)</sup></p> <p>Restrictions:</p> <ul style="list-style-type: none"> <li>Three conference participants (up to a maximum of 6) are permitted per conference<sup>5)</sup>.</li> <li>Abbreviated-dialling numbers are not permitted</li> </ul> |

<sup>1)</sup> With three-party conference in the public exchange, the signalling depends on the network provider.

<sup>2)</sup> If more than one external user is to be switched into a conference, the settings authorising exchange-to-exchange traffic need to be observed (see "Exchange-to-Exchange Connections", page 222).

<sup>3)</sup> With three-party conference in the public exchange, only external interfaces are possible.

<sup>4)</sup> The settings authorising exchange-to-exchange traffic need to be observed for PISN users in the public network or on a virtually networked PINX (see "Exchange-to-Exchange Connections", page 222).

<sup>5)</sup> Only three conference participants are permitted if three-party conference in the public exchange is activated.

Features



Externalpriority



Tab. 165 Suffix dialling functions

|  | • |  |
|--|---|--|
|  | • |  |
|  | # |  |



Tab. 166 Functions in prefix dialling



Tab. 167 Conference: System configuration

| Preconfiguredconferences                |  |
|-----------------------------------------|--|
| Conference,intrusionandcallwaiting tone |  |



### 9. 5. 5. 2 Three-party conference from an enquiry call

In an enquiry call (with A on hold), B can set up a three-party conference with C.

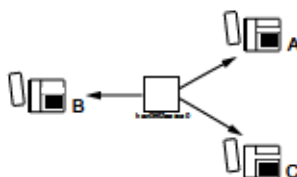


Fig. 202 Three-party conference from an enquiry call

#### Detailed Description

Tab. 168 Three-party conference from an enquiry call

| End point | Operating sequence / signalling on the terminal                                                                                                                                                                                                                                                                                                                                                                          | Scope                                                                         |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| A, C      | <p>Depending on system configuration, the conference participants will hear<sup>1)</sup>:</p> <ul style="list-style-type: none"> <li>• no tone at all</li> <li>• the conference tone only once</li> <li>• the conference tone regularly</li> </ul> <p>The three-party conference and, depending on system phone type, the number of conference participants or call numbers/names are displayed on the phone screen.</p> | Possible interfaces:<br>internal, external <sup>2)</sup> , PISN <sup>2)</sup> |

<sup>1)</sup> With three-party conference in the public exchange, the signalling depends on the network provider.

<sup>2)</sup> If both users A and C are external users or virtual network PISN users, the settings authorising exchange-to-exchange traffic will have to be observed (see "Exchange-to-Exchange Connections", page 222").





#### Note:

From within an existing three-party conference, up to three conference participants can be connected by further enquiry calls.












#### Suffix dialling functions

Tab. 169 Three-party conference from an enquiry call. Functions

| Functions                                                                     | System phones                                                                                                                                                         | Analogue terminal    |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Set up three-party conference from an enquiry call                            | <ul style="list-style-type: none"> <li>•  Use digit suffix dialling: 3</li> </ul>  | R3 (R = control key) |
| Three-party conference in the exchange: Return to enquiry call                | <ul style="list-style-type: none"> <li>• With digit suffix dialling: 5</li> </ul>                                                                                     | R5 (R = control key) |
| Three-party conference in the exchange: Return to enquiry call with brokering | <ul style="list-style-type: none"> <li>•  With digit suffix dialling: 2</li> </ul> | R2 (R = control key) |
| End three-party conference in the exchange                                    | <ul style="list-style-type: none"> <li>• hang up</li> <li>• Disconnect key</li> </ul>                                                                                 | hang up              |



Tab. 170 Three-party conference (conference from enquiry call): System configuration

|   |                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <i>Hold in the exchange</i>                                                     | <br> |
|  <i>Three-party conference in the exchange (3PTY)</i>                            | <br> |
|  <i>Conference, intrusion and call waiting tone</i>                              |                                                                                       |



### 9. 5. 5. 3 Conference bridge

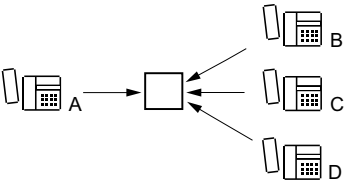


Fig. 203 Conference bridge



Tab. 171 Conference bridge

| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2 | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p> <p>29</p> <p>30</p> <p>31</p> <p>32</p> <p>33</p> <p>34</p> <p>35</p> <p>36</p> <p>37</p> <p>38</p> <p>39</p> <p>40</p> <p>41</p> <p>42</p> <p>43</p> <p>44</p> <p>45</p> <p>46</p> <p>47</p> <p>48</p> <p>49</p> <p>50</p> <p>51</p> <p>52</p> <p>53</p> <p>54</p> <p>55</p> <p>56</p> <p>57</p> <p>58</p> <p>59</p> <p>60</p> <p>61</p> <p>62</p> <p>63</p> <p>64</p> <p>65</p> <p>66</p> <p>67</p> <p>68</p> <p>69</p> <p>70</p> <p>71</p> <p>72</p> <p>73</p> <p>74</p> <p>75</p> <p>76</p> <p>77</p> <p>78</p> <p>79</p> <p>80</p> <p>81</p> <p>82</p> <p>83</p> <p>84</p> <p>85</p> <p>86</p> <p>87</p> <p>88</p> <p>89</p> <p>90</p> <p>91</p> <p>92</p> <p>93</p> <p>94</p> <p>95</p> <p>96</p> <p>97</p> <p>98</p> <p>99</p> <p>100</p> |   | <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p> <p>29</p> <p>30</p> <p>31</p> <p>32</p> <p>33</p> <p>34</p> <p>35</p> <p>36</p> <p>37</p> <p>38</p> <p>39</p> <p>40</p> <p>41</p> <p>42</p> <p>43</p> <p>44</p> <p>45</p> <p>46</p> <p>47</p> <p>48</p> <p>49</p> <p>50</p> <p>51</p> <p>52</p> <p>53</p> <p>54</p> <p>55</p> <p>56</p> <p>57</p> <p>58</p> <p>59</p> <p>60</p> <p>61</p> <p>62</p> <p>63</p> <p>64</p> <p>65</p> <p>66</p> <p>67</p> <p>68</p> <p>69</p> <p>70</p> <p>71</p> <p>72</p> <p>73</p> <p>74</p> <p>75</p> <p>76</p> <p>77</p> <p>78</p> <p>79</p> <p>80</p> <p>81</p> <p>82</p> <p>83</p> <p>84</p> <p>85</p> <p>86</p> <p>87</p> <p>88</p> <p>89</p> <p>90</p> <p>91</p> <p>92</p> <p>93</p> <p>94</p> <p>95</p> <p>96</p> <p>97</p> <p>98</p> <p>99</p> <p>100</p> |

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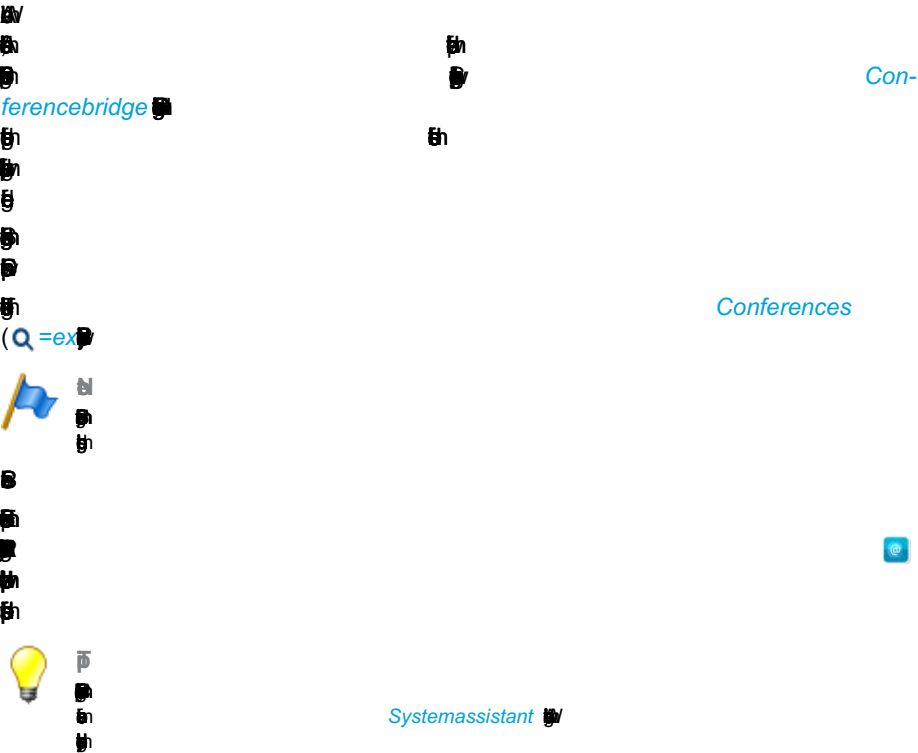
Tab. 172 Conference bridge: Functions

| 1   | 2   | 3   |
|-----|-----|-----|
| 1   | 2   | 3   |
| 4   | 5   | 6   |
| 7   | 8   | 9   |
| 10  | 11  | 12  |
| 13  | 14  | 15  |
| 16  | 17  | 18  |
| 19  | 20  | 21  |
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| 64  | 65  | 66  |
| 67  | 68  | 69  |
| 70  | 71  | 72  |
| 73  | 74  | 75  |
| 76  | 77  | 78  |
| 79  | 80  | 81  |
| 82  | 83  | 84  |
| 85  | 86  | 87  |
| 88  | 89  | 90  |
| 91  | 92  | 93  |
| 94  | 95  | 96  |
| 97  | 98  | 99  |
| 100 | 101 | 102 |

- 1
- 2
- 3

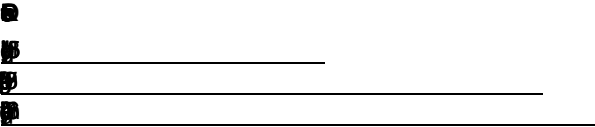


Features



Tab. 173 Conference bridge: System configuration

| Icon                                                        | Icon |
|-------------------------------------------------------------|------|
| Q Managing conferencerooms via SelfServicePortal            | Icon |
| Q Internaldial-in number displayed in the SelfServicePortal | Icon |
| Q Externaldial-in number displayed in the SelfServicePortal |      |
| Q Conference, intrusion and call waiting tone               | Icon |



9. 5. 6 Call transfer (switching)







See also:

For more information on the switching functions and the operator consoles, see ["Operator phone", page 140](#).

### 9. 5. 6. 1 Call transfer with prior notice

A user B can transfer a call with user A to user C after an enquiry call. In this transfer type user B waits for user C to answer (he gives notice of the call) before handing over the call.

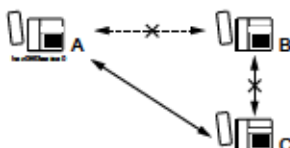


Fig. 204 Call transfer with prior notice

#### Detailed Description

Tab. 174 Call transfer with prior notice

| End point | Operating sequence / signalling on terminal                     | Scope                                                                         |
|-----------|-----------------------------------------------------------------|-------------------------------------------------------------------------------|
| A         | If A is on hold, he hears <i>Music on hold</i> .                | Possible interfaces:<br>internal, external <sup>1)</sup> , PISN <sup>2)</sup> |
| B         | If C hangs up during the enquiry call, B obtains the busy tone. |                                                                               |
| C         | Internal call / external call <sup>3)</sup>                     | Possible interfaces:<br>internal, external <sup>1)</sup> , PISN <sup>2)</sup> |

<sup>1)</sup> If both A and C are external users, the settings authorising exchange-to-exchange traffic will need to be observed (see ["Exchange-to-Exchange Connections", page 222](#)).

<sup>2)</sup> The settings authorising exchange-to-exchange traffic need to be observed for PISN users in the public network or on a virtually networked PINX (see ["Exchange-to-Exchange Connections", page 222](#)).

<sup>3)</sup> Depending on the system setting, C will obtain either an internal or an external ringing tone

If C and B hang up before the call transfer has been made, B will obtain 10 seconds of continuous ringing.

#### Suffix dialling function

Tab. 175 Call transfer with prior notice: Function

| Function      | All terminals |
|---------------|---------------|
| Call transfer | hang up       |

## System configuration

Tab. 176 Call transfer with prior notice: System configuration

| Parameter                                    | Remarks                                                                                                                         |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Q <i>Hold in the exchange</i>                | <ul style="list-style-type: none"> <li>Trunk group configuration</li> <li>Local feature does not require any setting</li> </ul> |
| Q <i>Call transfer in the exchange (ETC)</i> | <ul style="list-style-type: none"> <li>Trunk group configuration</li> <li>Local feature does not require any setting</li> </ul> |
| Q <i>Music on hold</i>                       | see <u>"Music on hold", page 352</u>                                                                                            |

### Reference to Other Features

"Hold (enquiry call)", page 355

"Call acceptance", page 371

## 9. 5. 6. 2 Call transfer without prior notice

A user B can transfer a call with user A to user C after calling user C. In this transfer type user B does not wait for user C to answer (he does not notice of the call) before handing over the call.

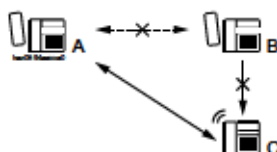


Fig. 205 Call transfer without prior notice

### Detailed Description

Tab. 177 Call transfer without prior notice

| End point | Operating sequence / signalling on terminal                                                                                                                                                                                                                                           | Scope                                                           |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| A         | If A is on hold, he hears the <i>ring-back tone</i> or <i>Music on hold</i> .                                                                                                                                                                                                         | Possible interfaces:<br>internal, external <sup>1)</sup> , PISN |
| B         | <ul style="list-style-type: none"> <li>When B calls user C, he obtains the ring-back tone (B must hear this tone before he can hand over the call)</li> <li>On the operator phone the line is signalled as switched until user C answers the call or a recall takes place.</li> </ul> |                                                                 |
| C         | Internal call / external call                                                                                                                                                                                                                                                         | Possible interfaces:<br>internal, external <sup>1)</sup> , PISN |

<sup>1)</sup> If both users A and C are external users or virtual network PISN users, the settings authorising exchange-to-exchange traffic will have to be observed (see "Exchange-to-Exchange Connections", page 222").



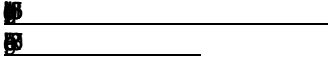
Tab. 178 Call transfer without prior notice: Function

| 1 | 2 |
|---|---|
| 3 | 4 |



Tab. 179 Call transfer without prior notice: System configuration

| 1                                       | 2                                     |
|-----------------------------------------|---------------------------------------|
| 3 <i>Calltransferwithoutpriornotice</i> | 4 <i>Ring-backtone 5 Musiconhold.</i> |
| 3 <i>Musiconhold</i>                    | 4 _____                               |



### 9. 5. 6. 3 Call transfer if busy

A user B can hand over a call with user A to the busy user C after making an enquiry call to C by activating a recall and then hanging up. As soon as the busy user C is free again, C's phone automatically begins to ring. When C answers, he is connected with A.

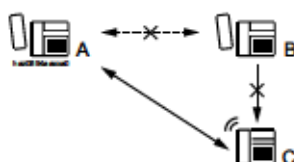


Fig. 206 Call transfer if busy

#### Detailed Description

Tab. 180 Call transfer if busy

| End point | Operating sequence / signalling on terminal                                                                                                                                                                                                                                                               | Scope                                                                         |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| A         | If A is on hold, he hears <i>Music on hold</i> .                                                                                                                                                                                                                                                          | Possible interfaces:<br>internal, external <sup>1)</sup> , PISN <sup>2)</sup> |
| B         | <ul style="list-style-type: none"> <li>After the enquiry call to C, B obtains a busy tone.</li> <li>After recall has been activated B obtains an acknowledgement tone.</li> <li>On the operator phone the line is signalled as switched until user C answers the call or a recall takes place.</li> </ul> | Not possible for SIP and Miele SIP phones                                     |
| C         |                                                                                                                                                                                                                                                                                                           | Possible interfaces:<br>internal, external <sup>1)</sup> , PISN <sup>2)</sup> |

<sup>1)</sup> If both A and C are external users, the settings authorising exchange-to-exchange traffic will need to be observed (see "Exchange-to-Exchange Connections", page 222).

<sup>2)</sup> The settings authorising exchange-to-exchange traffic need to be observed for PISN users in the public network or on a virtually networked PINX (see "Exchange-to-Exchange Connections", page 222).

<sup>3)</sup> For users in the public network or reached via the public network, the feature Callback if busy (CCBS) must be supported end-to-end by the public network.

If user B signals call waiting to C and then goes on hook, the call with A is transferred. This applies only if C does not reject B's call. For the full scope of this feature see "Call waiting", page 387.

If the call is not answered by C within the configured recall time (C still busy or does not answer), B again obtains ringing (see "Recall", page 370).

If user B intrudes on C's call and then goes on-hook, the call with A is also transferred. This applies only if C neither rejects nor answers B's call. For the full scope of this feature, see "Intrusion", page 388.



\_\_\_\_\_.

Tab. 181 Call transfer if busy: Function

|  |  |
|--|--|
|  |  |
|  |  |



Tab. 182 Call transfer if busy: System configuration

|                    |       |
|--------------------|-------|
|                    |       |
| <i>Musiconhold</i> | _____ |



9. 5. 7 Recall

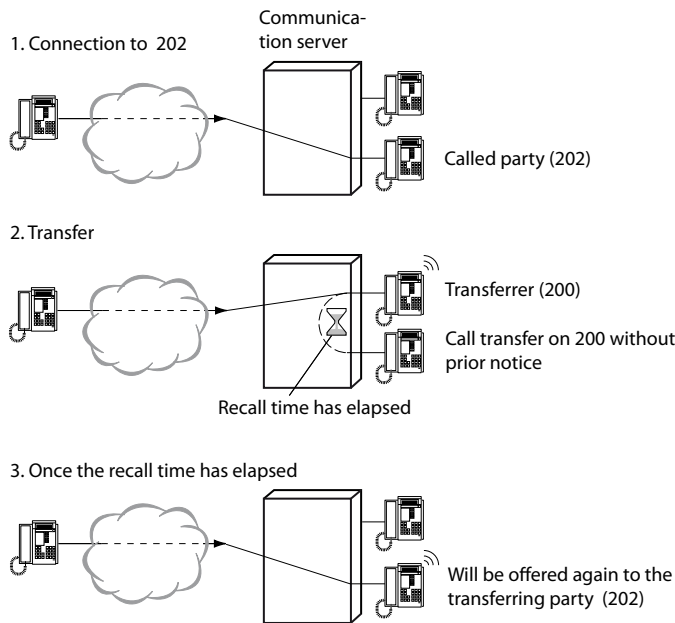


Fig. 207 Recall time

If the transferred user has

- activated *CFU* or *CFB*, the recall time used is the one defined at the CFU destination.
- activated *CFNR* or *Default CF if no answer*, the switched user's own recall time is used.
- forwarded the call during the ringing phase (Call Deflection), the switched user's own recall time is used.

A recall is also triggered if a parked call is not retrieved within the monitored parking time.

## System configuration

Tab. 183 Recall: System configuration

| Parameter                             | Remarks                             |
|---------------------------------------|-------------------------------------|
| Q <i>Recall time</i>                  | Setting valid throughout the system |
| Q <i>Recall time for virtual user</i> | Setting valid throughout the system |
| Q <i>Recall time</i>                  | User configuration                  |



### Note:

If the value of the Q *Internal ringing duration* parameter is smaller than the corresponding recall time, the call connection is cleared down and the recall is not carried out. In the case of forwarding with a time delay (e.g. *Call Deflection* or *Default CF if no answer*), the timer is restarted (see also "Internal ringing duration", page 163).

## 9.5.8 Call acceptance

An internal user C can accept a connection with user A after being contacted in an enquiry call by user B, who was connected with A.

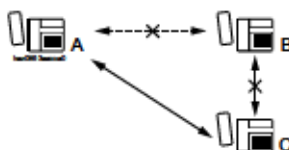


Fig. 208 Call acceptance

Features



Tab. 184 Call acceptance

| Item | Function        | Feature         |
|------|-----------------|-----------------|
| B    | Call acceptance | Call acceptance |
| C    |                 | Call acceptance |



Tab. 185 Call acceptance: Function

| Item | Function        |
|------|-----------------|
| B    | Call acceptance |



9. 6 Added features

9. 6. 1 Voice mail system

9. 6. 1. 1 Overview







## 9. 6. 1. 2 Voice memory capacity and voice channels



Tab. 186 Voice memory capacity

| Feature       | Normal | Extended | G.729only | Normal | Extended | G.729only |
|---------------|--------|----------|-----------|--------|----------|-----------|
| VoiceMailmode | 0      | 0        | 0         | 0      | 0        | 0         |
| VoiceMailmode | 2      | 4        | 4         | 6      | 6        | 6         |
| VoiceMailmode | 2      | 4        | 4         | 6      | 6        | 6         |
| VoiceMailmode | —      | 2        | 8         | 8      | 8        | 8         |

1 f VoiceMailmode = Normal(G.711orG.729)

2 f VoiceMailmode = Extended(G.729only)



AudioRecord&PlayChannels

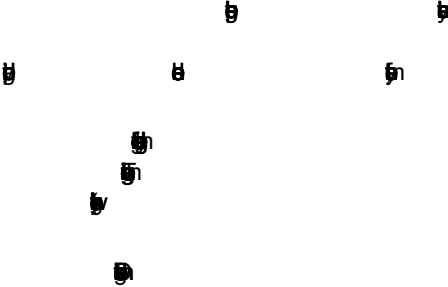


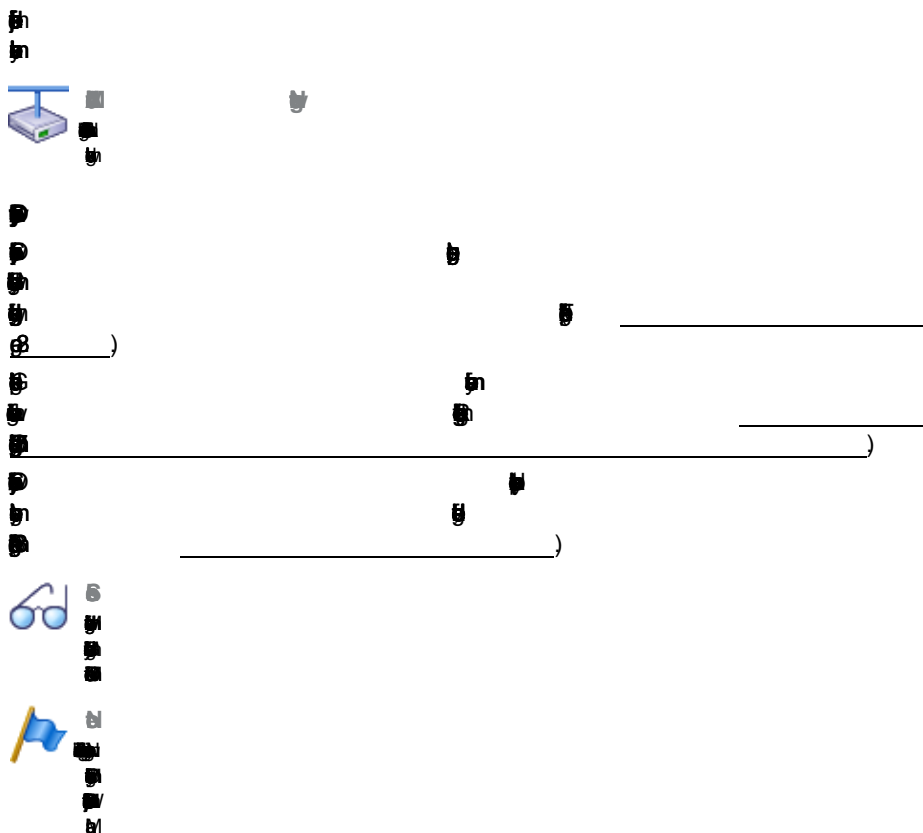
Voicemailmode

Voicemailmode Expanded(onlyG.729)

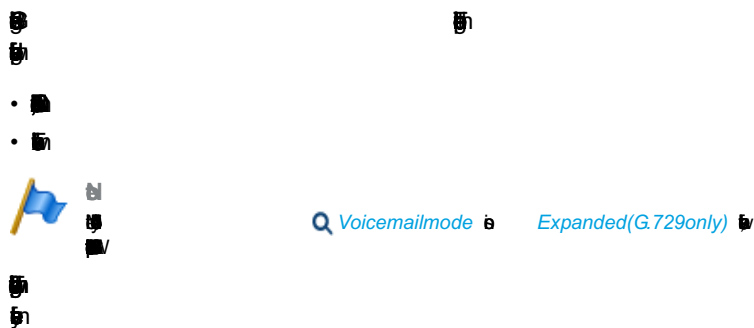
Voicemailmode

9. 6. 1. 3      Operation of the voice mail functions

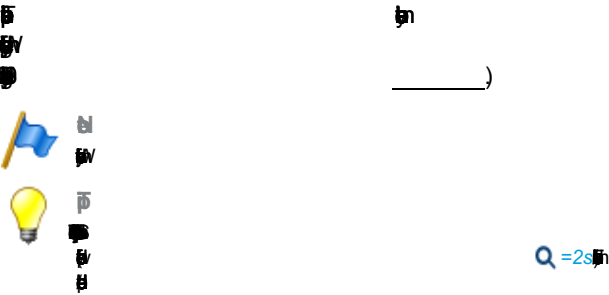




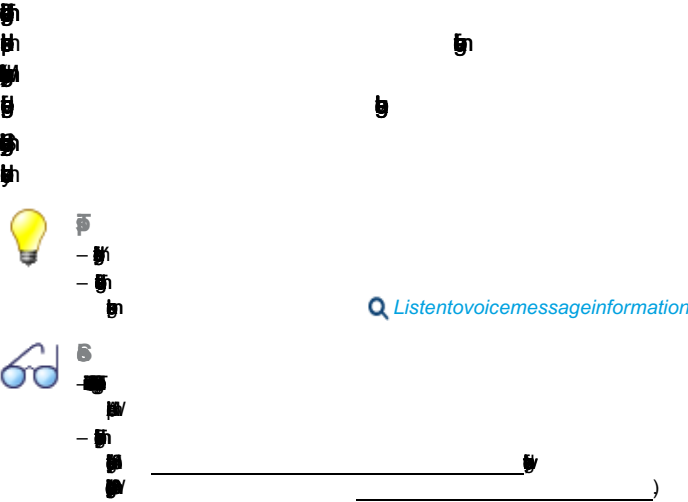
#### 9. 6. 1. 4 Recording greetings with the PC and uploading them onto the communication system



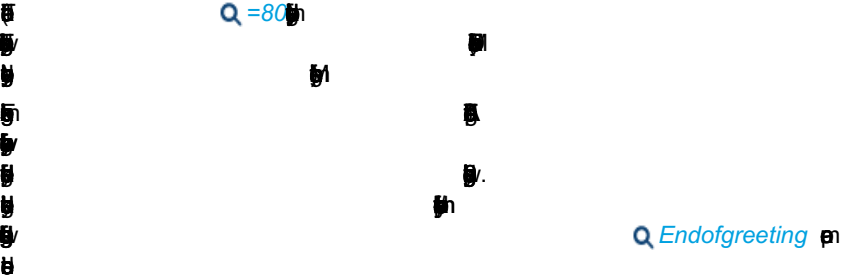
Features



9. 6. 1. 5 Audio guide



9. 6. 1. 6 Auto-Attendant



1. [Delayafterendofgreeting](#)

Tab. 187 Using macros in the destinations

| N |                                                  |
|---|--------------------------------------------------|
| K |                                                  |
| G | <a href="#">Deflecttomailbox(withgreeting)</a> } |

- [Noaction](#)

[Endofgreeting](#) [Noaction](#)

- [Deflecttocallnumber](#)

[Destinations](#)

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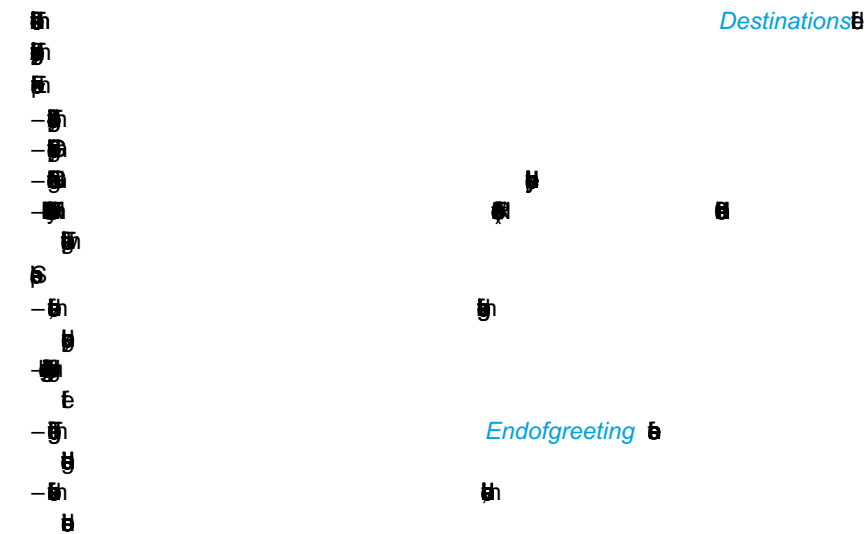
-

-

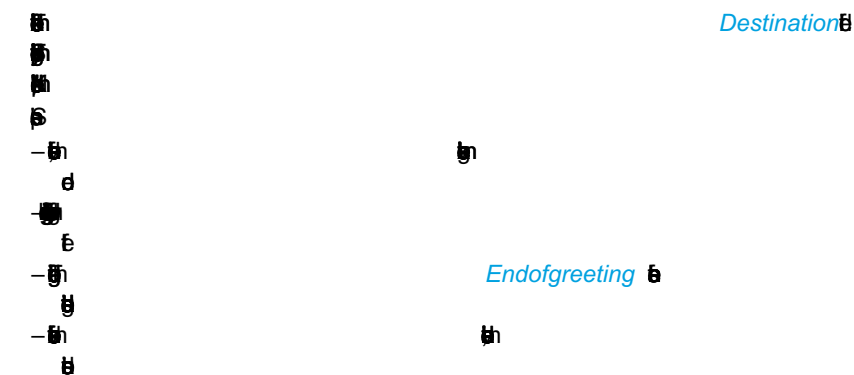
-

Features

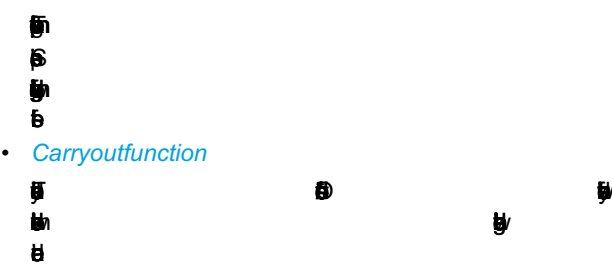
- Deflecttomailbox(withgreeting)



- Deflecttomailbox(withoutgreeting)



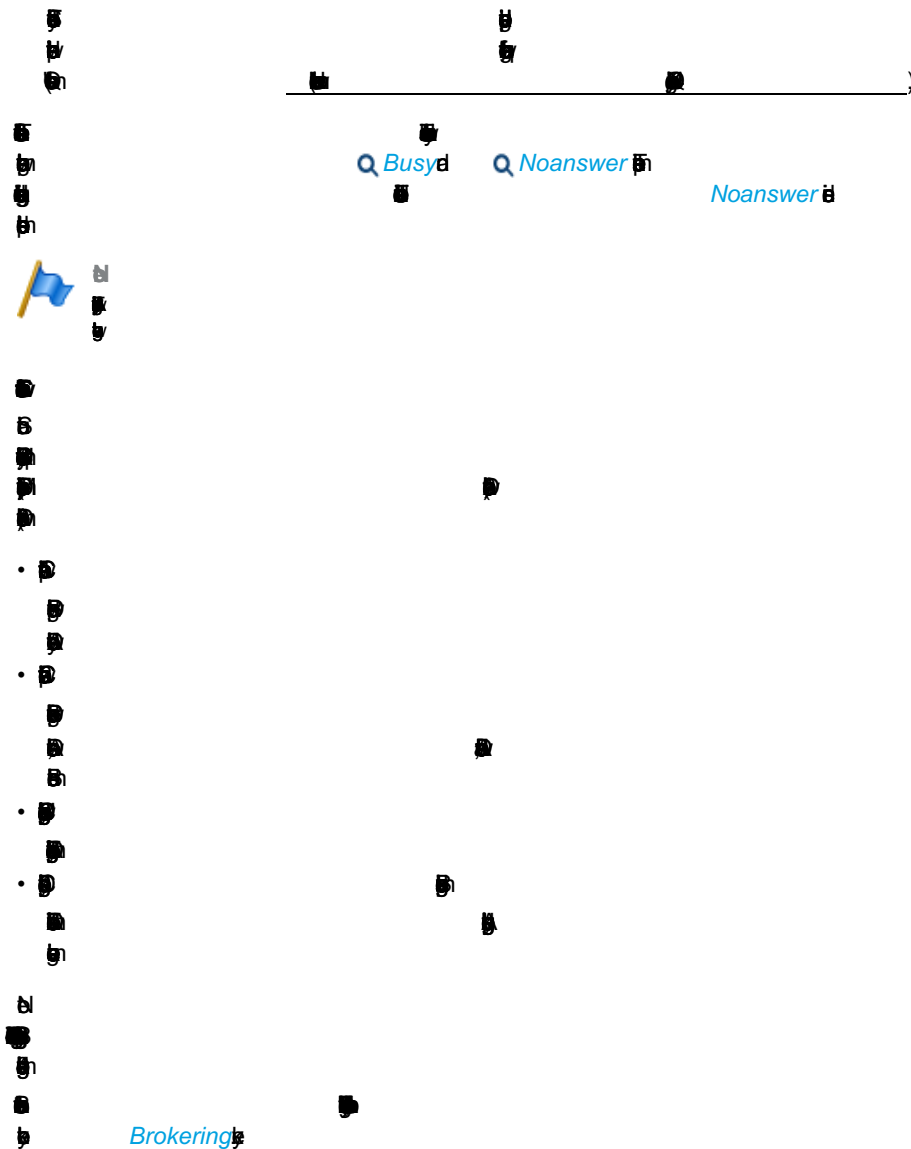
- Leavevoicemailmessage


















































- Carryoutfunction



- *Autoattendantannouncement*



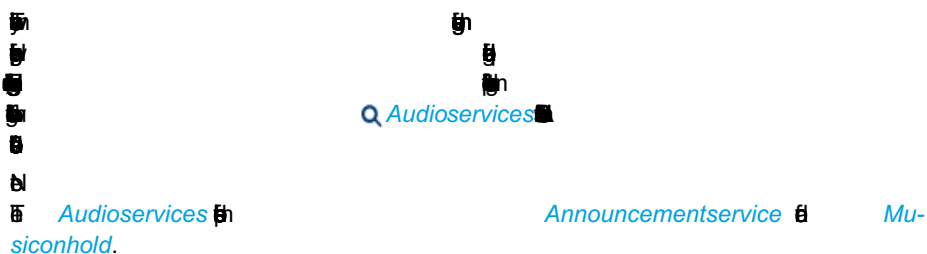
### 9.6.1.7 Scope

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### 9. 6. 1. 8 Access concept



### 9. 6. 1. 9 System configuration



=tb.

=80

Entryinunansweredcalllist

Showredirectinguseridentification



### 9. 6. 1. 10 Functions in prefix dialling

Tab. 188 Voice mail: Functions for personal greetings



Audioservices

Tab. 189 Voice mail: Functions for global greetings



Tab. 190 Voice mail: Functions for listening to voice messages



9. 6. 1. 11 Suffix dialling functions





**Quick User's Guide  
MiVoice Office 400  
Voice mail system**

**Start remote retrieval:**

1. Dial your own call number.
2. Activate DTMF mode, if required (dependent on your phone type).
3. During the greeting press the \*-key, enter your own PIN and complete with the #-key.
4. The greeting stops and the audio guide informs you about the possibilities on the top level of the voice mail menu.

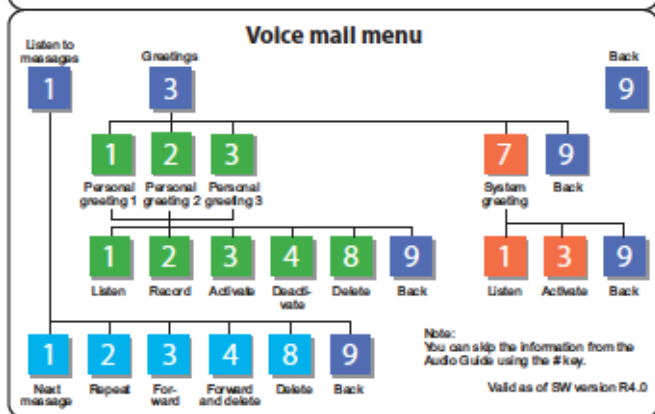


Fig. 209 Quick User's Guide



**Tips:**

- You can skip the audio guide information using the #key.
- The voice mail menu is also available when retrieving messages from the voice mailbox with your own phone (using function code \*94 or by calling the number of the voice mail system).

**Reference to Other Features**

"Sending and reading text messages", page 405

"Call recording", page 437

"Organising absences on the workstation", page 350

"Hospitality voice mail features", page 485

## 9. 6. 2 Dialling by name

Instead of entering user B's phone number, user A can dial user B's name. The communication server supports "dialling by name" and "dialling with quickdial". Please refer to the Operating Instructions of the system phones for more details.

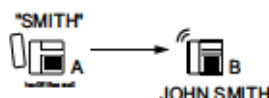


Fig. 210 Dialling by name

| End point | Scope                                                                                                                                                                                   |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A         | Requirement<br>The name must be stored on the caller's communication server: in the abbreviated dialling list, in the phone book, in the UG configuration or in the user configuration. |
| B         | Possible interfaces:<br><ul style="list-style-type: none"> <li>• User: internal, external, PISN</li> <li>• User group (UG)</li> </ul>                                                   |



### Tip:

The name of a PISN user can be configured in a PINX user configuration, provided the user's number is entered in full (see "Numbering plan", page 50).

## System configuration

Tab. 191 Dialling by name: System configuration

| Parameter   | Parameter                                                                                                                                                                                                                    |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Name</i> | Name in the user configuration ( $Q = \#$ )<br>Name in the abbreviated dialling contacts in the public phone book ( $Q = \#$ )<br>Name with the PISN users ( $Q = gv$ )<br>Name in the user group configuration ( $Q = 2f$ ) |



### Tip:

An external directory can also be connected to the communication system via OIP. To browse the directory, you need to initiate dialling by name with the 0 key or the \*-key.

## 9. 6. 3 End-of-selection signal

The input of an external number can be completed with the character #. The communication server (or network system) interprets this as the end of selection and immediately switches through.

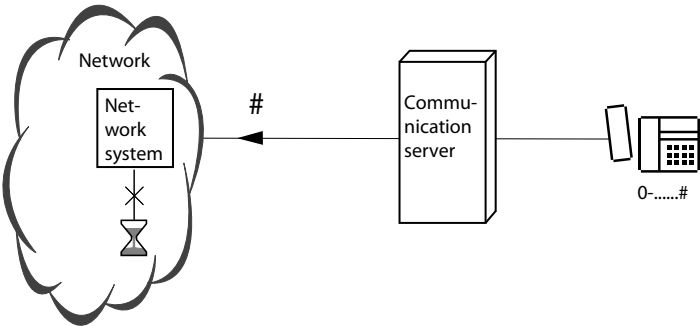
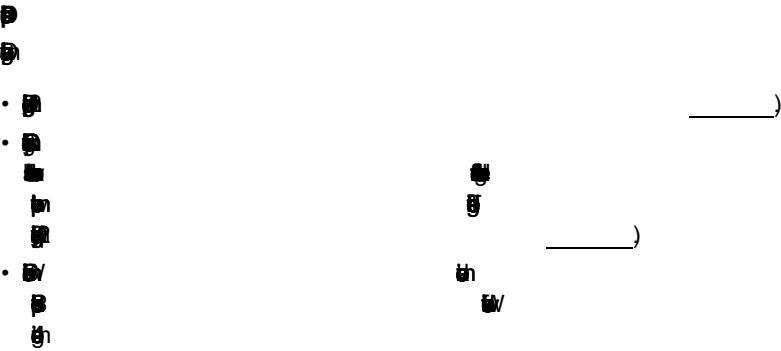


Fig. 211 Dialling with end-of-selection signal

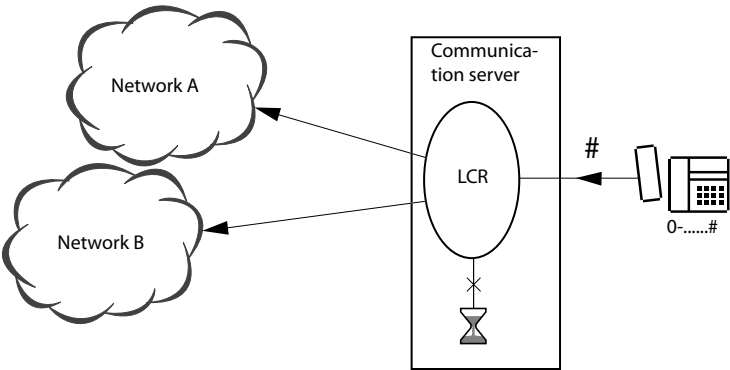


Fig. 212 Dialling with end-of-selection signal with the LCR function activated



## System configuration

### No settings



See also:

With SIP terminals and if the communication server is connected via an SIP provider to the public network, the tiresome task of entering end of dialling characters can be elegantly bypassed using an external numbering plan (see "Call to the public network with external numbering plan", page 199.)

## 9. 6. 4 Call waiting

Call waiting is used to notify an internal, busy user B that another user C is waiting to talk.

User B can choose to take C's call (and put the original call on hold, end the original call or set up a three-party conference) or reject it.

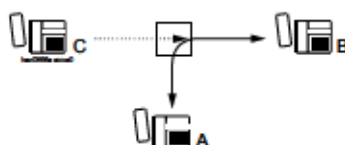


Fig. 213 Call waiting

### Detailed Description

Tab. 192 Call waiting

| End point | Operating sequence / signalling on the terminal                                                                                                                                                                                | Scope                                                                                                                                                                                                   |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B         | B hears the dampened call waiting tone, which is played into the current call. If B has a terminal with display, the call number or name of caller C is indicated, provided his CLIP / CNIP information is available.          | Requirement: <ul style="list-style-type: none"> <li>• B has allowed call waiting on his set.</li> <li>• B is not in the process of setting up a call, in an enquiry call or in a conference.</li> </ul> |
| C         | <ul style="list-style-type: none"> <li>• C obtains the ring-back tone by way of confirmation.</li> <li>• C obtains the busy tone if call waiting is not allowed or not available and if B rejects the call waiting.</li> </ul> | Possible interfaces: <ul style="list-style-type: none"> <li>• Internal<sup>1)</sup></li> </ul> Requirement: <ul style="list-style-type: none"> <li>• C is authorized to use call waiting.</li> </ul>    |

<sup>1)</sup> If C is an external user, call waiting is effected automatically (i.e. C cannot activate call waiting), providing the user receiving the call waiting has enabled the feature.

If B is in an outside call, call waiting will only work if this feature is enabled for outside calls too ([Call waiting and intrusion on exchange connection](#)).

If the announcement service is activated and user B does not respond to the external call waiting, the calling user C will obtain a greeting message.

Features



Tab. 193 Call waiting: Suffix dialling functions

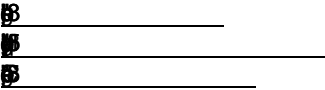
|      | <ul style="list-style-type: none"><li></li><li></li></ul> |  |
|------|-----------------------------------------------------------|--|
| →    | <ul style="list-style-type: none"><li></li><li></li></ul> |  |
| →    | <ul style="list-style-type: none"><li></li><li></li></ul> |  |
| →    | <ul style="list-style-type: none"><li></li><li></li></ul> |  |
| →  • | <ul style="list-style-type: none"><li></li><li></li></ul> |  |

Tab. 194 Functions in prefix dialling



Tab. 195 Call waiting: System configuration

| <a href="#">Callwaiting</a>                                 |  |
|-------------------------------------------------------------|--|
| <a href="#">Protectagainstcallwaiting</a>                   |  |
| <a href="#">Callwaitingandintrusiononexchangeconnection</a> |  |



9. 6. 5 Intrusion





User B can choose to take C's call (and put the original call on hold, end the original call, set up a three-party conference) or reject it.

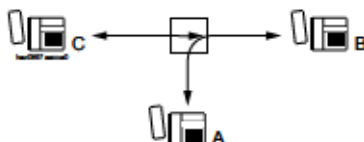


Fig. 214 Call intrusion

## Detailed Description

Tab. 196 Call intrusion

| End point | Operating sequence / signalling on the terminal                                                                                                         | Scope                                                                                                                                                                                                |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A         | If B is connected analogously and/or the handset volume on B is set to loud, A hears C's intrusion and may even be able to hear what C has to say to B. |                                                                                                                                                                                                      |
| B         | The intrusion tone and the system phone display signal user B that, in addition to the current call, he also has an internal call to intruded user C.   | Requirement: <ul style="list-style-type: none"> <li>• B has allowed intrusion on his set.</li> <li>• B is not in the process of setting up a call, in an enquiry call or in a conference.</li> </ul> |
| C         | C will obtain the busy tone if intrusion is not enabled or not available and if B rejects the intrusion.                                                | Possible interfaces: <ul style="list-style-type: none"> <li>• Internal</li> </ul> Requirement: <ul style="list-style-type: none"> <li>• C has the authorization to intrude.</li> </ul>               |



### Note:

If the conference tone is deactivated in the system configuration, user B will not hear an attention tone. The national terms and conditions for data protection need to be observed in this respect.

If B is making an exchange all, intrusion will only work if this feature is also enabled for exchange calls, throughout the system.



### Tip:

If intrusion is disabled, it is possible to send a text message to an intruded user if he has a system phone with display, and to do so even during a call.

Features



Tab. 197 Intrusion: Suffix dialling functions

|      | •<br>• 4 |  |
|------|----------|--|
| →    | •<br>•   |  |
| →    | •<br>•   |  |
| →    | •<br>•   |  |
| →  • | •<br>•   |  |

Tab. 198 Intrusion: Functions in prefix dialling



Tab. 199 Intrusion: System configuration

| <a href="#">Callintrusion</a>                             |  |
|-----------------------------------------------------------|--|
| <a href="#">Protectagainstintrusion</a>                   |  |
| <a href="#">Callwaiting/intrusiononexchangeconnection</a> |  |
| <a href="#">Conference,intrusionandcallwaitingtone</a>    |  |



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9. 6. 6 Silent intrusion

[Silentintrusion](#) [Intrusion](#)



[Intrusion](#)



not reject *Silent intrusion*. User C listens to the ongoing call. His microphone remains switched off.

User C can now press the *Intrusion* key at any time to intrude into the call. Normal *Intrusion* with signalling is then carried out as described in "Intrusion", page 388.

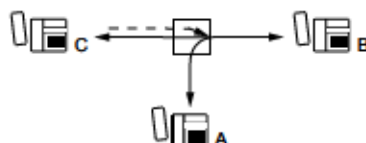


Fig. 215 Silent intrusion

## Detailed Description

Tab. 200 Silent intrusion

| End point | Operating sequence / signalling on terminal                                                                                  | Scope                                                                                                                                                                                                                                                |
|-----------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A         | Basically no signalling. Depending on the connection type, user A can hear a crackling when C intrudes (see Tab. 201).       |                                                                                                                                                                                                                                                      |
| B         | Basically no signalling. Depending on the connection type, user B can hear a crackling sound when C intrudes (see Tab. 201). | Requirement: <ul style="list-style-type: none"> <li>• B has allowed intrusion on his set.</li> <li>• B is not in the process of setting up a call, in an enquiry call or in a conference.</li> </ul>                                                 |
| C         | C hears a busy tone if intrusion is not allowed or is not available                                                          | Possible interfaces: <ul style="list-style-type: none"> <li>• Internal</li> </ul> Requirements: <ul style="list-style-type: none"> <li>• C has the authorization for silent intrusion.</li> <li>• A Silent Intrusion licence is in place.</li> </ul> |

If B is making an exchange all, *Silent intrusion* will only work if this feature is also enabled for exchange calls, throughout the system.



### Notes:

- In connection with the *Silent intrusion* feature, relevant national data protection regulations must be observed.
- One *Silent Intrusion* licence is required to be able to use the *Silent intrusion* feature.
- Silent intrusion is not possible in all cases and in certain cases may cause a crackling sound (see Tab. 201).
- Analogue terminals cannot switch directly from the *Silent intrusion* state to *Intrusion*. The microphone is always active with these terminals.

## Connections overview

Silent intrusion is not possible in all cases and not absolutely silent. With IP connections, media files are normally switched directly and not via the system. In these cases the connection must first be fetched into the system for the intrusion, causing a faint

Features



Tab. 201 Silent intrusion: Connections

| பெயர் |       | பெயர் | தகவல் |
|-------|-------|-------|-------|
| பெயர் | பெயர் |       | பெயர் |
| பெயர் | பெயர் |       | பெயர் |
| பெயர் | பெயர் |       | பெயர் |
| பெயர் | பெயர் |       | பெயர் |
| பெயர் | பெயர் |       | பெயர் |
| பெயர் | பெயர் |       | பெயர் |
| பெயர் | பெயர் |       | பெயர் |
| பெயர் | பெயர் |       | பெயர் |
| பெயர் | பெயர் |       | பெயர் |



Tab. 202 Silent intrusion: Suffix dialling function

| பெயர் | பெயர் | பெயர் |
|-------|-------|-------|
| பெயர் | பெயர் | பெயர் |

Tab. 203 Silent intrusion: Function in prefix dialling

| பெயர் | பெயர் | பெயர் |
|-------|-------|-------|
| பெயர் | பெயர் | பெயர் |
| பெயர் | பெயர் | பெயர் |



Tab. 204 Silent intrusion: System configuration

| பெயர்                                  | பெயர் |
|----------------------------------------|-------|
| Silentintrusion                        | பெயர் |
| Silentintrusionprotection              | பெயர் |
| Conference,intrusionandcallwaitingtone | பெயர் |



- பெயர்
- பெயர்
- பெயர்
- பெயர்
- பெயர்



## 9. 6. 7 Normal announcement to one or more users

பேசு  
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பேசு  
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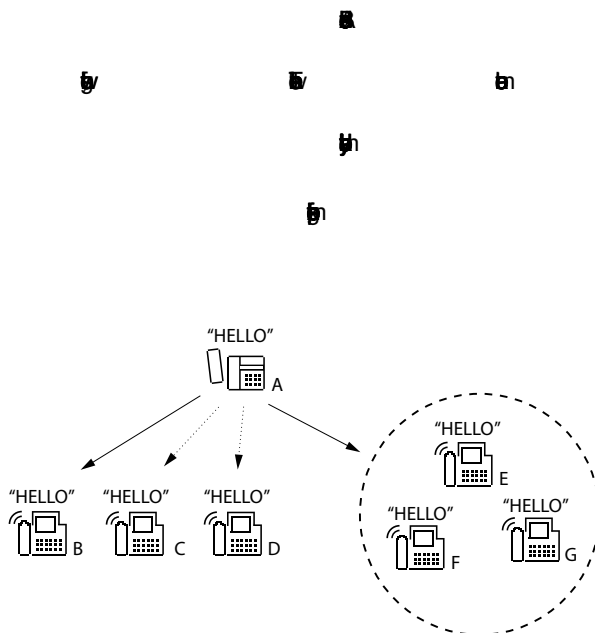


Fig. 216 Normal announcement to one or more users or to an announcement group

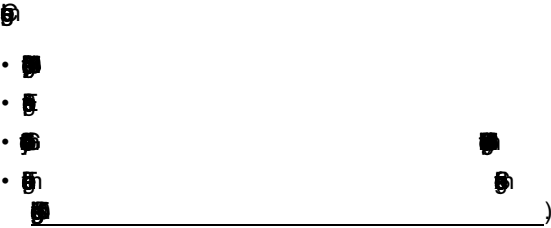
பேசு

Tab. 205 Announcement

| பேசு | பேசு                                                 | பேசு                                           |
|------|------------------------------------------------------|------------------------------------------------|
| A    |                                                      | பேசு<br>•பேசு                                  |
| பேசு | பேசு<br>பேசு<br>பேசு<br>பேசு<br>பேசு<br>பேசு<br>பேசு | பேசு<br>•பேசு<br>•பேசு<br>பேசு<br>பேசு<br>பேசு |

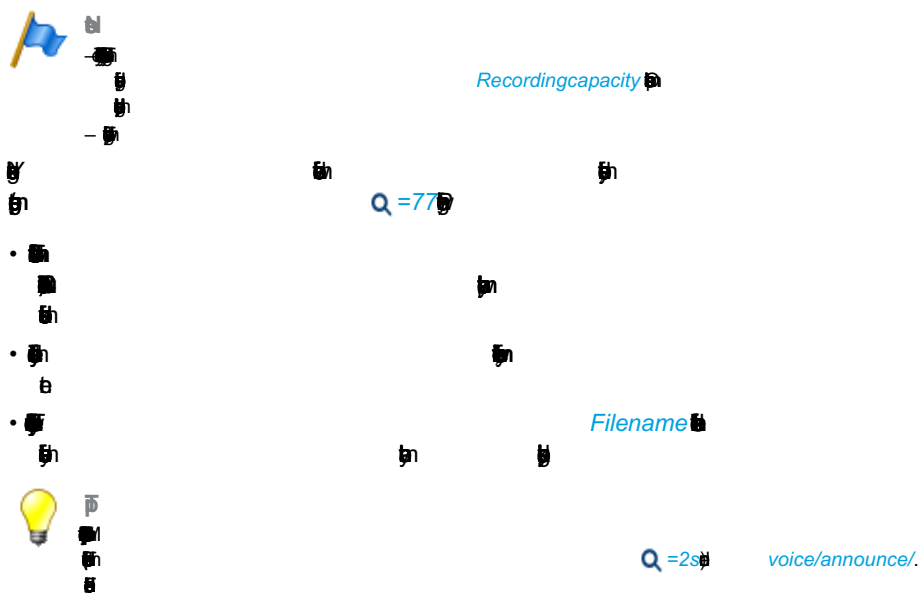
பேசு  
பேசு  
பேசு  
பேசு

Features



Tab. 206 Function code for managing announcements

|    |    |
|----|----|
| 5  | 6  |
| 6  | 7  |
| 7  | 8  |
| 8  | 9  |
| 9  | 10 |
| 10 | 11 |



Tab. 207 Function code for making a normal announcement

|     |   |     |
|-----|---|-----|
| 5   | 6 | 7   |
| 8   |   | 9   |
| 10  |   | 11  |
| 12  |   | 13  |
| 14  |   | 15  |
| 16  |   | 17  |
| 18  |   | 19  |
| 20  |   | 21  |
| 22  |   | 23  |
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## Features

|              |      |      |
|--------------|------|------|
| 5            | 6    | 7    |
| 8<br>9       | 10   |      |
| 11<br>12     | 13   |      |
| 14           | 15   | 16   |
| 17<br>18     | 19   | 20   |
| 21<br>22     | 23   | 24   |
| 25           | 26   | 27   |
| 28<br>29     | 30   | 31   |
| 32<br>33     | 34   | 35   |
| 36<br>37     | 38   | 39   |
| 40<br>41     | 42   | 43   |
| 44<br>45     | 46   | 47   |
| 48<br>49     | 50   | 51   |
| 52<br>53     | 54   | 55   |
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| 60<br>61     | 62   | 63   |
| 64<br>65     | 66   | 67   |
| 68<br>69     | 70   | 71   |
| 72<br>73     | 74   | 75   |
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| 80<br>81     | 82   | 83   |
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| 88<br>89     | 90   | 91   |
| 92<br>93     | 94   | 95   |
| 96<br>97     | 98   | 99   |
| 100<br>101   | 102  | 103  |
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| 448<br>449   | 450  | 451  |
| 452<br>453   | 454  | 455  |
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| 472<br>473   | 474  | 475  |
| 476<br>477   | 478  | 479  |
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| 496<br>497   | 498  | 499  |
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| 572<br>573   | 574  | 575  |
| 576<br>577   | 578  | 579  |
| 580<br>581   | 582  | 583  |
| 584<br>585   | 586  | 587  |
| 588<br>589   | 590  | 591  |
| 592<br>593   | 594  | 595  |
| 596<br>597   | 598  | 599  |
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| 608<br>609   | 610  | 611  |
| 612<br>613   | 614  | 615  |
| 616<br>617   | 618  | 619  |
| 620<br>621   | 622  | 623  |
| 624<br>625   | 626  | 627  |
| 628<br>629   | 630  | 631  |
| 632<br>633   | 634  | 635  |
| 636<br>637   | 638  | 639  |
| 640<br>641   | 642  | 643  |
| 644<br>645   | 646  | 647  |
| 648<br>649   | 650  | 651  |
| 652<br>653   | 654  | 655  |
| 656<br>657   | 658  | 659  |
| 660<br>661   | 662  | 663  |
| 664<br>665   | 666  | 667  |
| 668<br>669   | 670  | 671  |
| 672<br>673   | 674  | 675  |
| 676<br>677   | 678  | 679  |
| 680<br>681   | 682  | 683  |
| 684<br>685   | 686  | 687  |
| 688<br>689   | 690  | 691  |
| 692<br>693   | 694  | 695  |
| 696<br>697   | 698  | 699  |
| 700<br>701   | 702  | 703  |
| 704<br>705   | 706  | 707  |
| 708<br>709   | 710  | 711  |
| 712<br>713   | 714  | 715  |
| 716<br>717   | 718  | 719  |
| 720<br>721   | 722  | 723  |
| 724<br>725   | 726  | 727  |
| 728<br>729   | 730  | 731  |
| 732<br>733   | 734  | 735  |
| 736<br>737   | 738  | 739  |
| 740<br>741   | 742  | 743  |
| 744<br>745   | 746  | 747  |
| 748<br>749   | 750  | 751  |
| 752<br>753   | 754  | 755  |
| 756<br>757   | 758  | 759  |
| 760<br>761   | 762  | 763  |
| 764<br>765   | 766  | 767  |
| 768<br>769   | 770  | 771  |
| 772<br>773   | 774  | 775  |
| 776<br>777   | 778  | 779  |
| 780<br>781   | 782  | 783  |
| 784<br>785   | 786  | 787  |
| 788<br>789   | 790  | 791  |
| 792<br>793   | 794  | 795  |
| 796<br>797   | 798  | 799  |
| 800<br>801   | 802  | 803  |
| 804<br>805   | 806  | 807  |
| 808<br>809   | 810  | 811  |
| 812<br>813   | 814  | 815  |
| 816<br>817   | 818  | 819  |
| 820<br>821   | 822  | 823  |
| 824<br>825   | 826  | 827  |
| 828<br>829   | 830  | 831  |
| 832<br>833   | 834  | 835  |
| 836<br>837   | 838  | 839  |
| 840<br>841   | 842  | 843  |
| 844<br>845   | 846  | 847  |
| 848<br>849   | 850  | 851  |
| 852<br>853   | 854  | 855  |
| 856<br>857   | 858  | 859  |
| 860<br>861   | 862  | 863  |
| 864<br>865   | 866  | 867  |
| 868<br>869   | 870  | 871  |
| 872<br>873   | 874  | 875  |
| 876<br>877   | 878  | 879  |
| 880<br>881   | 882  | 883  |
| 884<br>885   | 886  | 887  |
| 888<br>889   | 890  | 891  |
| 892<br>893   | 894  | 895  |
| 896<br>897   | 898  | 899  |
| 900<br>901   | 902  | 903  |
| 904<br>905   | 906  | 907  |
| 908<br>909   | 910  | 911  |
| 912<br>913   | 914  | 915  |
| 916<br>917   | 918  | 919  |
| 920<br>921   | 922  | 923  |
| 924<br>925   | 926  | 927  |
| 928<br>929   | 930  | 931  |
| 932<br>933   | 934  | 935  |
| 936<br>937   | 938  | 939  |
| 940<br>941   | 942  | 943  |
| 944<br>945   | 946  | 947  |
| 948<br>949   | 950  | 951  |
| 952<br>953   | 954  | 955  |
| 956<br>957   | 958  | 959  |
| 960<br>961   | 962  | 963  |
| 964<br>965   | 966  | 967  |
| 968<br>969   | 970  | 971  |
| 972<br>973   | 974  | 975  |
| 976<br>977   | 978  | 979  |
| 980<br>981   | 982  | 983  |
| 984<br>985   | 986  | 987  |
| 988<br>989   | 990  | 991  |
| 992<br>993   | 994  | 995  |
| 996<br>997   | 998  | 999  |
| 1000<br>1001 | 1002 | 1003 |
| 1004<br>1005 | 1006 | 1007 |
| 1008<br>1009 | 1010 | 1011 |
| 1012<br>1013 | 1014 | 1015 |
| 1016<br>1017 | 1018 | 1019 |
| 1020<br>1021 | 1022 | 1023 |
| 1024<br>1025 | 1026 | 1027 |
| 1028<br>1029 | 1030 | 1031 |
| 1032<br>1033 | 1034 | 1035 |
| 1036<br>1037 | 1038 | 1039 |
| 1040<br>1041 | 1042 | 1043 |
| 1044<br>1045 | 1046 | 1047 |
| 1048<br>1049 | 1050 | 1051 |
| 1052<br>1053 | 1054 | 1055 |
| 1056<br>1057 | 1058 | 1059 |
| 1060<br>1061 | 1062 | 1063 |
| 1064<br>1065 | 1066 | 1067 |
| 1068<br>1069 | 1070 | 1071 |
| 1072<br>1073 | 1074 | 1075 |
| 1076<br>1077 | 1078 | 1079 |
| 1080<br>1081 | 1082 | 1083 |
| 1084<br>1085 | 1086 | 1087 |
| 1088<br>1089 | 1090 | 1091 |
| 1092<br>1093 | 1094 | 1095 |
| 1096<br>1097 | 1098 | 1099 |
| 1100<br>1101 | 1102 | 1103 |
| 1104<br>1105 | 1106 | 1107 |
| 1108<br>1109 | 1110 | 1111 |
| 1112<br>1113 | 1114 | 1115 |
| 1116<br>1117 | 1118 | 1119 |
| 1120<br>1121 | 1122 | 1123 |
| 1124<br>1125 | 1126 | 1127 |
| 1128<br>1129 | 1130 | 1131 |
| 1132<br>1133 | 1134 | 1135 |
| 1136<br>1137 | 1138 | 1139 |
| 1140<br>1141 | 1142 | 1143 |
| 1144<br>1145 | 1146 | 1147 |
| 1148<br>1149 | 1150 | 1151 |
| 1152<br>1153 | 1154 | 1155 |
| 1156<br>1157 | 1158 | 1159 |
| 1160<br>1161 | 1162 | 1163 |
| 1164<br>1165 | 1166 | 1167 |
| 1168<br>1169 | 1170 | 1171 |
| 1172<br>1173 | 1174 | 1175 |
| 1176<br>1177 | 1178 | 1179 |
| 1180<br>1181 | 1182 | 1183 |
| 1184<br>1185 | 1186 | 1187 |
| 1188<br>1189 | 1190 | 1191 |
| 1192<br>1193 | 1194 | 1195 |
| 1196<br>1197 | 1198 | 1199 |
| 1200<br>1201 | 1202 | 1203 |
| 1204<br>1205 | 1206 | 1207 |
| 1208<br>1209 | 1210 | 1211 |
| 1212<br>1213 | 1214 | 1215 |
| 1216<br>1217 | 1218 | 1219 |
| 1220<br>1221 | 1222 | 1223 |
| 1224<br>1225 | 1226 | 1227 |
| 1228<br>1229 | 1230 | 1231 |
| 1232<br>1233 | 1234 | 1235 |
| 1236<br>1237 | 1238 | 1239 |
| 1240<br>1241 | 1242 | 1243 |
| 1244<br>1245 | 1246 | 1247 |
| 1248<br>1249 | 1250 | 1251 |
| 1252<br>1253 | 1254 | 1255 |
| 1256<br>1257 | 1258 | 1259 |
| 1260<br>1261 | 1262 | 1263 |
| 1264<br>1265 | 1266 | 1267 |
| 1268<br>1269 | 1270 | 1271 |
| 1272<br>1273 | 1274 | 1275 |
| 1276<br>1277 | 1278 | 1279 |
| 1280<br>1281 | 1282 | 1283 |
| 1284<br>1285 | 1286 | 1287 |
| 1288<br>1289 | 1290 | 1291 |
| 1292<br>1293 | 1294 | 1295 |
| 1296<br>1297 | 1298 | 1299 |
| 1300<br>1301 | 1302 | 1303 |
| 1304<br>1305 | 1306 | 1307 |
| 1308<br>1309 | 1310 | 1311 |
| 1312<br>1313 | 1314 | 1315 |
| 1316<br>1317 | 1318 | 1319 |
| 1320<br>1321 | 1322 | 1323 |
| 1324<br>1325 | 1326 | 1327 |
| 1328<br>1329 | 1330 | 1331 |
| 1332<br>1333 | 1334 | 1335 |
| 1336<br>1337 | 1338 | 1339 |
| 1340<br>1341 | 1342 | 1343 |
| 1344<br>1345 | 1346 | 1347 |
| 1348<br>1349 | 1350 | 1351 |
| 1352<br>1353 | 1354 | 1355 |
| 1356<br>1357 | 1358 | 1359 |
| 1360<br>1361 | 1362 | 1363 |
| 1364<br>1365 | 1366 | 1367 |
| 1368<br>1369 | 1370 | 1371 |
| 1372<br>1373 | 1374 | 1375 |
| 1376<br>1377 | 1378 | 1379 |
| 1380<br>1381 | 1382 | 1383 |
| 1384<br>1385 | 1386 | 1387 |
| 1388<br>1389 | 1390 | 1391 |
| 1392<br>1393 | 1394 | 1395 |
| 1396<br>1397 | 1398 | 1399 |
| 1400<br>1401 | 1402 | 1403 |
| 1404<br>1405 | 1406 | 1407 |
| 1408<br>1409 | 1410 | 1411 |
| 1412<br>1413 | 1414 | 1415 |
| 1416<br>1417 | 1418 | 1419 |
| 1420<br>1421 | 1422 | 1423 |
| 1424<br>1425 | 1426 | 1427 |
| 1428<br>1429 | 1430 | 1431 |
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| 1436<br>1437 | 1438 | 1439 |
| 1440<br>1441 | 1442 | 1443 |
| 1444<br>1445 | 1446 | 1447 |
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Tab. 208 Announcement: System configuration

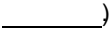
| Icon                                                                                                                | Label                                                                             |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  <i>Message/Announcementgroups</i> |  |
|  <i>Announcement</i>               |  |
|  <i>Protectagainstannouncement</i> |  |




























### 9. 6. 8 Emergency announcement to one or more users



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-  
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Tab. 209 Function codes for making an emergency announcement

| Icon                                                                                                                                                                    | Label                                                                               | Icon                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                                                      |  |    |
|   |                                                                                     |                                                                                       |
|   |  |                                                                                       |
|   |                                                                                     |  |
|   |                                                                                     |  |
|   |  |  |
|                                                                                      |  |                                                                                       |
|   |                                                                                     |                                                                                       |
|   |  |                                                                                       |



| Function                                                                                                                                       | Function code                | System phones    |
|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|------------------|
| Stop an ongoing emergency announcement with audio file                                                                                         | *7990 or *7980 <sup>2)</sup> |                  |
| Abort an ongoing announcement (on this phone only)                                                                                             |                              | Hang up          |
| Play back an ongoing announcement on the handset                                                                                               |                              | Lift the handset |
| x = <1...9> number of audio file repetitions<br>yy = <01...40> 2-digit file number<br>Group No. = <01...50> (<01...16> only for Mitel 415/430) |                              |                  |

<sup>1)</sup> Maximum 16 users. The maximum dialling string length is 32 characters.

<sup>2)</sup> Only by the executing user and with many repetitions

### 9.6.9 Duplex mode

Duplex mode is a special of announcement whereby the called system phone B immediately transform A's announcement into an internal call.

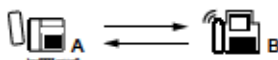


Fig. 217 Duplex mode








#### Detailed Description

Tab. 210 Duplex mode

| End point | Operating sequence / signalling on the terminal                                                                                                           | Scope                                                                                                                                                                                                                                                                                                                                          |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A         | Activates announcement in prefix dialling or suffix dialling                                                                                              | Requirement: <ul style="list-style-type: none"> <li>A is authorized to make announcements</li> <li>Suffix dialling with system phones only</li> </ul>                                                                                                                                                                                          |
| B         | The announcement is signalled by a warning tone (3 short signal tones). The call connection is then switched through (loudspeaker and microphone active). | Possible interfaces:<br>Internal only: <ul style="list-style-type: none"> <li>User</li> </ul> Requirement: <ul style="list-style-type: none"> <li>The system phone supports automatic announcement (Office 35, Office 45, MiVoice 5370, MiVoice 5380, Mitel 600 DECT, Mitel 6000 SIP) and B has allowed announcement to his own set</li> </ul> |





In duplex mode the connection setup is the same as for an ordinary announcement made to a user. If the user has several phones on which the automatic hands-free facility is activated, any phone (the quickest) will answer the call. The same applies to intercom to an announcement group.

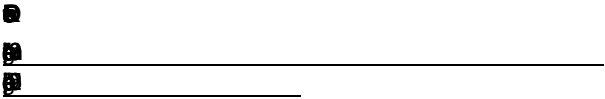
Tab. 211 Duplex mode: Functions

|  |  | <ul style="list-style-type: none"><li>•  </li><li>• </li></ul>                                                                                                                                                                       |
|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <ul style="list-style-type: none"><li>•  </li><li>•  </li></ul> <p><i>Automatic<br/>hands-free Announcement<br/>Hands-free for announcement</i></p> |



Tab. 212 Duplex mode: System configuration

|  <i>Announcement</i>                 |  |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  <i>Protect against announcement</i> |  |



9. 6. 10 Charge recall

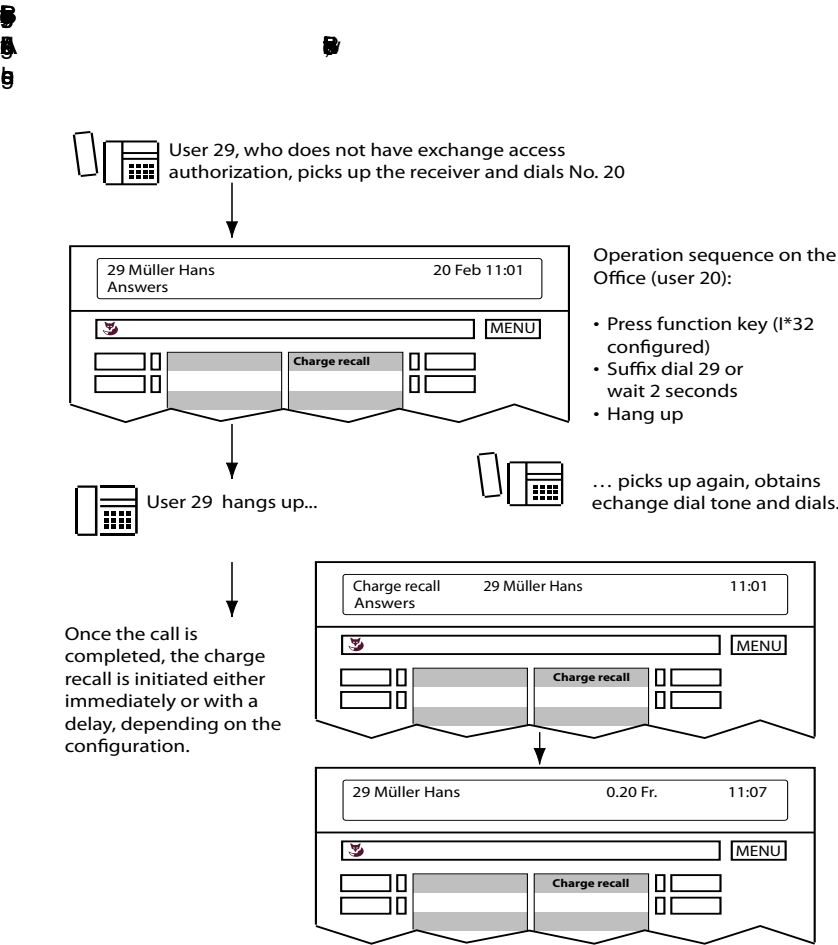
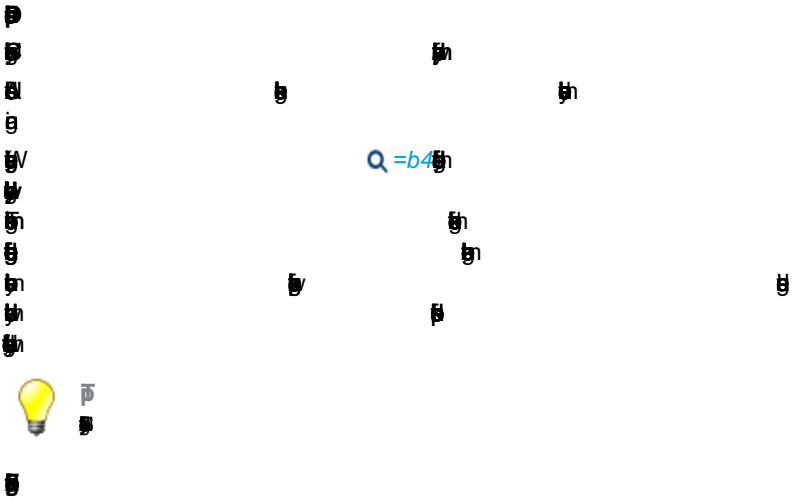


Fig. 218 Charge recall

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Tab. 213 Charge recall: Function

|  |  |
|--|--|
|  |  |
|  |  |

Tab. 214 Charge recall: System configuration

|                                              |  |
|----------------------------------------------|--|
|                                              |  |
| <a href="#">Charge recall standard(s)</a>    |  |
| <a href="#">Charge recall phone booth(s)</a> |  |

## 9. 6. 11 Picking up a call

An incoming call from user A to user B can be fetched from any terminal C and then answered.

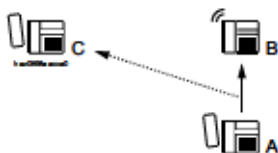


Fig. 219 Call pick-up

### Detailed Description

Tab. 215 Picking up a call

| End point | Operating sequence / signalling on the terminal | Scope                                                                                                                                                                                               |
|-----------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A-B       |                                                 | Incoming call to be fetched: <ul style="list-style-type: none"> <li>• To a user</li> <li>• On a user group (UG)</li> <li>• Excluded: Call to line key, appointment reminder call, recall</li> </ul> |
| B         |                                                 | Possible destinations: internal only                                                                                                                                                                |



#### Tip:

Users who are not at their desk can take their calls from another terminal.  
Calls from persons who have not configured CFU can be fetched and answered.

### Function in prefix dialling

Tab. 216 Picking up a call: Function

| Function     | Function code                                                                           | System phones                                                                                                                                                                                   |
|--------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Call pick-up | *86 <User No.> or *86 <UG No.> for any user called in the UG at that particular moment. | <ul style="list-style-type: none"> <li>•  Office 35, Office 45, MiVoice 5370, MiVoice 5380: click the Team key</li> <li>• Mitel 6000 SIP<sup>1)</sup>: click the busy lamp field key</li> </ul> |

<sup>1)</sup> except Mitel 6863 SIP

### System configuration

No settings

### Reference to Other Features

"Fast Take (pick up a call or a call connection)", page 430

## 9. 6. 12 Hotline

User A can be allocated one of 20 different hotline destinations. Whenever the handset of a terminal assigned to user A is picked up, the configured hotline call number D will automatically be dialled once the set delay has expired.

One hotline call number and a delay time can also be configured for each terminal. The configuration on the terminal takes precedence over the user configuration. If hotline destination E is also configured on terminal C, the destination is called regardless of the configured delay times.

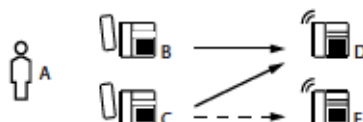


Fig. 220 Automatic dialling with hotline

### Detailed Description

Tab. 217 Hotline

| End point | Scope                                            |
|-----------|--------------------------------------------------|
| D, E      | Possible interfaces:<br>internal, external, PISN |

Once the hotline call number has been dialled, other digits can be suffix dialled (for example, for a fax terminal the network access prefix is entered as the hotline destination).

If the user is not connected with the hotline destination, he has the following options:

- Press the Disconnect key. This stops the timer with the configured delay or, once it has expired, the ringing at the hotline destination is interrupted and the user has the possibility of dialling a different call number. If no disconnect key is available on the system terminal, a function key with the Macro "Y" (end call and reseize line) can be configured.
- Dial a new call number before the configured delay expires. The timer is restarted every time a number key is pressed, which means that the entire dialling sequence does not have to be made within the configured delay. The timer is stopped as soon as dialling is completed and a call connection has been set up.

Features



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Tab. 218 Hotline: System configuration

| න                 | ක    |
|-------------------|------|
| Hotline           |      |
| Callnumber        | =6x) |
| Delay(s)          | =6x) |
| Hotlinecallnumber |      |
| Hotlinedelay      |      |

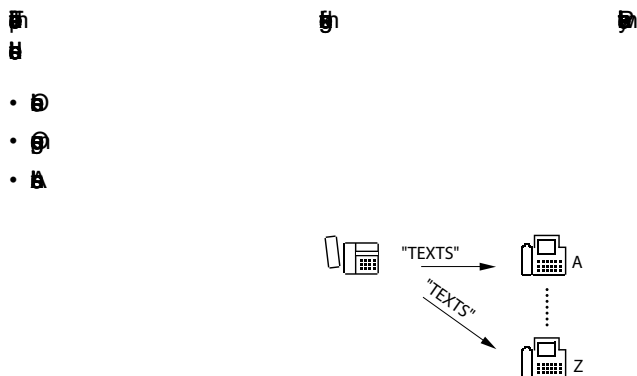


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### 9. 6. 13 Sending and reading text messages



**Fig. 221** Sending and reading text messages



Tab. 219 Sending and reading text messages

| பி | பி | பி |
|----|----|----|
| B  | பி | பி |



- 1000
- 1000
- 1000
- 1000



Features

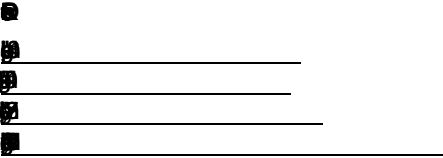


Tab. 220 Sending and reading text messages: Functions



Tab. 221 Text messages: System configuration

| <a href="#">Message/Announcementgroups</a>         |                                                      |
|----------------------------------------------------|------------------------------------------------------|
| <a href="#">Textmessages</a>                       |                                                      |
| <a href="#">Reloadpredefinedtextmessages</a>       |                                                      |
| <a href="#">Deletemessagesonphonesfromallusers</a> | <a href="#">Olderthan3days</a> ) <a href="#">All</a> |



9. 6. 14 Message function

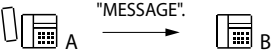


Fig. 222 Activate MESSAGE



Tab. 222    Activate MESSAGE

| Icon | Icon                                                                               | Icon                                                                                             |
|------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| A    | <ul style="list-style-type: none"> <li>Icon</li> <li>Icon</li> </ul>               | <ul style="list-style-type: none"> <li>Icon</li> <li>Icon</li> <li>Icon</li> </ul>               |
| B    | <ul style="list-style-type: none"> <li>Icon</li> <li>Icon</li> <li>Icon</li> </ul> | <ul style="list-style-type: none"> <li>Icon</li> <li>Icon</li> <li>Icon</li> <li>Icon</li> </ul> |



Tab. 223    Activating MESSAGE: Functions

| Icon | Icon |
|------|------|
| Icon | Icon |
| Icon | Icon |
| Icon | Icon |
| Icon | Icon |



Tab. 224    MESSAGE: System configuration

| Icon                                               | Icon |
|----------------------------------------------------|------|
| <a href="#">Activatecallbackmessage/messageLED</a> | Icon |



9. 6. 15 Leave message

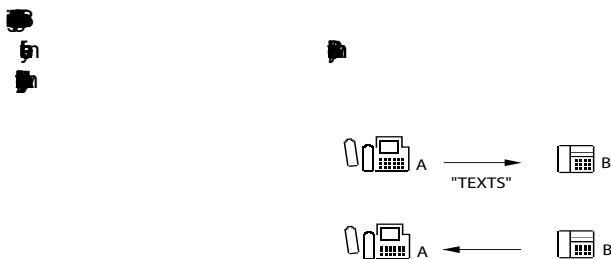
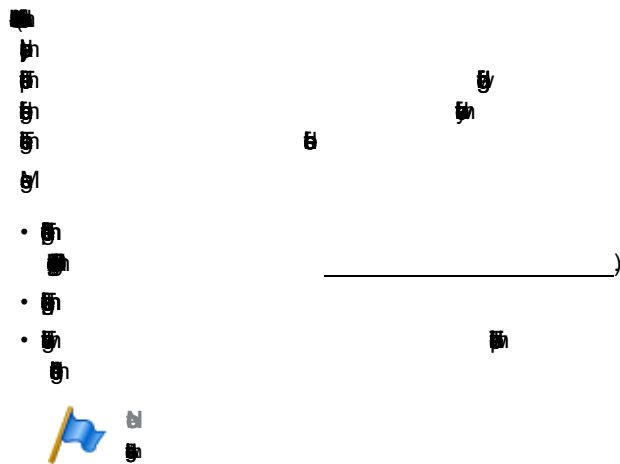


Fig. 223 Leave message



Tab. 225 Leave message

| A |      | <br><br><br><br> |
|---|------|------------------|
| B | <br> |                  |





Tab. 226 Leaving a message: Functions



Tab. 227 Leaving a message: System configuration

| <i>PredefinedCFU</i> |  |
|----------------------|--|



### 9. 6. 16 Text messages

Tab. 228 Text messages predefined in the system

| 1 |  |
|---|--|
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 |  |
| 0 |  |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |



With WebAdmin the predefined text messages can be adapted to suit requirements but also reset to the original text.

If the Call Centre is connected, text message No. 8 must not be reconfigured.



## Mitel Advanced Intelligent Network:

In an AIN with nodes in different language regions it makes sense to specify a common language (e.g. English) for the predefined text messages. Alternatively you can reduce the number of text messages and then provide them in two or more languages (e.g. text messages 1...8 = English and 9...16 = French).

## System configuration

Tab. 229 Text messages: System configuration

| Parameter / action                              | Remarks                                                                                                                 |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <i>Text messages</i>                            | Configuration services. The predefined texts can be modified.                                                           |
| <i>Reload predefined text messages</i>          | All texts are reset to the predefined text messages in the selected language. Individual text messages cannot be reset. |
| <i>Delete messages on phones from all users</i> | Deletes the messages on all system phones (option: <i>All</i> or <i>Older than 3 days</i> )                             |

## Reference to Other Features

"Sending and reading text messages", page 405

"Leave message", page 408

## 9. 6. 17 Park

### 9. 6. 17. 1 Local call parking

A user B has put his call with on hold to answer C's call waiting signal. To transfer C to a user D, B must first park his call with A so that he can put C on hold and set up the enquiry call connection to D. Once he has transferred the call, B can retrieve the parked call and continue his call.

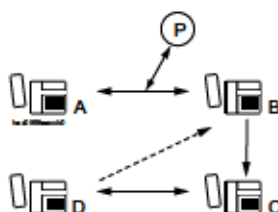










Fig. 224 Local call parking



Tab. 230 Local call parking



| A | <br> | <br><br><br><br> |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B |  <i>onhold</i> .                                                                      | <i>Music</i>                                                                                                                                                                                                                                                                                                                                                                                                                          |



Tab. 231 Local parking Suffix dialling function





|  |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |

Tab. 232 Local parking. Function in prefix dialling

|    |    |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |



Tab. 233 Local parking. System configuration

|                     |        |
|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
|  <i>Musiconhold</i> |  _____ |



## 9. 6. 17. 2 Central call parking

User A wants to continue a call with user B on a terminal belonging to user C. He can park the call on the communication system's central call parking space and then retrieve the call from one of user C's terminals.

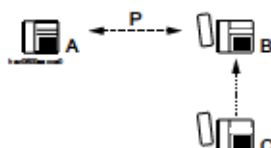


Fig. 225 Parking and retrieving a call centrally

### Detailed Description

Tab. 234 Central call parking

| End point | Operating sequence / signalling on the terminal                                 | Scope                                                                                        |
|-----------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| A         | Once the function has been executed, the user obtains the acknowledgement tone. | Restriction:<br>Only 1 call can be parked centrally throughout the system at any given time. |
| B         | The parked user will obtain the signalling for <i>Music on hold</i> .           | Possible interfaces:<br>Random                                                               |
| C         |                                                                                 | Possible interfaces:<br>Internal                                                             |

If the parked call is not retrieved within the preset parking time<sup>1)</sup>, user A will receive a recall.

### Suffix dialling functions

Tab. 235 Central call parking: Functions

| Functions           | Function codes |
|---------------------|----------------|
| Park call centrally | *76            |
| Retrieve call       | #76            |

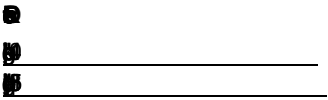
### System configuration

Tab. 236 Central call parking: System configuration

| Parameter              | Remarks                              |
|------------------------|--------------------------------------|
| Q <i>Music on hold</i> | see <u>"Music on hold", page 352</u> |

<sup>1)</sup> The parking time varies from country to country





9. 6. 17. 3    Call parking function of the key telephone



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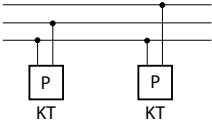


Fig. 226    Parking on a line key (key telephone)



Tab. 237    Call parking function of the key telephone: Functions

|  | <ul style="list-style-type: none"><li>• </li><li>• </li></ul> |
|--|---------------------------------------------------------------|
|  |                                                               |
|  |                                                               |

9. 6. 17. 4    Call parking function on the operator console



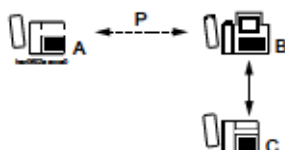


Fig. 227 Call parking function on the operator console

### Detailed Description

Whether or not the parking time is monitored by the communication server varies from country to country.

The number of calls parked simultaneously using this call parking function is limited only by the display capabilities of the terminal in question.

### Suffix dialling functions

Tab. 238 Call parking function on the operator console: Functions

| Functions                                        | Operator console                                        |
|--------------------------------------------------|---------------------------------------------------------|
| Park call with the OC parking function           | Answer other call in the call queue                     |
| Park call explicitly on the line key (Office 45) | Press hold key and then clear key                       |
| Retrieve call                                    | Signalling element (Office 45: activate line key again) |

## 9. 6. 18 Callback if user busy / free

This feature is used to obtain an automatic callback if a user is busy or if a call to a user who is signalled as free goes unanswered.

### 9. 6. 18. 1 Callback if user busy

User A has the possibility of activating a callback to busy user B (callback request). As soon as the busy user B becomes free, user A will be called back within 10 s. As soon as A picks up the phone, the system automatically calls user B, who is now free.

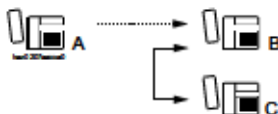


Fig. 228 Callback if user busy



Tab. 239 Callback if user busy

| Person | Phone | Phone                |
|--------|-------|----------------------|
| A      | <br>  | <br>                 |
| B      |       | <br><br>1  2<br><br> |

1   
  
2

•   
•   
•

→   
 →   
 →



Tab. 240 Callback if user busy: Functions

| Person | Phone | Phone |
|--------|-------|-------|
| A      |       |       |
| B      |       |       |

available



## Reference to Other Features

"Callback to free user", page 416

"Wait until free", page 417

"Message function", page 406

### 9. 6. 18. 2 Callback to free user

User A can activate a callback to user B if B does not answer A's call. Since user B is making another call (gone off-hook and then back on-hook again), user A is called within 10 s. As soon as A picks up the phone, the system automatically calls user B.



Fig. 229 Callback to free user

## Detailed Description

Tab. 241 Callback to free user

| End point | Operating sequence / signalling on terminal                              | Scope                                                            |
|-----------|--------------------------------------------------------------------------|------------------------------------------------------------------|
| A         | Once the function has been executed, A obtains the acknowledgement tone. | Restriction:<br>User A can only initiate one callback at a time. |
| B         |                                                                          | Possible interfaces:<br>Internal                                 |

The callback is triggered only to user A, who set the callback, regardless of whether a CFU or CFNR to a user C has been activated at A.

Amount of time a callback to free user remains valid: 45 minutes.

If B has a system phone with display, a text message with a callback prompt will appear, i.e. the callback is not automatically initiated by the communication server. In principle callback requests are displayed with maximum priority on the system phone, i.e. before notifications by the voice mail system and before any text messages.

## Suffix dialling functions

Tab. 242 Callback to free user: Functions

| Functions         | System phones | Analogue terminal |
|-------------------|---------------|-------------------|
| Activate callback |               | R9 or R*37        |
| Clear callback    |               | #37               |

## System configuration

No settings

## Reference to Other Features

"Callback if user busy", page 414

"Wait until free", page 417

"Message function", page 406

### 9. 6. 18. 3 Wait until free

The Wait-until-free feature is a Callback-if-busy feature without the user who initiates the call having to hang up. He stays on the phone and waits until the busy user becomes free. The callback is triggered as soon as the called user has been free for 5 seconds. The connection is then set up automatically.

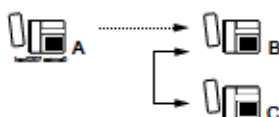


Fig. 230 Wait until free

## Detailed Description

Tab. 243 Wait until free

| End point | Operating sequence / signalling on the terminal                                                                                                                                                       | Scope                                                    |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| A         | <ul style="list-style-type: none"> <li>Once the callback function has been executed, A obtains the acknowledgement tone.</li> <li>As soon as user B is free, A obtains the ring-back tone.</li> </ul> |                                                          |
| B         |                                                                                                                                                                                                       | Possible interfaces:<br>internal, external <sup>1)</sup> |



<sup>1)</sup> Callback to the busy external user is possible only if the public network supports the service "Completion of Calls to Busy Subscriber" (CCBS) end-to-end.

User A must carry out the function with the handset off-hook and not via the loud-speaker key.

"Wait until free" works only with cordless phones.

## Suffix dialling functions

Tab. 244 Wait until free: Functions

| Functions         | System phones                                                                       | Analogue terminal |
|-------------------|-------------------------------------------------------------------------------------|-------------------|
| Activate callback |  | R9 or R*37        |
| Clear callback    |  | #37               |

## System configuration

No settings

[illegible]



## 9. 6. 20 Locking and unlocking terminals

• **Terminal locking**

- **Terminal locking**
- **Terminal locking**
- **Terminal locking**

• **Terminal locking**

### 9. 6. 20. 1 Locking / unlocking terminals (telephone lock)

• **Terminal locking**

- **Terminal locking**
- **Terminal locking**

• **Terminal locking**

- **Terminal locking**
- **Terminal locking**



























Features

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Tab. 245 Phone lock: Functions

|                                                                                    |                                                                                      |                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                                                                                                       | <br>• <br><br>•  |
|     |                                                                                      |                                                                                                                                                                                                                                                                     |
|                                                                                    |                                                                                      |                                                                                                                                                                                                                                                                     |
|                                                                                    |                                                                                      |                                                                                                                                                                                                                                                                     |
|                                                                                    |   ) |                                                                                                                                                                                    |

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- [Locksettings](#) 
- [Lockphonepartially](#) 



















State

[whenphoneisunlocked](#) 

[Free](#) 

[Lockphonepartially](#) .















Tab. 246 Phone lock: System configuration

| 🔍                                                         | 🔍      |
|-----------------------------------------------------------|--------|
| 🔍 <a href="#">ChangePIN</a>                               | 🔍      |
| 🔍 <a href="#">Internaldigitbarring1/2/3</a>               | 🔍<br>🔍 |
| 🔍 <a href="#">Internaldigitbarring(usedbyphonelock)</a> ) | 🔍<br>🔍 |
| 🔍 <a href="#">Externaldigitbarring(usedbyphonelock)</a> ) | 🔍<br>🔍 |

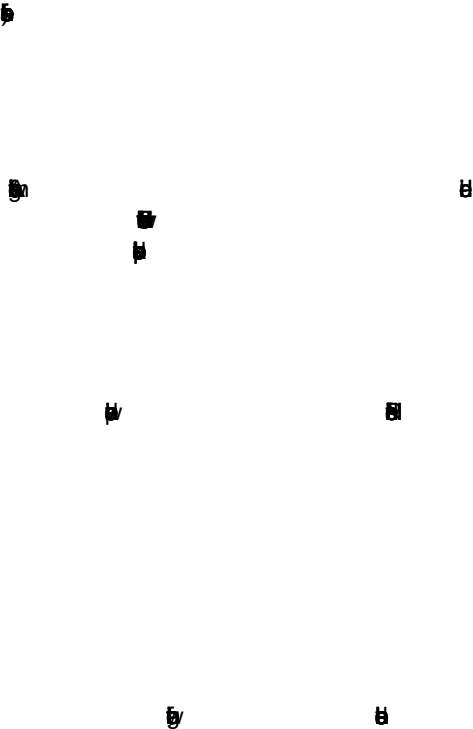
Tab. 247 Change or reset PIN: System configuration

| 🔍                                          | 🔍      |
|--------------------------------------------|--------|
| 🔍 <a href="#">Phonelock</a>                | 🔍      |
| 🔍 <a href="#">Statewhenphoneisunlocked</a> | 🔍      |
| 🔍 <a href="#">PIN</a>                      | 🔍<br>🔍 |

9. 6. 20. 2 Unlocking the terminal for each call



Features



Tab. 248 Unlocking the terminal for each call: Functions

| <br>b |  |  |
|-------|--|--|
| <br>b |  |  |



Tab. 249 Unlocking the terminal for each call: System configuration

| • <a href="#">PhoneLock</a>                             |                                                                    |
|---------------------------------------------------------|--------------------------------------------------------------------|
| • <a href="#">Internaldigitbarring(usedbyphonelock)</a> | <ul style="list-style-type: none"><li></li><li></li><li></li></ul> |
| • <a href="#">Externaldigitbarring(usedbyphonelock)</a> |                                                                    |
|                                                         |                                                                    |
| <a href="#">PIN</a>                                     | <ul style="list-style-type: none"><li></li><li></li></ul>          |



### 9. 6. 21 Making calls with your own settings on a third-party phone



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9. 6. 22 Private calls with PIN

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## Function in prefix dialling

Tab. 250 Private calls with PIN: Function

| Function                                                                             | Function code                               |
|--------------------------------------------------------------------------------------|---------------------------------------------|
| Private call with PIN from one of one's own terminals or from a third-party terminal | #46 <User No.> <PIN> <external call number> |

Other properties:

- During a call the function can also be made from an enquiry call.
- The called party sees the caller's user number and not the number of the user whose terminal is being used by the caller.
- For reasons of data protection no entry is made in the redial register.
- Unlike with #36 (making calls with your own settings but on a third-party phone) you cannot hang up after activating the function and then prefix dial within 60 seconds.
- The same PIN is used as for the phone lock.
- Users without their own terminals can be defined as virtual users, and can then also use this feature.

Conditions in the system configuration:

- For this feature to be used, the default PIN must be changed first (see "Locking / unlocking terminals (telephone lock)", page 419 for the syntax).
- A private exchange access must not be defined or the private exchange access prefix must be barred for all users using internal digit barring.



**Note:**

#46 temporarily bypasses any exchange access barring and the external digit barring of the user identified by means of his user number and PIN.

## Reference to Other Features

"Making calls with your own settings on a third-party phone", page 423

"Unlocking the terminal for each call", page 421

## 9. 6. 23 Appointment call

Each user can configure one individual appointment reminder call and one permanent appointment reminder call, which are then stored in the system.








Fig. 231 Appointment call

## Features



Tab. 251 Appointment call

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | <br><br><br><br> |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|







Tab. 252 Appointment call: Functions

|    |    |
|----|----|
| க  | க  |
| கா | கா |
| கி | கி |
| கீ | கீ |
| கு | கு |



Tab. 253 Appointment call: System configuration

|                                                                                                              |                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             |                                                                                         |
|  <i>Numberofrepetitions</i> | <br> |





See also:

The functionality of the appointment call is often used to set up a wake-up calls in hospitality environments. An audio guide assist the guests setting up a wake-up call from their phone, see "Wake-up audio guide", page 489.

## 9. 6. 24 Acceptance of a call or data connection:

### 9. 6. 24. 1 Preliminaries

User D can enable user C to take over an existing call or data connection A-B.

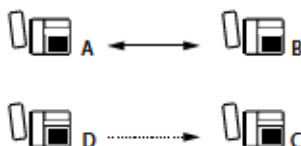


Fig. 232 Preparing to take over an active connection

### Detailed Description

Tab. 254 Preparing to take over an active connection

| End point | Operating sequence / signalling on the terminal                                                                                     | Scope                                                                                                                                       |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| B         | User B obtains the busy tone once C has taken the connection to A.                                                                  | Possible interfaces:<br>Internal                                                                                                            |
| C         |                                                                                                                                     | Possible interfaces:<br>Internal                                                                                                            |
| D         | After preparing to take over the call or taking back the preparations for taking over the call, D obtains the acknowledgement tone. | Requirement:<br>Authorization is enabled in the user configuration. This authorization can be set separately for call and data connections. |

### Application Example

At three football grounds reporters are reporting the matches. Depending on the state of play, the broadcast director may want to make the connection available to one of the reporters.

The director can use the preconfigured keys on a terminal to prepare to take over the connections. All the moderator at the broadcast studio has to do is pick up the handset on his terminal (to which a hotline has been allocated with \*88#) and he is immediately connected with the football ground. While he is talking, the director can prepare the connection for the next reporter, and so on.

## Functions in prefix dialling

Tab. 255 Preparing to take over an active connection: Functions

| Functions                                                                                   | Function codes                                     |
|---------------------------------------------------------------------------------------------|----------------------------------------------------|
| Preparations for taking over a call or a data connection from user B to user C              | *87 B*C# (call) or with *84 B*C# (data connection) |
| Clearing the preparations for taking over a call or a data connection from user B to user C | #87 C (call) or with #84C (data connection)        |

## System configuration

Tab. 256 Preparing to take over an active connection: System configuration

| Parameter                                           | Remarks                                                                                                                     |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Q Prepare call takeover / Fast Take</a> | User D's permission set<br>Note: This parameter also regulates the permission for Fast Take (see <a href="#">page 430</a> ) |
| <a href="#">Q Prepare data transfer</a>             | User D's permission set                                                                                                     |

### 9. 6. 24. 2 Accepting the connection

A user C can take over an existing call or data connection A-B if D has prepared the takeover.

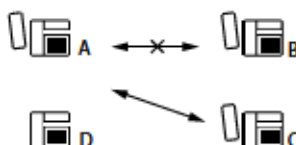


Fig. 233 Taking over an active connection

## Detailed Description

Tab. 257 Taking over an active connection

| End point | Operating sequence / signalling on terminal                        | Scope                                                                                                                             |
|-----------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| B         | User B obtains the busy tone once C has taken the connection to A. | Possible interfaces:<br>Internal<br>Restriction:<br>Only simple connections can be accepted, not conferences, users on hold, etc. |

## Function in prefix dialling

Tab. 258 Taking over an active connection: Function

| Function                         | Function code |
|----------------------------------|---------------|
| Take over call / data connection | *88 #         |



## Reference to Other Features

"Take (taking a call)", page 429

"Fast Take (pick up a call or a call connection)", page 430

### 9. 6. 25 Take (taking a call)

The Take function allows users to take over a call connection of another user without interrupting the connection or having the connection put through to them. The example below illustrates how to accept a call connection from a user with a cordless phone.

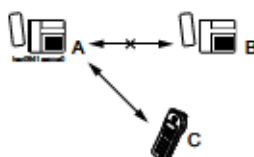


Fig. 234 Take (taking a call)

User A has set up a call connection with user B, who transfers the call to user C's cordless phone by pressing a key. Caller A is not aware that the call has been transferred.

## Detailed Description

Tab. 259 Take (taking a call)

| End point | Operating sequence / signalling on the terminal           |
|-----------|-----------------------------------------------------------|
| C         | Activating via the configurable key on the cordless phone |

## System configuration

Tab. 260 Take: Key configuration

| Function type                                                                                                                                           | Note                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On the cordless phone the following command is used to prepare a configurable key to allow user C to take over user B's call:<br>I*87 B * C # X I *88 # | Requirement:<br>The <a href="#">Prepare call acceptance</a> authorization must be enabled with user C.<br>Restriction:<br>Only simple connections can be accepted, not conferences, users on hold, etc. |



### Tip:

Take is actually nothing other than the preparation for accepting a call and accepting the call from the same terminal. This function can be carried out more simply using the Fast Take feature.

## Reference to Other Features

"Acceptance of a call or data connection:", page 427

"Fast Take (pick up a call or a call connection)", page 430

### 9. 6. 26 Fast Take (pick up a call or a call connection)

The Fast take function combines and expands the two features Take a call and Pick up a call:

Fast Take allows an internally authorised user C

- to take an existing call connection between the internal or external user A and an internal user B.
- to pick up and therefore answer the incoming call from user A to user B.
- to take the outgoing call from user B to user A even before user A has answered the call.

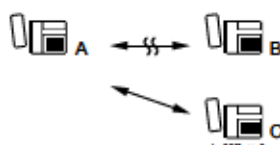


Fig. 235 Pick up a call with Fast Take

## Detailed Description

Tab. 261 Fast Take

| End point | Operating sequence / signalling on the terminal                    | Scope                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C         | *88 <User No. B>                                                   | Requirement: <ul style="list-style-type: none"> <li>• The <i>Fast Take</i> authorization must be enabled.</li> </ul> Valid for: <ul style="list-style-type: none"> <li>• Calls to internal users, UG, CDE</li> <li>• Recall</li> <li>• Announcement</li> <li>• Simple connections with internal users or a user's own voice mailbox</li> </ul> Restrictions: <ul style="list-style-type: none"> <li>• Call to line key, appointment reminder call, recall</li> <li>• Conference participants, users on hold, etc.</li> </ul> |
| B         | User B obtains the busy tone once C has taken the connection to A. | Requirement: <ul style="list-style-type: none"> <li>• <i>Fast Take protection</i> not activated</li> </ul> Possible interfaces: <ul style="list-style-type: none"> <li>• Internal</li> </ul>                                                                                                                                                                                                                                                                                                                                 |











Tab. 262 Accept a call: Function

















































































|   |   |
|---|---|
| 5 | 5 |
| 6 | 6 |



Tab. 263 Taking over an active connection: System configuration

|                                                                                                                       |                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                      |                                                                                                                                                                            |
|  <i>Preparecalltakeover/FastTake</i> | <br><br> |
|  <i>FastTakeProtection</i>           |                                                                                                                                                                            |



-                    
-                    
-                    
-                    



## 9. 6. 27 Room monitoring (Baby surveillance)

This feature is designed specifically for monitoring infants. A cordless system phone (Office 135, Mitel 600 DECT) is switched to a special monitoring mode and coupled with an internal or an external destination number.

If noise levels in the area surrounding monitoring phone A exceed a specific value, a call is automatically triggered to the configured destination B. When the destination user answers the call, the (one-way or two-way) connection is switched through. This is referred to as active room monitoring.

It is also possible to make a check call to the monitoring phone A. Without the call being signalled acoustically, A automatically answers the call and switches a (one-way or two-way) call connection through. This is referred to as passive room monitoring.

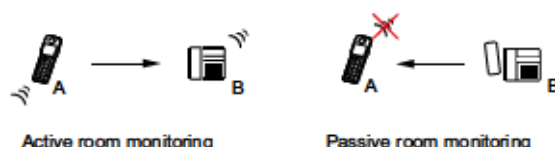


Fig. 236 Room monitoring (baby listening)

### 9. 6. 27. 1 Detailed Description

Tab. 264 Active and passive room monitoring

| End point | Operating sequence / signalling on the terminal                                                                                                                                                                                                                                                         | Scope                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A         | <ul style="list-style-type: none"> <li>Once the feature is activated, A obtains a confirmation tone and a permanent indication on the display showing the destination user.</li> <li>A flashing exclamation mark indicates that the microphone is switched on at A (active room monitoring).</li> </ul> | Cordless phones on which room monitoring can be activated: <ul style="list-style-type: none"> <li>Office 135/135pro</li> </ul> Terminals of the series Mitel 600 DECT           Requirements so that a check call can be made from the outside: <ul style="list-style-type: none"> <li>DDI is set up at user A.</li> <li>The caller's CLIP is not suppressed.</li> </ul> |
| B         |                                                                                                                                                                                                                                                                                                         | Possible destinations: <ul style="list-style-type: none"> <li>User: internal, external, PISN</li> </ul>                                                                                                                                                                                                                                                                  |

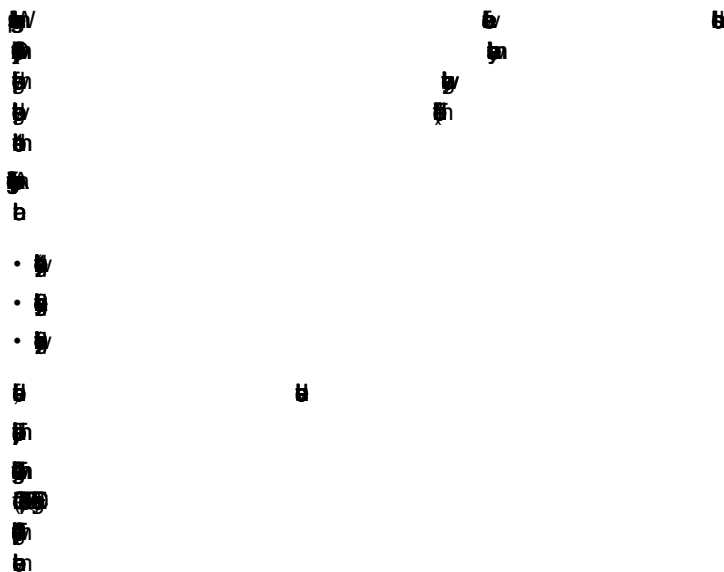
### 9. 6. 27. 2 Functions

Room monitoring is activated on the monitoring cordless phone A:

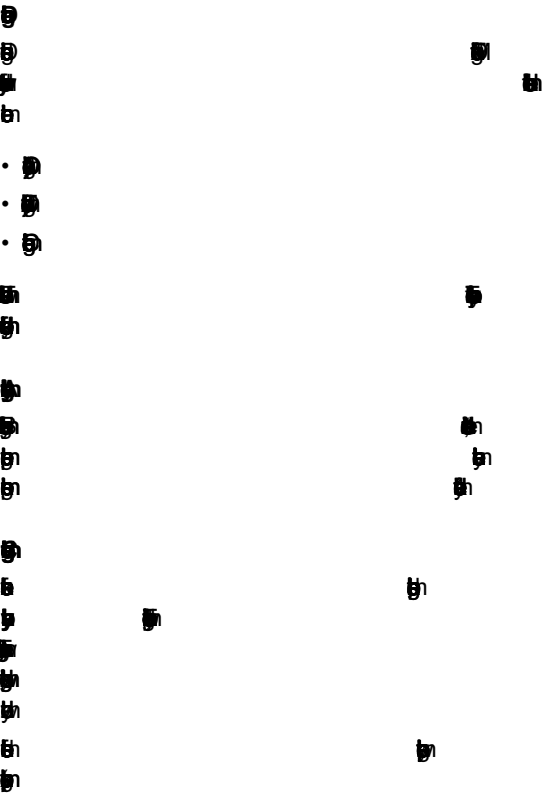
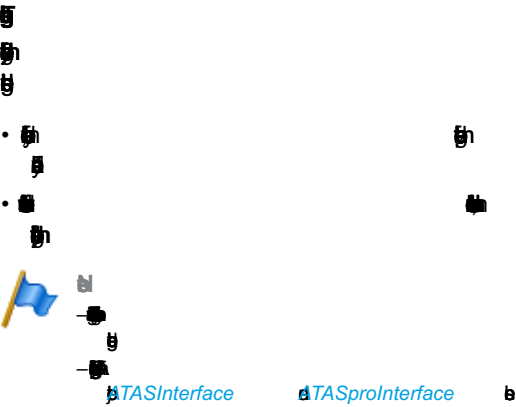
Tab. 265 Active and passive room monitoring: Functions

|    |     |
|----|-----|
| 1  | 2   |
| 3  | 4   |
| 5  | 6   |
| 7  | 8   |
| 9  | 10  |
| 11 | 12  |
| 13 | 14  |
| 15 | 16  |
| 17 | 18  |
| 19 | 20  |
| 21 | 22  |
| 23 | 24  |
| 25 | 26  |
| 27 | 28  |
| 29 | 30  |
| 31 | 32  |
| 33 | 34  |
| 35 | 36  |
| 37 | 38  |
| 39 | 40  |
| 41 | 42  |
| 43 | 44  |
| 45 | 46  |
| 47 | 48  |
| 49 | 50  |
| 51 | 52  |
| 53 | 54  |
| 55 | 56  |
| 57 | 58  |
| 59 | 60  |
| 61 | 62  |
| 63 | 64  |
| 65 | 66  |
| 67 | 68  |
| 69 | 70  |
| 71 | 72  |
| 73 | 74  |
| 75 | 76  |
| 77 | 78  |
| 79 | 80  |
| 81 | 82  |
| 83 | 84  |
| 85 | 86  |
| 87 | 88  |
| 89 | 90  |
| 91 | 92  |
| 93 | 94  |
| 95 | 96  |
| 97 | 98  |
| 99 | 100 |

### 9. 6. 27. 3 Active room monitoring

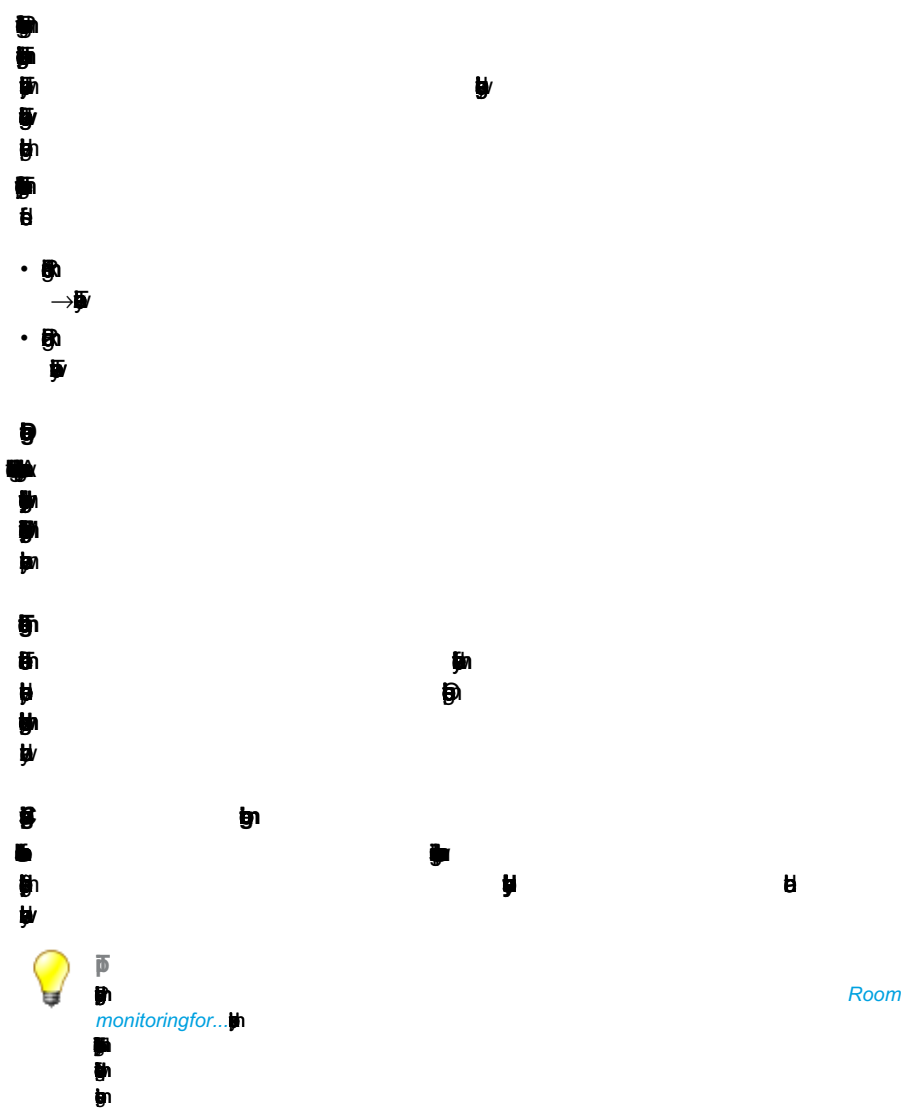


Features





9. 6. 27. 4    Passive room monitoring





### 9. 6. 28 Call recording

Tab. 266 Call recording

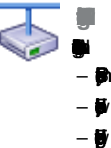
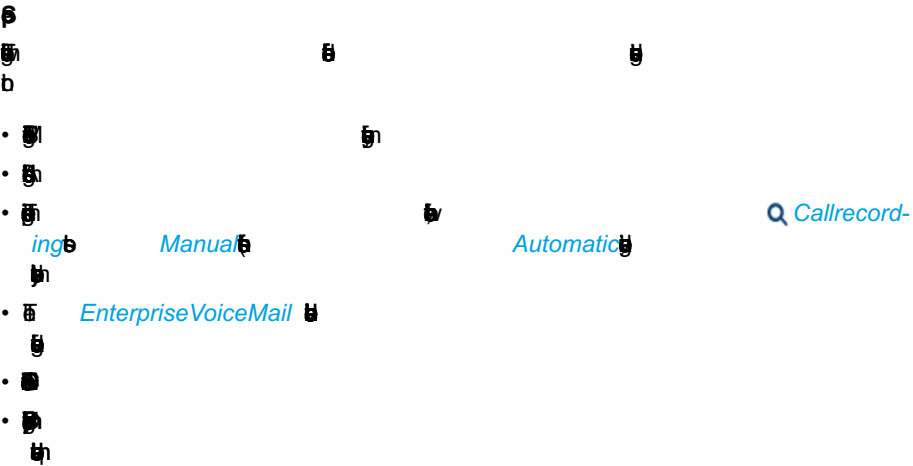
| பெ                                                                                                   | பெ                                                                                                   | பெ                                                               |
|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>பெ</li> <li>பெ</li> <li>பெ</li> <li>பெ</li> <li>பெ</li> </ul> | <ul style="list-style-type: none"> <li>பெ</li> <li>பெ</li> <li>பெ</li> <li>பெ</li> <li>பெ</li> </ul> | <ul style="list-style-type: none"> <li>பெ</li> <li>பெ</li> </ul> |

Features


















Tab. 267 E-mail subject

| ☐   | ☐ |
|-----|---|
| ☐   | ☐ |
| ☐   | ☐ |
| ☐ ☐ |   |
| ☐ ☐ |   |
| ☐   | ☐ |
| ☐   | ☐ |
| ☐   | ☐ |



Tab. 268 Call recording: System configuration

|                                                                                                                                                                                                                                                  |                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                 |                                                                                       |
|  <a href="#">SMTPserver</a>                                                                                                                                     |                                                                                                                                                                        |
|  <a href="#">Callrecording</a>                                                                                                                                  |                                                                                       |
|  <a href="#">E-mailaddress</a>                                                                                                                                  |                                                                                       |
|  <a href="#">Sendcallrecordingstouser</a>                                                                                                                       | <br> |
|  <a href="#">Sendcallrecordingstothefollowingrecipients (commaseparated)</a>                                                                                    |                                                                                                                                                                        |
|  <a href="#">Reservedforcallrecording</a>  <a href="#">non-reserved/shared</a> | <br> |



## 9.7 Special features

Here describes features that are available only in combination with a special application or supplementary equipment, e.g. announcement service or door bell.

### 9.7.1 Coded ringing on general bell

The installation of a general bell feature provides a paging system, albeit with a limited scope. Up to five internal users can be paged using a specific coded ringing on the general bell. A user who recognizes his ringing pattern can answer the call from any terminal B.



Fig. 237 Coded ringing on general bell

#### Detailed Description

Tab. 269 Search via coded ringing on general bell

| End point | Operating sequence / signalling on the terminal                                                                                                                                                  | Scope                                                                    |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| A         | <ul style="list-style-type: none"> <li>A obtains the ring-back tone</li> <li>A obtains the busy tone (the display reads <i>Unavailable</i>) if the general bell is busy (queue full).</li> </ul> | Possible interfaces:<br>The function is activated locally on the system. |
| B         |                                                                                                                                                                                                  | Possible interfaces:<br>Internal                                         |

Coded ringing consists of a long tone followed by n number of shorter tones (n = 1...0.5) and is set via the system configuration.

Coded ringing can be used as the destination for a Call Forwarding Unconditional.

#### Functions

Tab. 270 Coded ringing on the general bell: Functions in prefix dialling



| Functions                     | Function codes |
|-------------------------------|----------------|
| Activate coded ringing        | *81 <User No.> |
| Activate CFU to coded ringing | *28            |
| Clear CFU to coded ringing    | #28            |
| Answer coded ringing          | *82            |

Tab. 271 Coded ringing on the general bell: Suffix dialling function

| Function               | Function code | System phones | Analogue terminal            |
|------------------------|---------------|---------------|------------------------------|
| Activate coded ringing | *81           |               | R8 or R*81 (R = control key) |

## System configuration

Tab. 272 Coded ringing on the general bell: System configuration

| Parameter                                                                                                                          | Remarks                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
|  <i>Coded call via general bell</i> <sup>1)</sup> | Configuration services: The five coded call IDs can each be assigned a user. |
|  <i>Coded call</i> <sup>1)</sup>                  | User configuration: Assigning one of the five coded call IDs.                |

<sup>1)</sup> These two settings overwrite each other.

### 9. 7. 1. 1 Answer general bell

A call can be signalled on the general bell (ringing signal) and be answered by any user B who hears it.



Fig. 238 Answer ringing signal on general bell

#### Detailed Description

General bell is activated via user group (UG) or via substitution.

If other calls are routed to the general bell, they are placed in a queue (max. 10 entries).



#### Tip:

General bell in the UG of the operator console with delay:

If the attendant is absent for a short time (or is overloaded), the general bell is activated after the delay time. Employees who hear the ringing tone can then answer the call.




#### Function in prefix dialling

Tab. 273 Answer general call: Function

| Function                              | Function code |
|---------------------------------------|---------------|
| Answer ringing signal on general bell | *83           |

## System configuration

Tab. 274 Answer general call: System configuration

| Parameter                                                                                                                | Remarks                  |
|--------------------------------------------------------------------------------------------------------------------------|--------------------------|
|  <i>General bell</i>                  | User group configuration |
|  <i>General bell delay</i>            | User group configuration |
|  <i>General bell for substitution</i> | General system settings  |

### 9.7.1.2 General bell on analogue terminal interface FXS

The general bell is connected to an analogue terminal interface FXS. Precisely one FXS interface per communication server can be configured for this purpose. Any existing allocation to a user is then automatically deleted.

Once the connection is made, no calls can be made or received via the port.



**Mitel Advanced Intelligent Network:**

In an AIN a general bell can be configured per node.

#### System configuration

Tab. 275 Analogue port for general bell: System configuration

| Parameter       | Remarks                                                                                    |
|-----------------|--------------------------------------------------------------------------------------------|
| <i>FXS mode</i> | Analogue interface configuration:<br>Configure parameter on <a href="#">General bell</a> . |

#### Reference to Other Features

"Call Forwarding Unconditional (CFU)", page 331

"Call Forwarding on No Reply (CFNR)", page 338

"User group: Logging in and logging out", page 462

### 9.7.2 Announcement service (announcement prior to answering)

The announcement service is for incoming external calls, but if required it can also be used for internal calls via a call distribution element. If a call from A is not answered within a preset delay time by internal user B (who is either free or for whom call waiting is enabled), the caller will hear a welcome announcement (provided the call has not been rerouted to the alternative destination (Capolinea)<sup>1)</sup> beforehand). Once the announcement has been made, the caller obtains either the ring-back tone, music, a pause or another announcement is made. This can be repeatedly endlessly, with the possibility of playing back up to 20 different Wave files. A succession consisting of wave file, pause signal and pause duration is referred to as a sequence.

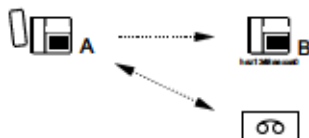


Fig. 239 Announcement service

<sup>1)</sup> Only for Italy

Internalringingduration

Tab. 276 Announcement service

| A |  |  |
|---|--|--|
| B |  |  |

Charge-freecallqueue

Charge-

Announcementservice

File

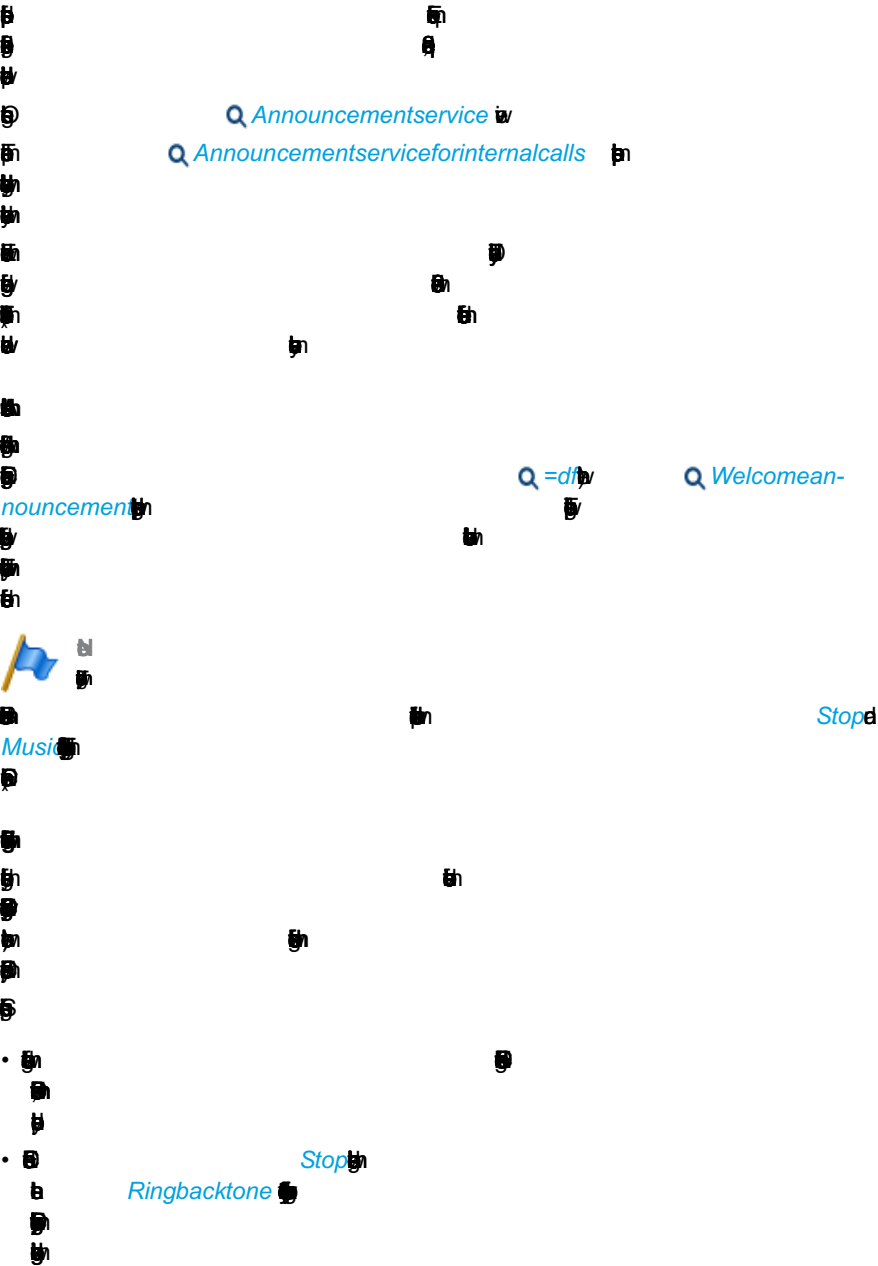
Pausesignal Pauseduration nextsequence .

Internalringingduration





































Tab. 277 Example of a welcome announcement

| SequenceID | File | Pausesignal         | Pauseduration (s) | Nextsequence |
|------------|------|---------------------|-------------------|--------------|
| 1          | 1 0  | Ring-backtone       | 5                 | 2            |
| 2          | 1 1  | Externalaudiosource | 0                 | 3            |
| 3          | 1 2  | Externalaudiosource | 0                 | none         |

Features





-  *External audio source* 
-  
-    
-  
-   
-  
-   
-    
-  
-  
-  
-   
-    
- 

*Music*










*External audio source*

Features














Tab. 278 Announcement service: Recording functions

|     |                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|     |  |
|   |                                                                                   |
|   |                                                                                   |

























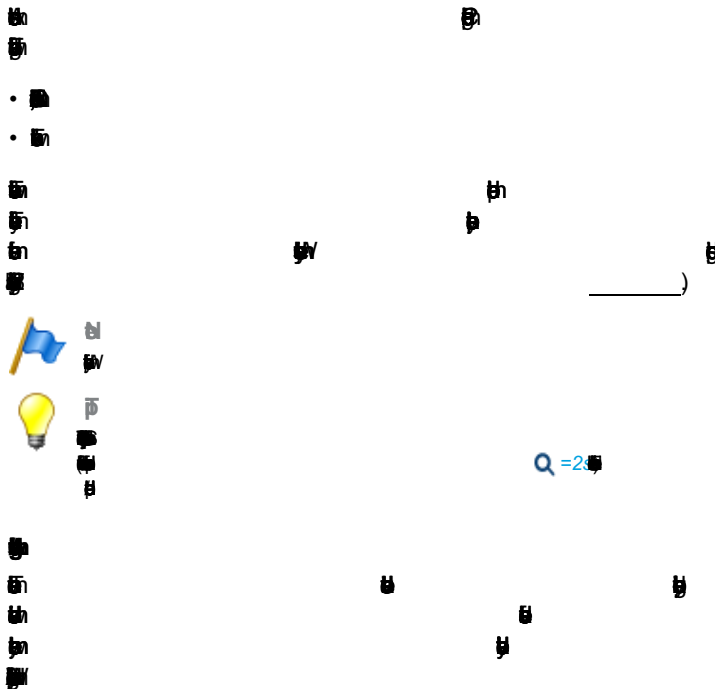






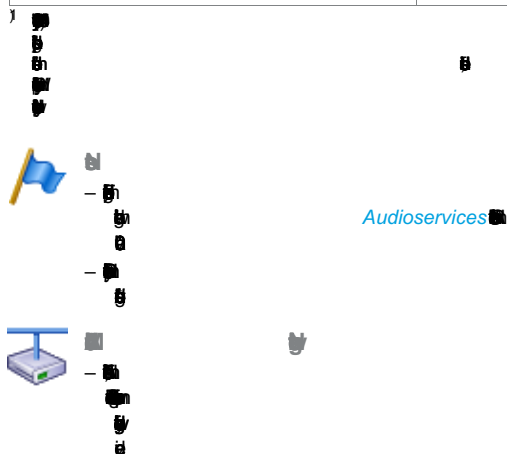




Tab. 279 Announcement service: Activation functions

|   |   |
|---|---|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |



## Features



🔍 [Announcementservice](#) 

 [Announcementservice](#) 

### 9.7.3 Queue with announcement (Number in Queue)

A's call lands at a busy call destination B. The caller will first obtain the greeting of the announcement service, if so configured. He will then obtain a greeting announcement, e.g. asking for a little patience as the call destination is busy. Depending on the configuration the caller might now obtain music for example and be notified from time to time of his current position in the queue. It is also possible to offer the caller alternatives for handling his call at periodic intervals, which can be selected using the digit keys. If the call is answered, the announcements cease and the call parties are connected.

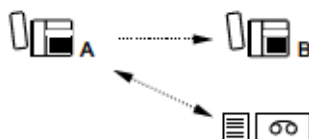


Fig. 240 Queue with announcement

The queue with announcement is intended for incoming external calls, but if required it can also be used for internal calls via a call distribution element.

#### Detailed Description

Tab. 280 Queue with announcement

| End point | Operating sequence / signalling on the terminal                                                                       | Scope                                                                                                                                                                                                                                                                                                                                              |
|-----------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A         | If the internal destination becomes available, the announcement is interrupted and the ring back tone is played back. | Possible interfaces: <ul style="list-style-type: none"> <li>• External</li> <li>• Internal, if the call is routed via a CDE</li> </ul>                                                                                                                                                                                                             |
| B         | As soon as B hangs up, the caller waiting in position 0 in the queue begins to ring.                                  | Possible destinations: <ul style="list-style-type: none"> <li>Internal user, user group, key telephone, multiple destination, attendant, ACD.</li> </ul> Restrictions: <ul style="list-style-type: none"> <li>• CFUs at the destination are not carried out.</li> <li>• Integrated mobile/external users and PISN users are not called.</li> </ul> |

The queue is a routing element which is set as the destination for a call distribution element for each switch position of a switch group. It is situated between the call distribution element and the actual destination (or combination of destinations) (see also [Fig. 77](#)).

The queue is assigned a virtual user's mailbox. If the call destination is busy, the activated mailbox greeting is played back.

The greeting is assigned an auto attendant's profile. As an option the profile can already comprise DTMF actions to offer the caller alternatives for handling the call. At the monitoring actions at the parameter **Q**, *End of greeting the Auto attendant an-*

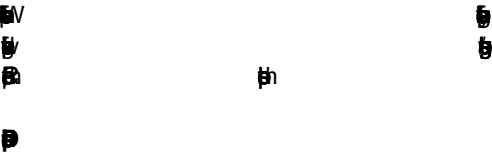
Features

announcement  
Externalaudiosource / Internalaudiosource / Ringback  
tone/ Idle/ Holdtone  
Positioninqueueinformation  
Deflect  
tomailbox(withgreeting) , Deflecttomailbox(withoutgreeting) , Deflecttocallnumber  
Leavevoicemailmessage



Q=80  
New  
(Q=d

9. 7. 4 Clear configurations



Tab. 281 Clear settings

|   |  |
|---|--|
|   |  |
| A |  |

- 
- - 
  - 
  - 
  - 
  - 
  - 
  - 
  -



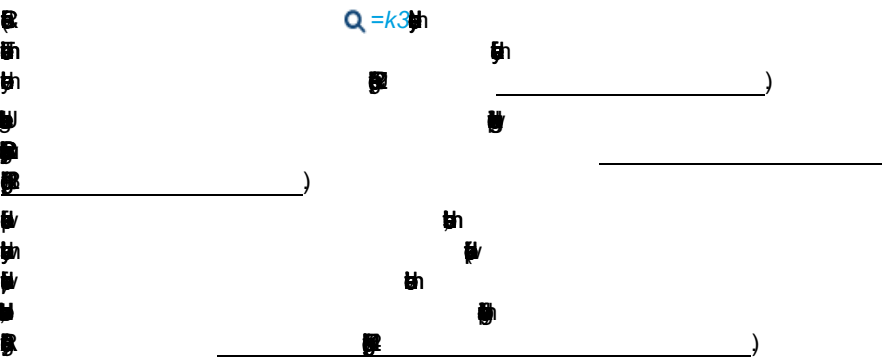
Tab. 282 Clear configuration: Function

|  |  |
|--|--|
|  |  |
|  |  |

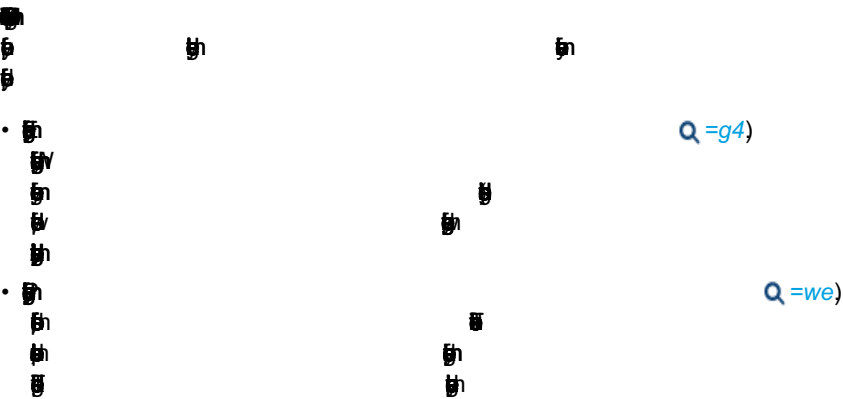
- 
- 
- 
- 



9. 7. 5 LCR Function



9. 7. 6 Emergency calls



9. 7. 6. 1 Emergency numbers



Tab. 283 Emergency number

| № | № |
|---|---|
| B | В |
|   | В |



Emergency

1. destination( 9)
 2. ( 3)
 3.
 4.
 5.
 6.

- 1. 9
- 2. 3
- 3. 9
- 4. 3
- 5. 9
- 6. 3
- 7. 9
- 8. 3
- 9. 9
- 10. 3
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- 83. 9
- 84. 3
- 85. 9
- 86. 3
- 87. 9
- 88. 3
- 89. 9
- 90. 3
- 91. 9
- 92. 3
- 93. 9
- 94. 3
- 95. 9
- 96. 3
- 97. 9
- 98. 3
- 99. 9
- 100. 3

1

Tab. 284 Emergency number: System configuration

| 1                     | 2 |
|-----------------------|---|
| Emergencynumber       | 1 |
| Emergencydestinations | 2 |
| Emergencydestinations | 3 |

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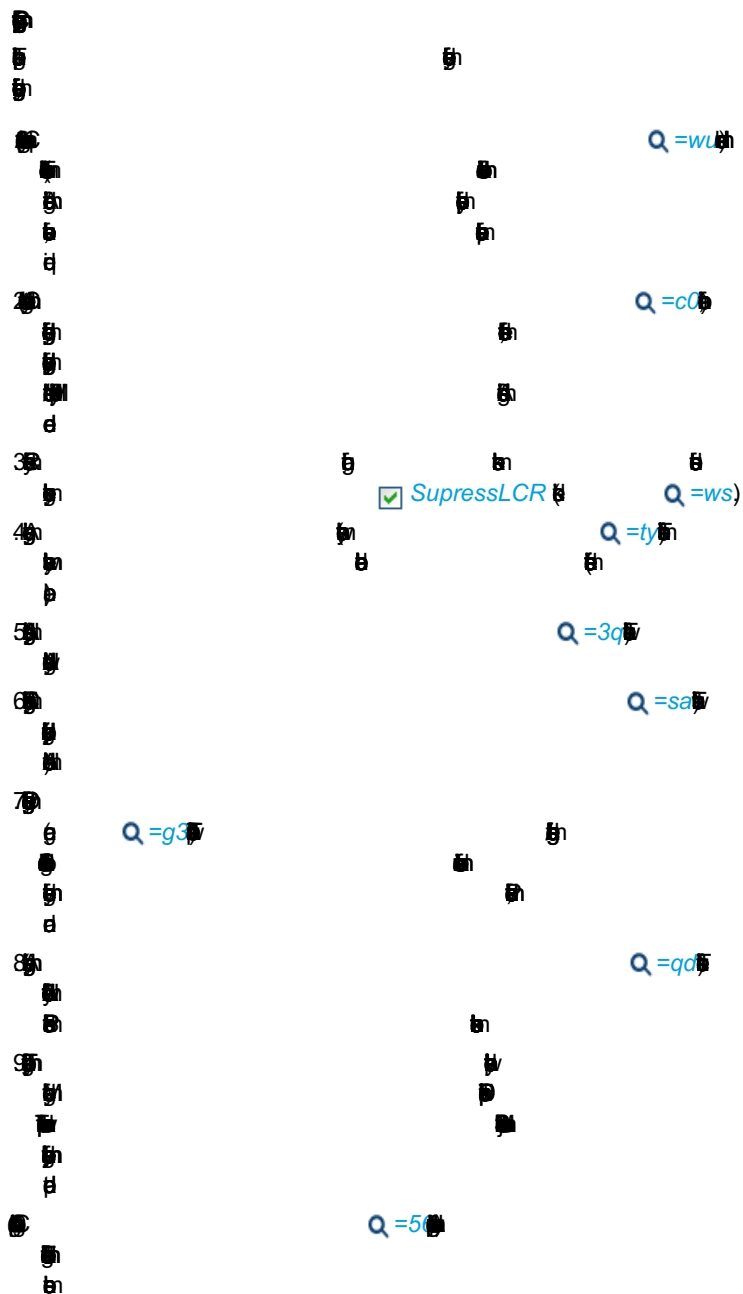


The diagram illustrates a network of points and their connections. A central point 'C' is surrounded by a large circle. Points 'A' through 'Z' are distributed around this central point, with lines connecting them to form a complex web. The connections are as follows:

- Point 'C' is connected to points 'A', 'B', 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V', 'W', 'X', 'Y', and 'Z'.
- Points 'A' and 'B' are connected to each other.
- Points 'D' and 'E' are connected to each other.
- Points 'F' and 'G' are connected to each other.
- Points 'H' and 'I' are connected to each other.
- Points 'J' and 'K' are connected to each other.
- Points 'L' and 'M' are connected to each other.
- Points 'N' and 'O' are connected to each other.
- Points 'P' and 'Q' are connected to each other.
- Points 'R' and 'S' are connected to each other.
- Points 'T' and 'U' are connected to each other.
- Points 'V' and 'W' are connected to each other.
- Points 'X' and 'Y' are connected to each other.
- Points 'Z' and 'A' are connected to each other.

The diagram is divided into several regions by these lines and the circle. The regions are labeled as follows:

- Region 1: The area inside the circle, bounded by the lines connecting 'C' to the other points.
- Region 2: The area outside the circle, bounded by the lines connecting the points to each other.
- Region 3: The area outside the circle, bounded by the lines connecting the points to the circle.



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$Q = we$

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*Emergencycallstarted* 

$Q = h1$

$$Q = r5 \text{ in}$$

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9. 7. 7      Suppression of the call number display

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Tab. 286    CLIR per user: Functions





Tab. 287 CLIR per user: System configuration

|                                                  |  |
|--------------------------------------------------|--|
|                                                  |  |
| <a href="#">Restrictcallidentification(CLIR)</a> |  |



### 9. 7. 8 Record malicious calls (MCID)

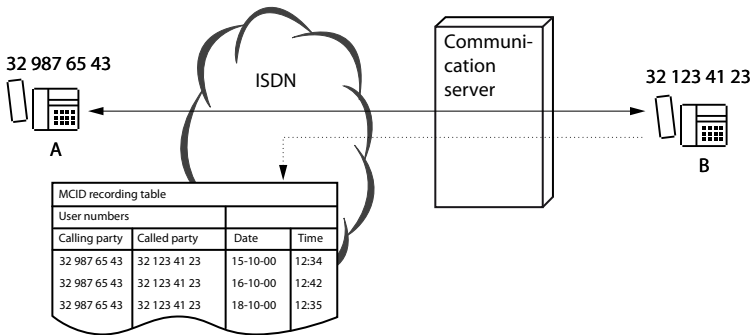


Fig. 241 MCID during the call



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Tab. 288 Record malicious call (MCID)

| பெயர் | பெயர் | பெயர் |
|-------|-------|-------|
| B     | பெயர் | பெயர் |
| A     |       | பெயர் |

Tab. 289 Record malicious calls (MCID) Prerequisites

| பெயர் | பெயர் |
|-------|-------|
| பெயர் | பெயர் |
| பெயர் | பெயர் |
| பெயர் | பெயர் |

Tab. 290 Record malicious calls (MCID) Suffix dialling function

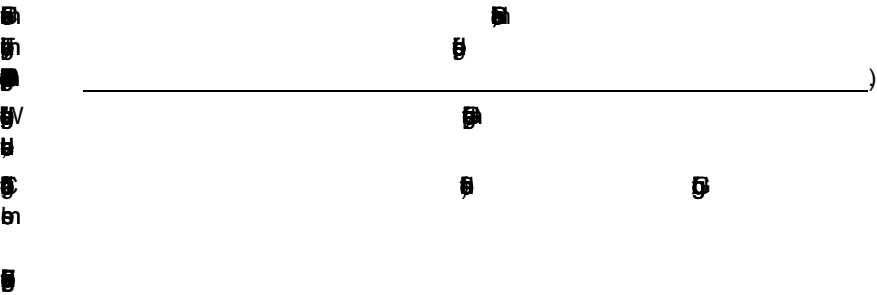
| பெயர் | பெயர் | பெயர் |
|-------|-------|-------|
| பெயர் | பெயர் | பெயர் |

9. 7. 9 User group: Logging in and logging out



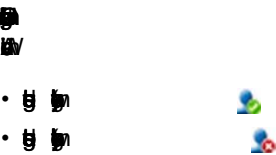
Tab. 291 User group

| № | Имя                        | Функции                                         |
|---|----------------------------|-------------------------------------------------|
| A | • Имя<br>Имя<br>Имя<br>Имя | Имя<br>• Имя<br>Имя<br>Имя<br>Имя<br>Имя<br>Имя |



Tab. 292 User group: Functions

| №   | Имя |
|-----|-----|
| Имя | Имя |
| Имя | Имя |
| Имя | Имя |
| Имя | Имя |





Tab. 293 User group: System configuration

| <i>Usergroup</i>           |  |
|----------------------------|--|
| <i>Connectedusergroups</i> |  |



### 9. 7. 10 Home alone



*HomeAlone*



*Busyonbusy*

Tab. 294 Home Alone

| <ul style="list-style-type: none"><li></li><li></li><li></li><li></li></ul> |  |
|-----------------------------------------------------------------------------|--|

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Tab. 295 User group: Functions





Tab. 296 Home alone System configuration

|                   |  |
|-------------------|--|
|                   |  |
| <i>HomeAlone</i>  |  |
| <i>Busyonbusy</i> |  |

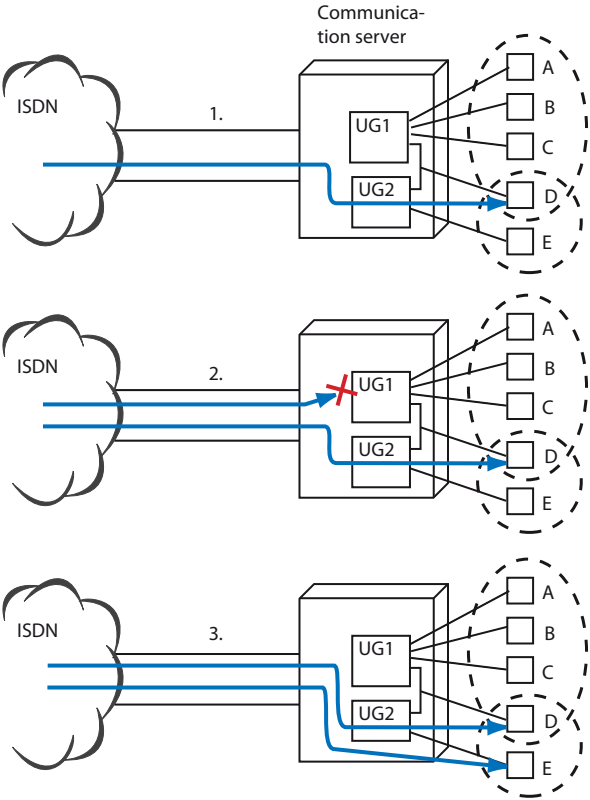


Fig. 242 Home Alone



## 9. 7. 11 Switching switch groups

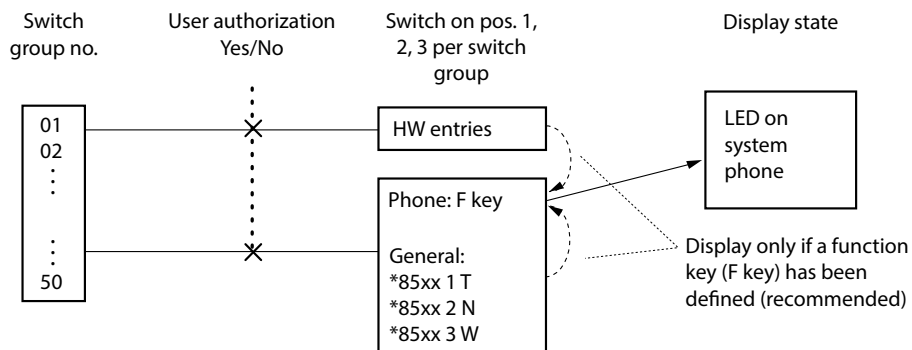


Fig. 243 Switching switch groups



Tab. 297 Switching switch groups

| № | №                                                                                                                                                                                                    | №                                                                                                                                                                                       |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | <ul style="list-style-type: none"> <li>• 1</li> <li>• 2</li> <li>• 3</li> <li>• 4</li> <li>• 5</li> <li>• 6</li> <li>• 7</li> <li>• 8</li> <li>• 9</li> <li>• 0</li> <li>• *</li> <li>• #</li> </ul> | <ul style="list-style-type: none"> <li>• 1</li> <li>• 2</li> <li>• 3</li> <li>• 4</li> <li>• 5</li> <li>• 6</li> <li>• 7</li> <li>• 8</li> <li>• 9</li> <li>• *</li> <li>• #</li> </ul> |





Tab. 298 Switching switch groups: Function

| Switch group   | Function       |
|----------------|----------------|
| Switch group 1 | Switch group 1 |



Tab. 299 Switch groups: System configuration

| Switch group       | System configuration |
|--------------------|----------------------|
| Operateswitchgroup | Switch group 1       |
| Position           | Switch group 1       |










## 9. 7. 12 Switch control outputs











Tab. 300 Switch control outputs

| A | <br> | <br><br><br><br> |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



Tab. 301 Switch control outputs: Functions

|  |  |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |  |











State(controloutput) 



Tab. 302 Controlling control outputs: System configuration

|  Switchcontroloutputs |                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  State(controloutput) | <br><br> |



### 9.7.13 Door function



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#### 9.7.13.1 Door bell



Tab. 303 Door bell

| π | Π                                                                                                                 | ρ                                    |
|---|-------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| B | <br><br><br><br><br><i>onexchangeconnection d</i> <i>Callwaiting</i> <i>Protectagainstcall</i><br><i>waitinga</i> | <br><br><br><br><br><br><br><br><br> |







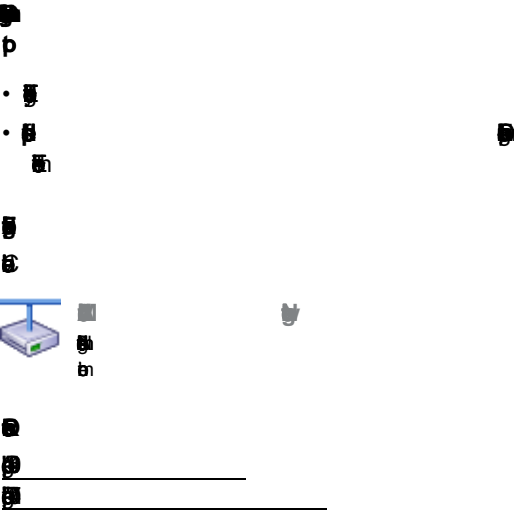
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Tab. 304 Door bell on the options card: System configuration

|                                                                                                |                                                                                   |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|               |  |
|  Doorintercom |  |



### 9. 7. 13. 2 Open door



Tab. 305 Open door

|  |                                                                                         |                                                                                              |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A                                                                                   | <br> | <br><br>b |



Features



Tab. 306 Opening doors: Function

| ப | க |
|---|---|
| ப | க |

Tab. 307 Opening doors: System configuration

| ப            | க |
|--------------|---|
| Releasedoor  | க |
| Doorintercom | க |



Tab. 308 Opening doors: Function

| ப | க |
|---|---|
| ப | க |

Tab. 309 Opening doors: System configuration

| ப                           | க |
|-----------------------------|---|
| Releasedoor                 | க |
| User                        | க |
| DTMFsequencecetoopenthedoor | க |



9. 7. 13. 3 Dial door intercom



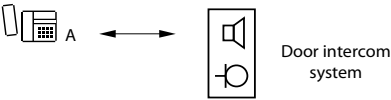


Fig. 244 Connection to the door intercom

Tab. 310 Dial door intercom

| Icon | Label                |
|------|----------------------|
| A    | Door intercom system |

Tab. 311 Door intercom: System configuration

| Icon         | Label                |
|--------------|----------------------|
| Doorintercom | Door intercom system |

Tab. 312 Door intercom: System configuration

| Icon | Label |
|------|-------|
| User | User  |

9. 7. 14    System time and system date

|            |            |                |                  |
|------------|------------|----------------|------------------|
| Systemtime | Systemdate | Systemtimezone | Systemtimeoffset |
| Systemtime | Systemdate | Systemtimezone | Systemtimeoffset |
| Systemtime | Systemdate | Systemtimezone | Systemtimeoffset |
| Systemtime | Systemdate | Systemtimezone | Systemtimeoffset |
| Systemtime | Systemdate | Systemtimezone | Systemtimeoffset |

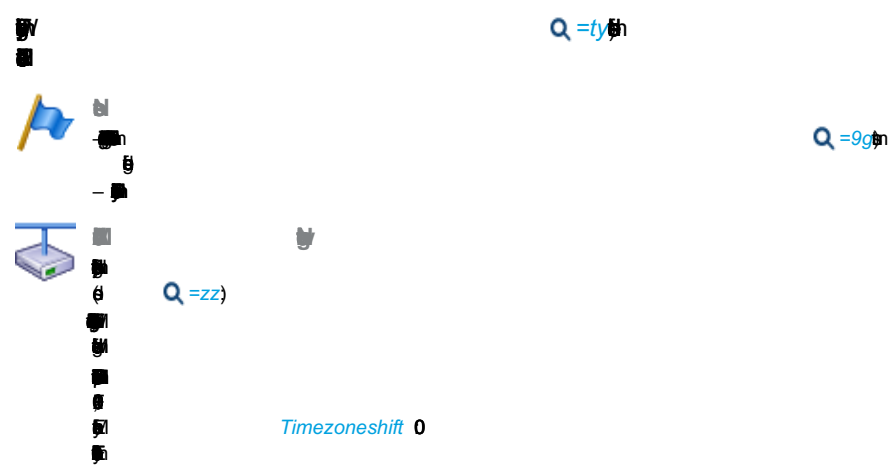
Tab. 313    System time and system date: Functions

|            |            |                |
|------------|------------|----------------|
| Systemtime | Systemdate | Systemtimezone |
| Systemtime | Systemdate | Systemtimezone |
| Systemtime | Systemdate | Systemtimezone |

|            |            |                |
|------------|------------|----------------|
| Systemtime | Systemdate | Systemtimezone |
| Systemtime | Systemdate | Systemtimezone |
| Systemtime | Systemdate | Systemtimezone |

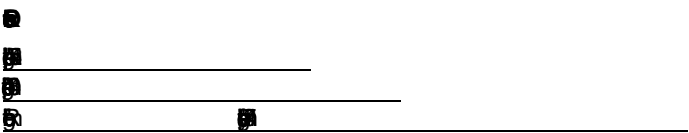
|            |            |                |
|------------|------------|----------------|
| Systemtime | Systemdate | Systemtimezone |
| Systemtime | Systemdate | Systemtimezone |
| Systemtime | Systemdate | Systemtimezone |

|            |            |                |
|------------|------------|----------------|
| Systemtime | Systemdate | Systemtimezone |
| Systemtime | Systemdate | Systemtimezone |
| Systemtime | Systemdate | Systemtimezone |



Tab. 314 System time and system date: System configuration

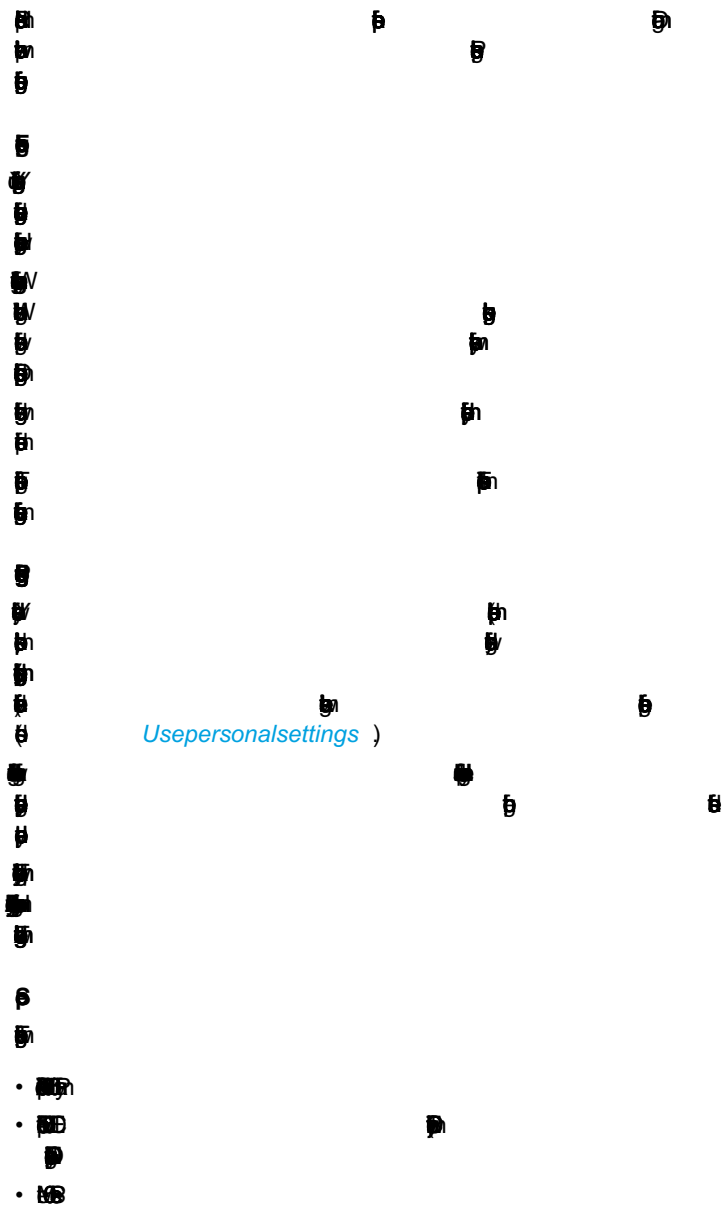
| Q Systemtime                       |  |
|------------------------------------|--|
| Q Systemdate                       |  |
| Q Systemtimezone                   |  |
| Q TimesynchronisationviaSDNnetwork |  |
| Q NTPservice                       |  |
| Q NTPserver                        |  |
| Q Timezoneshift                    |  |
| Q Mastertime                       |  |
| Q TimesynchronisationviaSDNnetwork |  |
| Q TimezoneofMitelSIPphones         |  |



### 9. 7. 15 Free seating



Features





Tab. 315 Free seating phone configuration

| Icon                       | Icon               |
|----------------------------|--------------------|
| Logout                     | Phone handset icon |
| Time                       | Phone handset icon |
| Usepersonalterminalprofile | Phone handset icon |
| RequestPINbylogout         | Phone handset icon |

9. 7. 16 Dual Homing



Phone handset icon



- Phone handset icon








- Phone handset icon

- Phone handset icon

- Phone handset icon







































- Phone handset icon



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9. 8 Remote control features

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Tab. 316 User-related features remote-controlled from within and from outside the system

| 1   | 2   | 3 |
|-----|-----|---|
| 4   | 5   |   |
| 6   | 7   | 8 |
| 9 0 |     | 1 |
| 2   | 3 4 |   |
| 5 6 |     | 7 |
| 8   | 9 0 | 1 |
| 2   | 3 4 | 5 |
| 6   | 7 8 | 9 |
| 0   | 1 2 | 3 |
| 4   | 5 6 |   |
| 7 8 | 9 0 |   |
| 1   | 2 3 |   |
| 4   | 5 6 |   |
| 7   | 8   |   |
| 0   | 1   |   |
| 3   | 4   |   |
| 6   | 7   |   |
| 9   | 0   |   |

## Features

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### 9. 8. 1 Remote controlling features from within the system



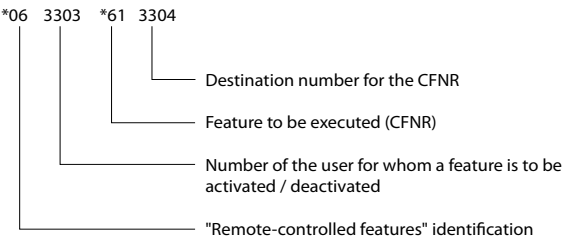


Fig. 245 Example of remote control



Tab. 317 Remote-controllable, user-related feature

| Feature | Remote control code | Feature                    |
|---------|---------------------|----------------------------|
| A       | • 3303<br>• 3304    | • 3303<br>• 3304<br>• 3305 |
| B       |                     | • 3303<br>• 3304<br>• 3305 |



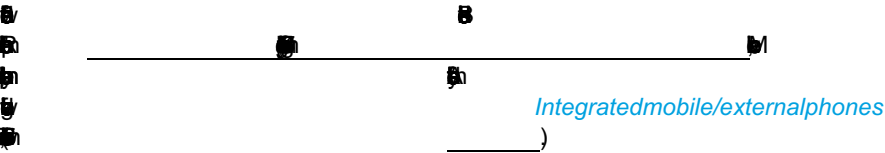
Tab. 318 Internal remote control: System configuration

| Feature                 | Remote control code |
|-------------------------|---------------------|
| Remotecontrolprotection | • 3303              |
| Internaldigitbarring    | • 3304              |

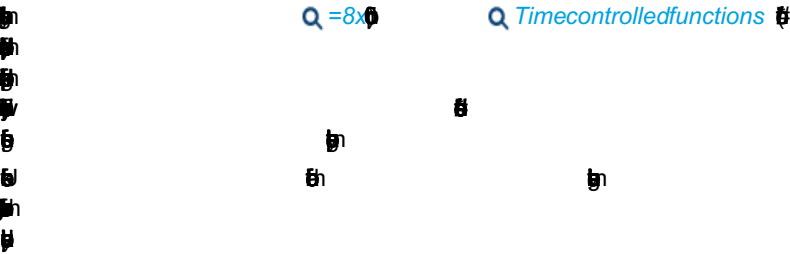


## 9. 8. 2 Remote controlling features from outside the system



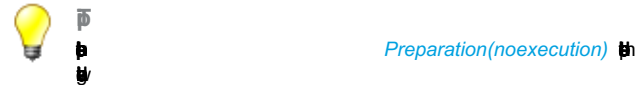


9. 8. 3 Time-controlled functions



Tab. 319 Examples of time-controlled functions:

| ID | Name | Function | Mode             | Start day | Stop day | Execution date/time | Switch group |  |
|----|------|----------|------------------|-----------|----------|---------------------|--------------|--|
| 1  |      |          | Repetitive       | M         | 0        | -                   |              |  |
| 2  |      |          | Repetitive       | M         | 0        | -                   |              |  |
| 3  |      |          | Single execution |           |          | 0 0                 | -            |  |
| 4  |      |          | Single execution |           |          | 0 0                 | -            |  |



Tab. 320 Example of time-controlled functions with switch group assignment:

| ID | Name       | Function | Mode             | Start day | Stop day | Execution date/time | Switch group | MI |
|----|------------|----------|------------------|-----------|----------|---------------------|--------------|----|
| 5  | Function 1 | 0        | Repetitive       | Monday    | Friday   | 7:00                | Group 1      | On |
| 6  | Function 2 | 0        | Repetitive       | Monday    | Friday   | 7:00                | Group 1      | On |
| 7  | Function 3 | 0        | Single execution |           |          | 2020-01-01          |              | On |
| 8  | Function 4 | 0        | Single execution |           |          | 2020-01-01          |              | On |

Tab. 321 Additional time-controlled functions

| MI | MI | MI |
|----|----|----|
| On | On |    |
| On | On |    |
| On | On |    |
| On | On |    |
| On | On | On |
| On | On | On |

Features

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9. 9 Hospitality/Hotel

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9. 9. 1 Features

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- 100

Tab. 322 Features on room phones

| எ | ம              | ம              | ம | ம | ம | ம              |
|---|----------------|----------------|---|---|---|----------------|
| அ | ✓ <sup>1</sup> | ✓ <sup>1</sup> | ✓ | ✓ | ✓ | ✓ <sup>2</sup> |
| இ | ✓ <sup>3</sup> | ✓              | ✓ | ✓ | ✓ | —              |
| உ | —              | ✓              | ✓ | ✓ | ✓ | —              |
| ஊ | —              | ✓              | ✓ | ✓ | ✓ | —              |
| ஈ | —              | ✓              | ✓ | ✓ | ✓ | —              |
| ஊ | ✓              | ✓              | ✓ | ✓ | ✓ | —              |
| ஈ | ✓              | ✓              | ✓ | ✓ | ✓ | —              |
| ஊ | ✓              | ✓              | ✓ | ✓ | ✓ | —              |
| ஈ | —              | ✓              | ✓ | ✓ | ✓ | —              |
| ஊ | —              | —              | ✓ | ✓ | ✓ | —              |

1

2 67

3 風

### 9.9.2 Configuration and operating concept

[illegible]



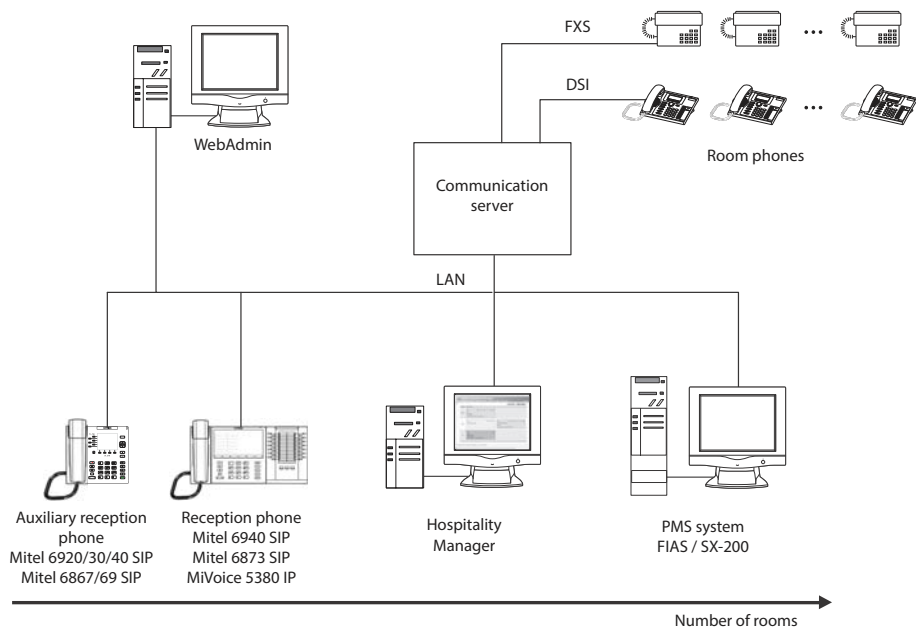
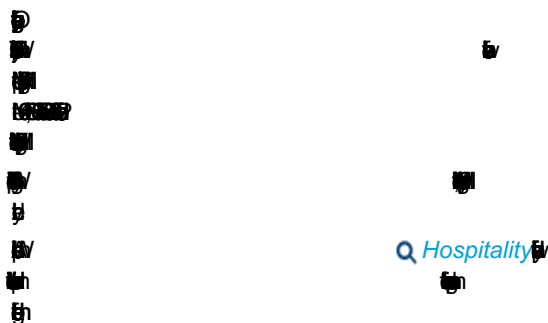
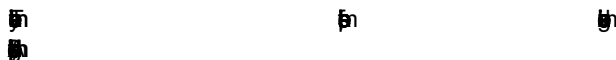


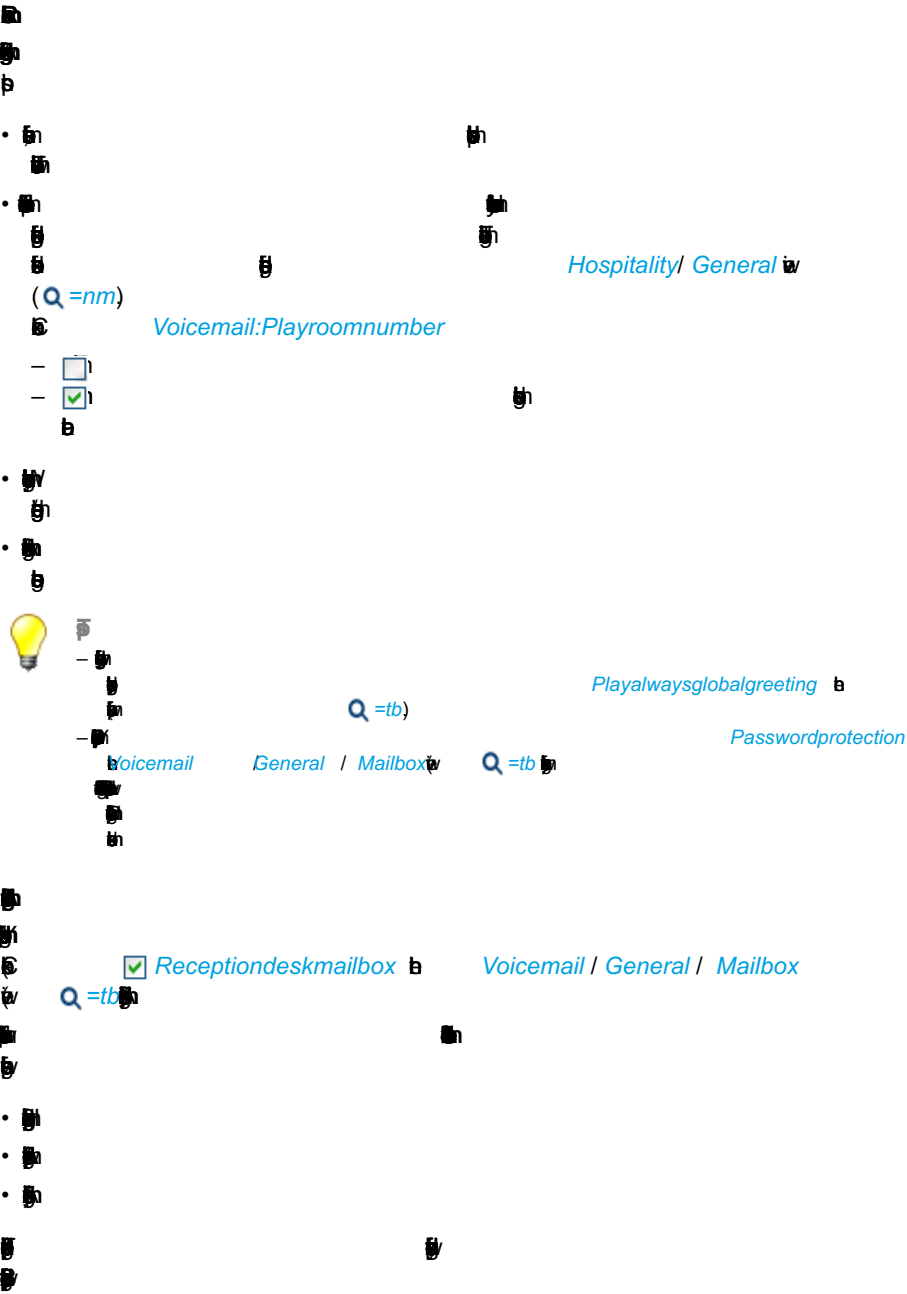
Fig. 246 Overview of configuration and operating possibilities

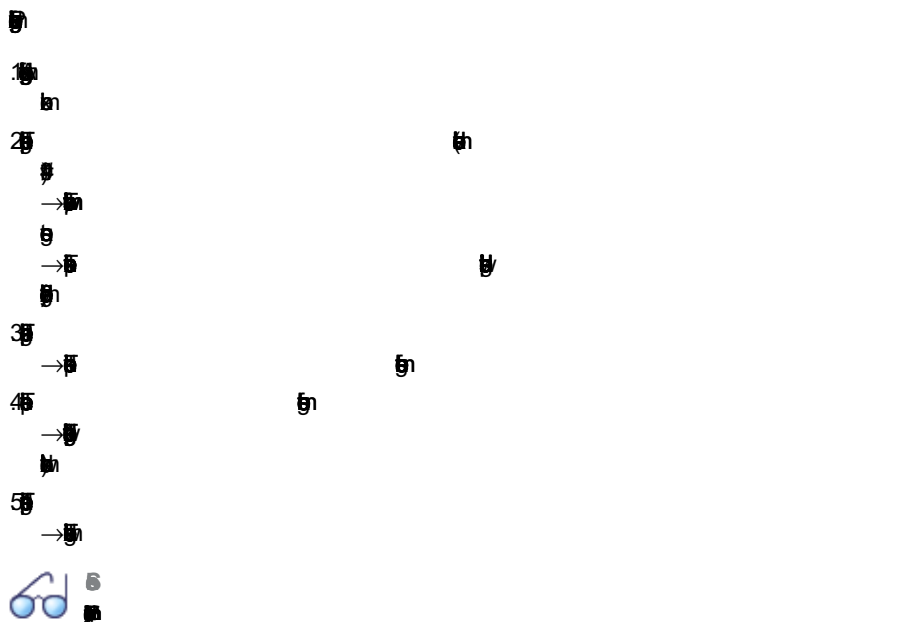


### 9. 9. 3 Hospitality voice mail features



Features





## 9.9.4 Function codes in prefix dialling



Tab. 323 Room cleaning status: Functions

| 1 | 2 |
|---|---|
| 3 | 4 |
| 5 | 6 |
| 7 | 8 |



Features

Tab. 324 Maintenance notices: Functions

| Icon   | Function   |
|--------|------------|
| Icon 1 | Function 1 |
| Icon 2 | Function 2 |
| Icon 3 | Function 3 |
| Icon 4 | Function 4 |

- Icon 1
- Icon 2
- Icon 3
- Icon 4
- Icon 5
- Icon 6

Tab. 325 Minibar: Functions

| Icon   | Function   |
|--------|------------|
| Icon 1 | Function 1 |
| Icon 2 | Function 2 |
| Icon 3 | Function 3 |
| Icon 4 | Function 4 |

- Icon 1
- Icon 2
- Icon 3
- Icon 4
- Icon 5
- Icon 6

Tab. 326 Charge direct: Functions

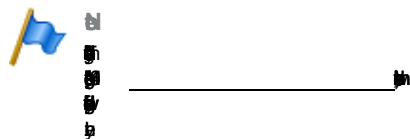
| Icon   | Function   |
|--------|------------|
| Icon 1 | Function 1 |
| Icon 2 | Function 2 |
| Icon 3 | Function 3 |

- Icon 1
- Icon 2
- Icon 3
- Icon 4



Tab. 327 Notification service: Function

|   |   |
|---|---|
| 5 | 6 |
| 6 | 8 |

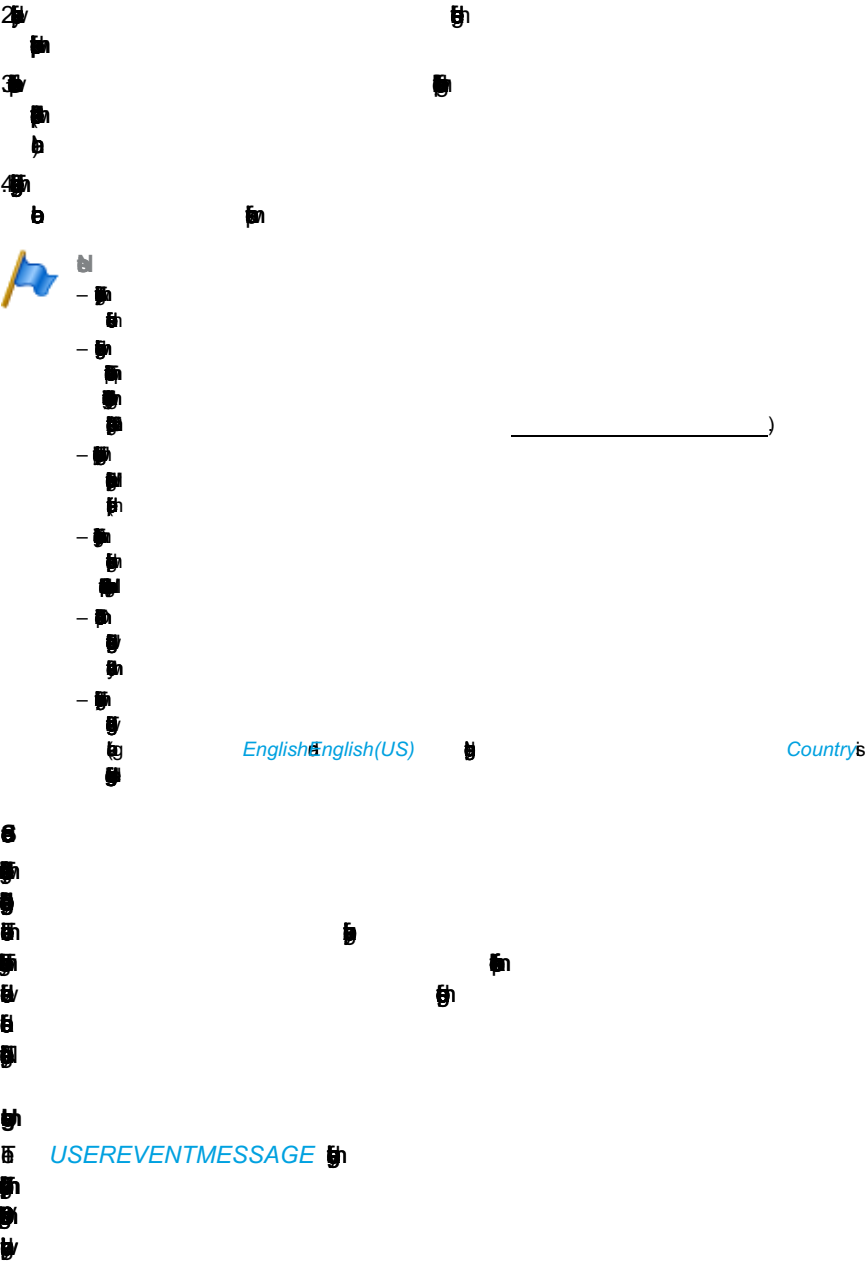


Tab. 328 Start wake-up audio guide: Function code

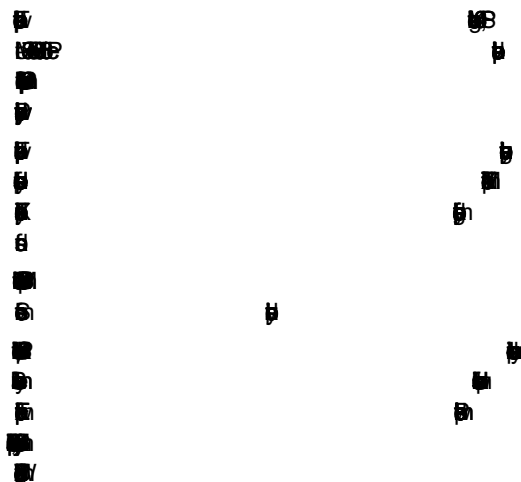
|   |   |
|---|---|
| 6 | 6 |
| 6 | 6 |



Features



## 9. 9. 5 Network printer and Mitel 400 Print Spooler



## 9. 9. 6 Setting up phone booths

Connection  
Phonebooth .

Normal

Phonebooth



Features

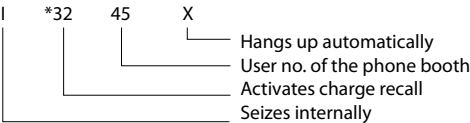
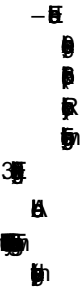
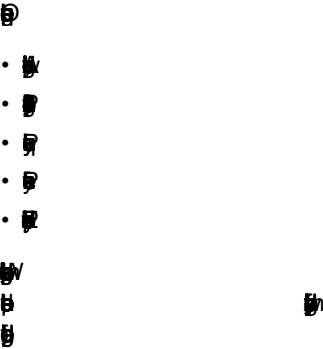


Fig. 247 Configuration of a key with charge recall



|                                     |                               |
|-------------------------------------|-------------------------------|
| I : Call from the phone booth no.45 | 07:45                         |
| I : Call to the phone booth no.45   | 07:46                         |
|                                     |                               |
| -- Line key                         | 1...5 _____0__                |
| Phone booth no.45                   | 031 885 23 12 DO 28. SEP 2000 |
| Enquiry call                        | DTMF Park Message             |

Fig. 248 Signalling on the operator console with variant 1 of phone booth operation





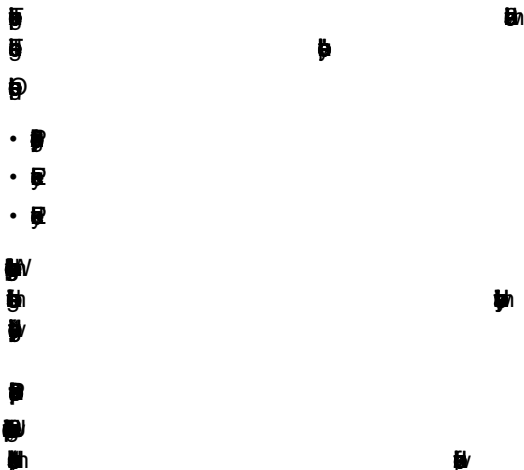
|                                     |               |          |                 |
|-------------------------------------|---------------|----------|-----------------|
| I : Charge recall phone booth no.45 |               | 001.40FR | 07:49           |
|                                     |               |          |                 |
| -- Line key                         | 1...5         | _____    | 0__             |
| Phone booth no.45                   | 031 885 23 12 |          | DO 28. SEP 2000 |
| Enquiry call                        | DTMF          | Park     | Message         |

Fig. 249 Indication of charge recall



|                                     |       |                 |
|-------------------------------------|-------|-----------------|
| I : Call from the phone booth no.45 |       | 07:45           |
| I : Call to the phone booth no.45   |       | 07:46           |
|                                     |       |                 |
| -- Line key                         | 1...5 | _____           |
| *3245                               |       | DO 28. SEP 2000 |
| Enquiry call                        | DTMF  | Park            |
|                                     |       | Message         |

Fig. 250 Signalling on the operator console with variant 2 of phone booth operation



```

I : Call from user 29 07:46
I : Function key charge recall (*32) 07:47

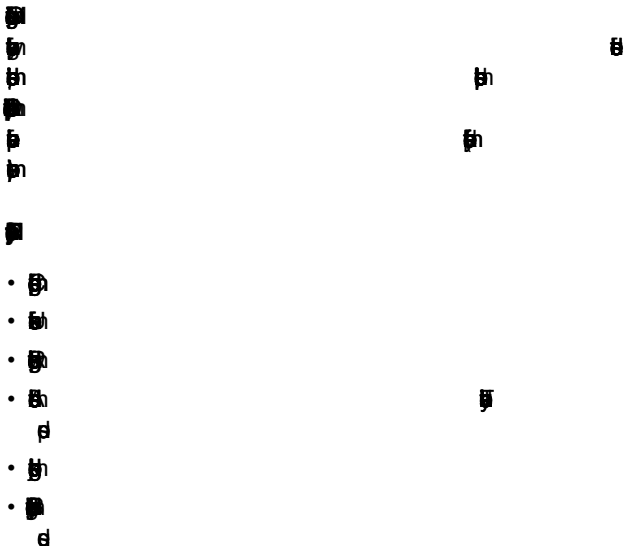
-- Line key 1...5 _____ 0_____
*3245 DO 28. SEP 2000
Enquiry call DTMF Park Message

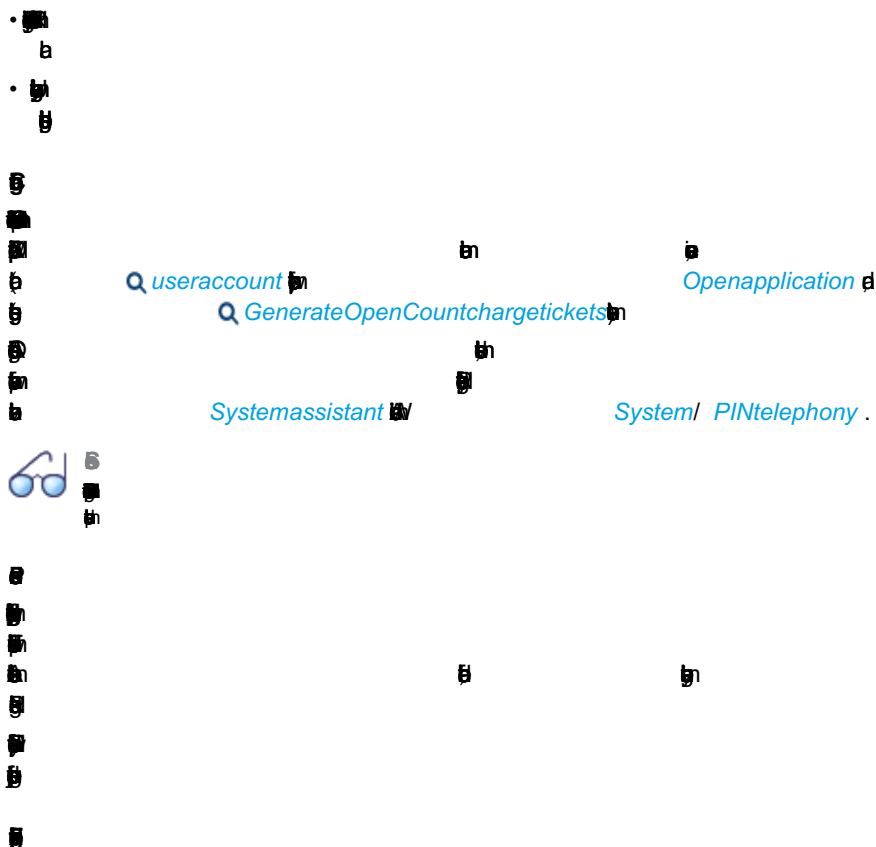
```

Fig. 251 Signalling on the operator console with variant 3 of phone booth operation



## 9.10 PIN telephony with Mitel OpenCount





Tab. 329 PIN telephony. Functions in prefix dialling

|    |    |
|----|----|
| Q1 | Q1 |
| Q2 | Q2 |
| Q3 | Q3 |
| Q4 | Q4 |

Tab. 330 PIN telephony. Functions during a call (enquiry call)

|   |   |
|---|---|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |

Tab. 331 PIN telephony. Functions after the conversation

|  |  |
|--|--|
|  |  |
|  |  |
|  |  |
|  |  |

9. 11 Message and Alarm Systems

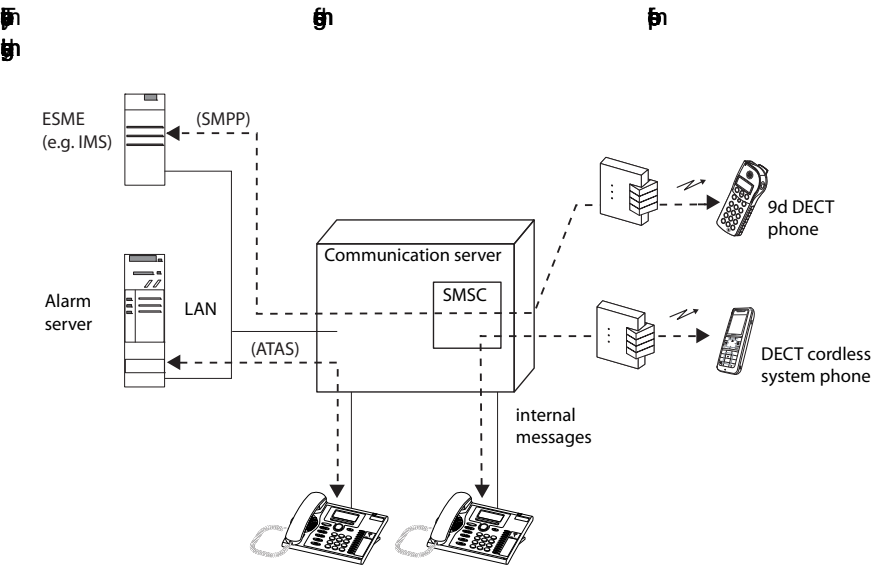
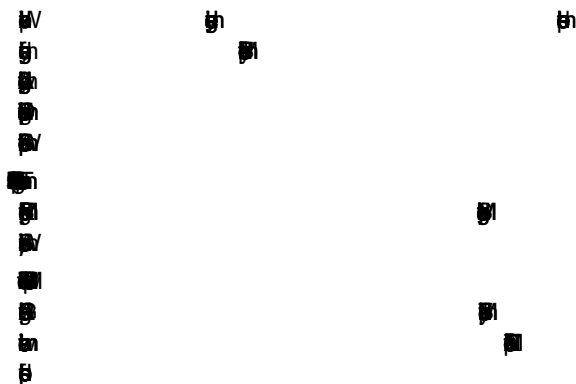


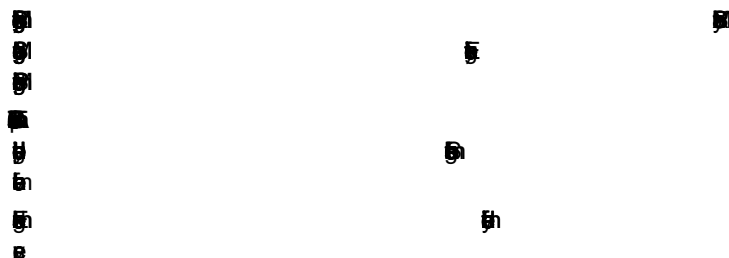
Fig. 252 Message and alarm systems

9. 11. 1 Internal messaging system for system phones

## 9. 11. 2 Expanded messaging system with 9d-DECT phones



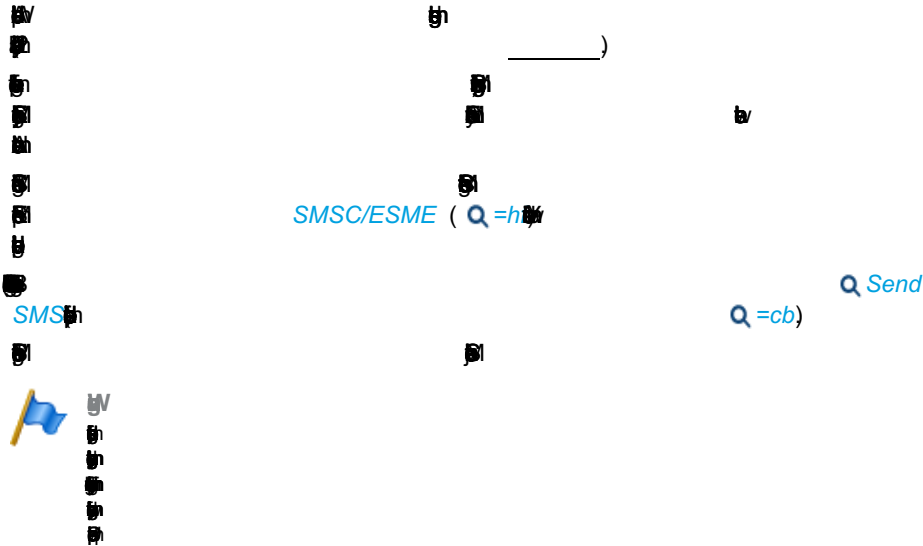
## 9. 11. 3 External messaging and alarm systems



### 9. 11. 3. 1 Message handling



Features



9. 11. 3. 2 Alarm handling

- [Icon]
- [Icon]
- [Icon]
- [Icon]
- [Icon]
- [Icon]
- [Icon]

9. 11. 3. 3 Alarm trigger with ATAS





ATA3

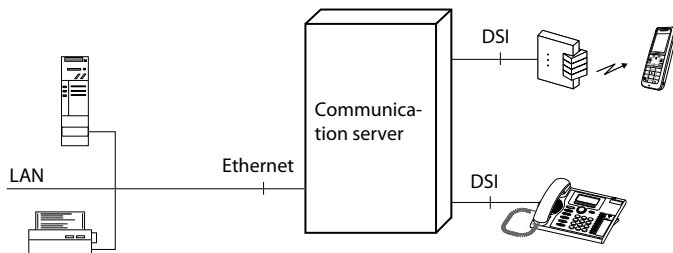


Fig. 253 Connection via Ethernet

## Function Redkey

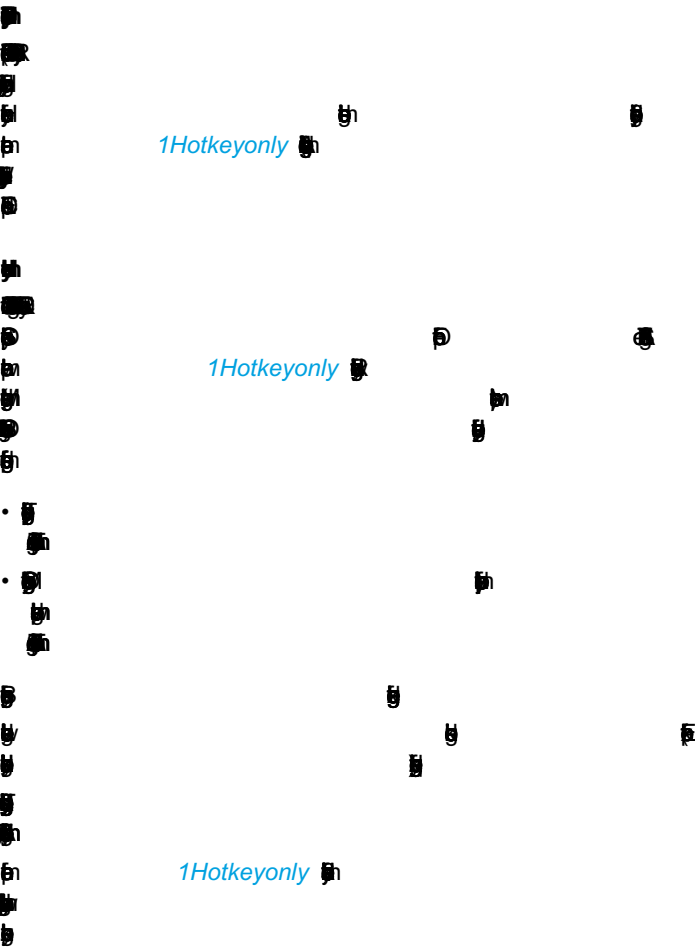


- [Icon]
- [Icon]
- [Icon]
- [Icon]
- [Icon]
- [Icon]
- [Icon]
- [Icon]
- [Icon]



Tab. 332 Trigger Redkey function: Function

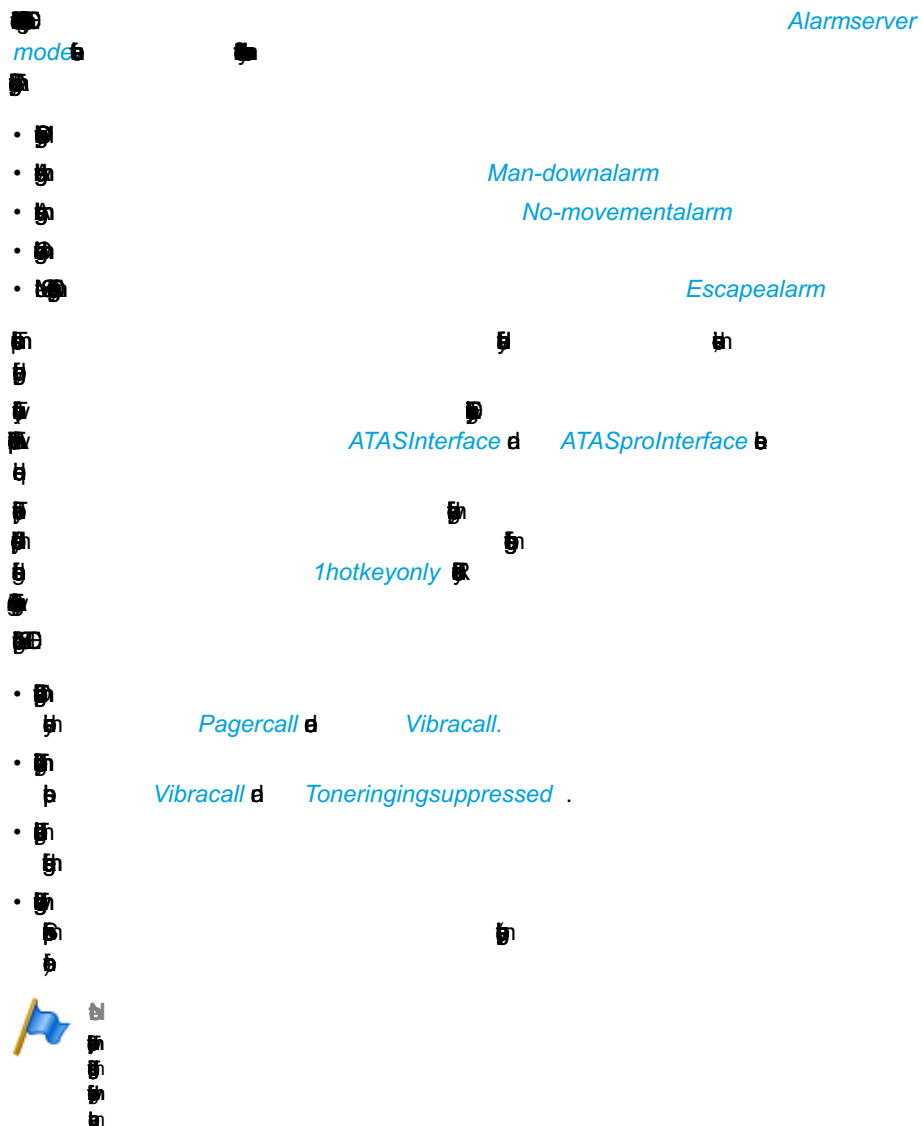
| ၆ | ၈ | ၉      |
|---|---|--------|
| ၉ | ၈ | ၉<br>၈ |





## 9. 11. 3. 4 Alarm trigger with ATAS/ATASpro

### Alarm server mode





9. 11. 3. 5 Functions with Mitel Alarm Server



Direct response

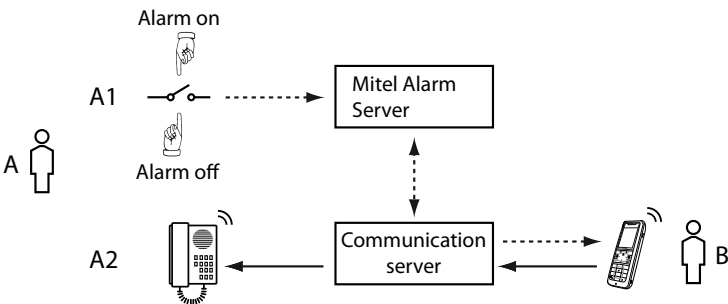
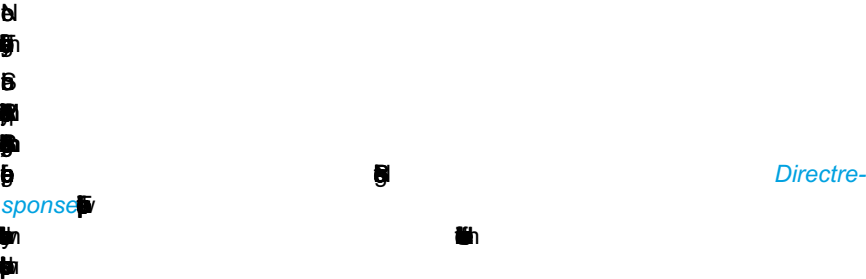


Fig. 254 Direct response



Tab. 333 Direct response after alarm

| பி | பு             | பு                                                                                                           |
|----|----------------|--------------------------------------------------------------------------------------------------------------|
| A  | பு             | பு<br>பு<br>பு                                                                                               |
| B  | பு<br>பு<br>பு | பு<br>பு                                                                                                     |
| A  | பு             | பு<br>• பு<br>பு<br>பு<br>பு<br>• பு<br>பு<br>பு<br>பு<br>பு<br>Automatic<br>hands-free<br>b Announcement on |



- பு
- பு
- பு



Direct response



Confirmation



Ignore



Hotline alarm

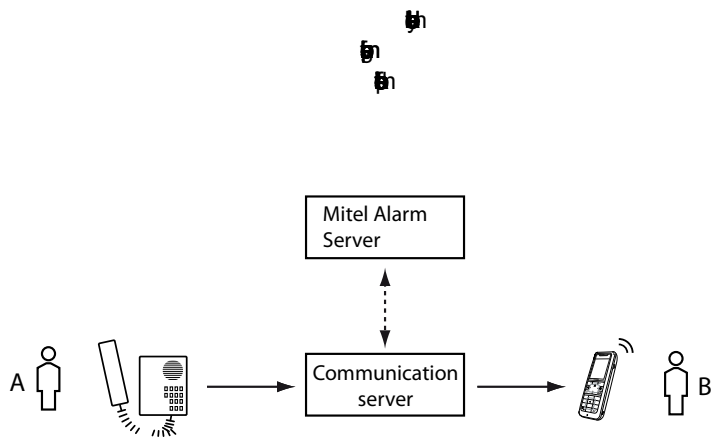




















Fig. 255 Hotline alarm



Tab. 334 Hotline alarm

| A | <br><br>                                                                                            | <br><br>     |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B | <br><br><br> | <br><br> |



- 
- 
- 
- 
- 

Forcecallwaiting 





9. 11. 3. 6      Interface descriptions



10      Features overview



Tab. 335      Links to features overview

|   | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 3 | 4 | 5 |   |

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