



2N NETSTAR

2N NETSTAR Services

- Basic Services**
- Operator Services**
- Secretary Services**
- Accounting Services**



CONTENTS

About 2N NETSTAR 5

1. GENERAL PBX SERVICES 8

1.1. Incoming Calls 8

1.2. Outgoing Calls 8

 1.2.1. Call to Internal PBX Subscriber..... 8

 1.2.2. Call to External Subscriber (Public, GSM, IP, or Private Networks) 8

1.3. Quick Dialling 9

1.4. Hot Line 9

1.5. REDIAL 9

1.6. LOG Dialling 9

1.7. Direct Access 9

2. PBX CONNECTING SERVICES..... 11

2.1. Call Transfer 11

 2.1.1. Call Transfer with Hang-Up 11

 2.1.2. Call Transfer without Hang-Up..... 11

 2.1.3. Transfer to PSTN 11

2.2. Return to Transferred Call 12

2.3. Call Alternation 12

2.4. Call Forwarding..... 12

2.5. Call Hold - Temporary Call Suspension..... 12

2.6. Mute 13

2.7. Call Parking 13

 2.7.1. Call Parking on Central Parking Place 13

 2.7.2. Call Unparking..... 13

2.8. Ringing Take-Over 14

 2.8.1. Ringing Take-Over from Own Group 14

 2.8.2. Ringing Take-Over from Line 14

 2.8.3. Ringing Take-Over from Group..... 14

2.9. Call Redirection 15

 2.9.1. Call Redirection - Immediately 15

 2.9.2. Call Redirection - Busy..... 15

 2.9.3. Call Redirection - No Answer 16

 2.9.4. Call Redirection to PSTN or PN 16

 2.9.5. Call Redirection Disable..... 16

3. SECURED PBX SERVICES 17

3.1. Station Disable/Enable 17

3.2. Station Locking/Unlocking for Incoming Calls in Mobility Extension Mode... 17

3.3. Log IN/Log OUT Station 17

 3.3.1. Log IN..... 17

 3.3.2. Log OUT..... 18

3.4. Private Call 18

 3.4.1. From Own Station 18

 3.4.2. From Other Station..... 18

3.5. PIN Setting..... 19

4. TIME-DEPENDENT PBX SERVICES	20
4.1. DATE and TIME Setting	20
4.2. Alarm Clock	20
4.2.1. Single Alarm	20
4.2.2. Repeated Alarm – under construction	21
4.2.3. Cancel All Alarms – under construction	21
4.3. Time Modes.....	21
5. SECRETARY SERVICES.....	22
5.1. Quick Intercom	22
5.1.1. With Alert	22
5.2. Call Rejection.....	22
5.2.1. Single Call Rejection.....	22
6. MOBILITY EXTENSION.....	23
6.1. Incoming Calls.....	23
6.1.1. Ringing Off/On	23
6.2. Outgoing Calls from Mobility Extension	24
6.2.1. Outgoing Call to 2N NETSTAR Internal Station	24
6.2.2. Outgoing Call to PSTN via 2N NETSTAR	24
6.3. Call Transfer	24
6.4. Other Services	26
7. OTHER SERVICES	27
7.1. Access to Broadcast.....	27
7.2. Radio Service.....	27
7.3. Close/Open Relay Permanently	28
7.4. Close/Open Relay Temporarily	28
8. ACCOUNTING DATA	29
8.1. Accounting Record Description	29
8.1.1. Meaning of Items	29
8.1.2. IP Buffer.....	32
9. SERVICE TABLE.....	33

About 2N NETSTAR

2N NETSTAR is a digital private branch exchange (PBX) of a new generation that supports VoIP technologies. It works like a standard digital PBX and a VoIP softswitch and fully integrates services. It supports a number of interfaces, such as analog telephone lines, ISDN BRI, ISDN PRI and VoIP ports. Network features are integrated into a single compact system.

The speech capacity of the system meets the needs of large companies and providers. A dynamic Least Cost Router (LCR) controls transmissions between networks automatically. The LCR selects the optimum and most cost-effective route to a destination for every call.

Thanks to a sophisticated concept of the LCR based on separate routing tables for each subscriber or port, it is easy to create virtual exchanges or restrictions for subscriber groups or individuals.

The capacities of user terminals and communication are independent of the communication technology used. A Web Assistant for easy user service configuration is available to all extensions, from analog telephones to web terminals. The Web Assistant combines a web interface with voice instructions and service guides. The control of key (system) phones using a context menu is easy too. Telephone settings can be defined easily using profiles that can be created by the user or system administrator with the aid of a guide.

Mobility Extension

Free yourself from the need to stay in your office!
Illness, child or wife care in case of illness, rest or a quiet period for important work - all these are life situations that all of us know very well. "But what shall I do?" asks a busy manager, "my office is the place where most people call me, where I have all documents and contacts and where I am connected to the company information system, I can't go home." But you can!
Liberate yourself from feelings like that, try 2N NETSTAR and **work anywhere under your own profile.**

Explanation of Terms

CO line

CO (Central Office, external, public, trunk, etc.) lines are PSTN lines that represent your 2N NETSTAR PBX connections to the world. They connect you with the public or central exchange. Examples are PRI, BRI and analog CO lines.

External subscriber

A subscriber anywhere in the world with whom you are connected via a CO line.

Internal subscriber

A subscriber inside your company connected to your 2N NETSTAR PBX. Calls within the PBX system are free of charge.

Private network

A private owner's telephone network, used for telephone interconnection of the owner's affiliates and subscribers. Private and public networks may be identical from the viewpoint of the 2N NETSTAR PBX.

Private subscriber

A telephone subscriber in a private network.

Tone and pulse dialling, tone and pulse telephone set

Two types of telephones are mainly used in public networks - a rather obsolete pulse dialling telephone and a modern tone dialling telephone (most tone phones feature both pulse and tone dialling, a switch is used for selection).

The 2N NETSTAR PBX works with both telephone types, yet with lower comfort in the pulse dialling ones. The control functions may be different for some services and so find what type of telephone you are currently using. We recommend you to use tone dialling phones to get more comfort.

Bundle

A group of CO lines for 1 department of your company, for example.

DISA

Direct tone (frequency) dialling of an internal PBX subscriber number (without the operator).

ISDN

A public multimedia digital network, e.g. TELECOM, which provides high-quality voice and data services.

IP telephony

The IP telephony (VoIP - Voice over IP) is a technology that provides voice transmission over the data LAN/WAN or the Internet using the Internet Protocol (IP). Implementation of this technology cuts telephone costs.

Groups of internal subscribers

The 2N NETSTAR PBX allows the user to define X groups of internal subscribers that make the impression of X independent (virtual) PBXs.

1. GENERAL PBX SERVICES

1.1. Incoming Calls

To process an incoming call from a public, GSM, IP or private network or an internal subscriber (your telephone is ringing):

Answer the call by picking up the handset and speak.

If your telephone is equipped with a HANDSFREE button, press the button and speak. For your HANDSFREE communication to be successful, the telephone has to be equipped with a microphone and loudspeaker too.

If your telephone is provided with a headset, then press the HANDSFREE button to answer the call and speak. If the HANDSFREE button is not used for headset control, follow the supplier's instructions.

1.2. Outgoing Calls

To dial a number of an end user in a public, GSM, IP, or private network or an internal subscriber from your telephone:

Pick up your handset and dial the required subscriber number.

Press HANDSFREE and dial the required subscriber number, or

dial the required subscriber number (*with the possibility to correct a dialling error*) and then press HANDSFREE. For your HANDSFREE communication to be successful, the telephone has to be equipped with a microphone and loudspeaker too.

If your telephone is provided with a headset, press the HANDSFREE button to answer the call and speak. If the HANDSFREE button is not used for headset control, follow the supplier's instructions.

1.2.1. Call to Internal PBX Subscriber

Dial the required internal subscriber number.

With 2N StarPoint telephones, you can retrieve the subscriber name from your internal telephone directory.

1.2.2. Call to External Subscriber (Public, GSM, IP, or Private Networks)

Dial the required external subscriber number.

To get access to a public or private network, you have to enter an access code (typically 0) before dialling the subscriber number in most cases. Your servicing organisation will communicate your access code settings to you.

You can use any of the services described in Subsections 1.3 to 1.7 too for dialling of external or internal subscriber numbers.

To use any of the services mentioned below, contact your servicing organisation for authorisation settings.

1.3. Quick Dialling

Quick dialling means abbreviated, mostly one-digit dialling to selected stations, subscribers or groups of the 2N NETSTAR system. Any quick dialling must be set by the Administrator.

1.4. Hot Line

The Hot Line is a destination called automatically after a defined timeout whenever the handset is picked up or the HANDSFREE function is activated. The called destination may include another station, subscriber, group, public network subscriber or the ringing table (chart).

1.5. REDIAL

REDIAL is a function available in most telephones that is controlled by the logic of the respective telephone set. In 2N NETSTAR, this function means dialling of the last-dialled subscriber number from the telephone memory regardless of whether or not the call was answered.

Be sure to assign this service to one button in 2N StarPoint telephones.

1.6. LOG Dialling

LOG dialling means dialling of numbers recorded in the AOC server database. The function is available to 2N StarPoint telephone users, or other telephone users using the NETSTAR Assistant.

Moreover, it is accessible to CTI telephone or CRM system SW applications.

There are three types of calls in the LOG (call list) - *Missed, Incoming and Outgoing*.

Note: Some types of analog and ISDN telephones have a dedicated database of missed and called numbers. The use of these lists is controlled by the logic of the respective telephone set.

1.7. Direct Access

Direct access means dialling into an external network without least cost routing, i.e. seizure of a trunk or selected interface.

You can use this function, for example, while calling to private networks or crossconnection destinations. The most frequent use, however, is a service access to an interface with the aim to check the telephone line function.

This function normally requires a two-digit access code assigned by the Administrator.

2. PBX CONNECTING SERVICES

2.1. Call Transfer

You are speaking to a subscriber and want to transfer the call to another subscriber. Both incoming and outgoing calls are involved.

2.1.1. Call Transfer with Hang-Up

Dial *FLASH* into the call and then the subscriber number. The calling party gets Music on Hold and is waiting.

If you hear the ringing tone after your dialling, hang up to transfer the call to the selected subscriber. The calling subscriber hears the ringing tone too.

If you hear the busy tone, the required call transfer cannot be made - the called subscriber is busy. You can return to the calling subscriber and terminate the call, transfer the call to another subscriber, hold the call or park the call.

F nn

F=FLASH and nn is the subscriber number of the transferee.

2.1.2. Call Transfer without Hang-Up

Dial *FLASH* into the call and then the subscriber number. The calling party gets Music on Hold and is waiting.

If you hear the ringing tone after your dialling, wait for the answer and then either hang up to transfer the call, or return to the original call.

If you hear the busy tone, the required call transfer cannot be made - the called subscriber is busy. You can return to the calling subscriber and terminate the call, transfer the call to another subscriber, hold the call or park the call.

F nn

F=FLASH and nn is the subscriber number of the transferee.

2.1.3. Transfer to PSTN

The service is identical with the two services above. The only difference is that, dialling the subscriber number, you have to dial the PSTN or PN access code. You are recommended to transfer calls without hang-up in this case in order to get control of the call until the called subscriber answers.

F x nn

F=FLASH, x is the PSTN/PS access code and nn is the subscriber number of the transferee.

2.2. Return to Transferred Call

This is an advanced option of the call transfer service without hang-up. If you have transferred a call and have not hung up, you can return to the call unless the called subscriber has answered or you have hung up. To return to the transferred call press *FLASH* again.

If the called subscriber has answered the transferred call, the *CALL ALTERNATION* service can be used.

2.3. Call Alternation

This is an advanced option of the call transfer service without hang-up. The moment you have established calls between the calling subscriber and the transferee, you can alternate the two calls, the inactive call getting music on hold. To alternate calls, press *FLASH* again.

2.4. Call Forwarding

If you do not want to or cannot speak to the calling subscriber, you can forward the call to another subscriber selected by you without answer. The service is only available to users equipped with a 2N StarPoint telephone.

2.5. Call Hold - Temporary Call Suspension

To suspend a call for some time (to seek advice or retrieve data, etc.), press *FLASH* on your telephone; the calling subscriber hears music, **do not hang up**. The call is held temporarily and the PBX signals this status. You can also use the *HOLD* button on your telephone, then all is controlled by the telephone logic; you cannot hang up after that in most cases.

2.6. Mute

This function is provided by most telephone sets. It switches the microphone off and the calling or called subscribers cannot hear you, but you can hear them.

2.7. Call Parking

This function allows you to put off a call. Any user, including you, can unpark the call later. Having parked a call, you can use your telephone station without limitations. Both incoming and outgoing calls can be parked.

2.7.1. Call Parking on Central Parking Place

Suppose you want to park the call you are currently making onto one of 10 parking places. You or any other subscriber can unpark the call later. If the PBX ignores your dialling (with a message), it means that the selected parking place is occupied. Try another parking place or park the call later. If a call is not unparked within a timeout (180 s by default), your telephone will ring to remind you of your parked call.

Call parking

***33 n**

Where *n* is the number of the selected parking place.

2.7.2. Call Unparking

To unpark a call you have to know the number of the parking place used. Dial:

Call unparking

#33 n

Where *n* is the number of the selected parking place.

2.8. Ringing Take-Over

This service helps you answer any ringing telephone by answering your own telephone and dialling the service number.

2.8.1. Ringing Take-Over from Own Group

You take over ringing in your own group according to the sequence of incoming ringings - you always take over the first ringing in the group. Your Administrator will advise you to which group you are assigned; ask your servicing organisation for service setting.

* #

2.8.2. Ringing Take-Over from Line

If you know the number of the ringing station, you can take over its ringing call being sure that you are not taking over any other station in the group. To take over a line that is not in your group:

** nn#

Where **nn** is the number of the line from which you are going to take over ringing.

2.8.3. Ringing Take-Over from Group

You want to take over a ringing call from a group you are not member of. You always take over the first ringing call in this group. To do so, you have to know the number of the group to be taken over.

The Administrator assigns the group numbers, ask your servicing organisation for service setting.

* nn#

Where **nn** is the number of the group from which you are going to take over ringing.

2.9. Call Redirection

Suppose you need to answer all incoming calls or you want a colleague of yours to answer your calls.

2.9.1. Call Redirection - Immediately

By activating this service you redirect immediately all calls to a selected destination (station, subscriber, group). Your telephone will not ring, the calling subscriber will hear the ringing tone.

To enable the service

***11 nn #**

To disable the service

#11

Where **nn** is the number to which you redirect your calls.

2.9.2. Call Redirection - Busy

By activating this service you redirect all calls to a selected destination (station, subscriber, group) whenever your line is busy (call with another subscriber, line failure). Your telephone will not ring, the calling subscriber will hear the ringing tone.

To enable the service

***12 nn #**

To disable the service

#12

Where **nn** is the number to which you redirect your calls.

2.9.3. Call Redirection - No Answer

By activating this service you redirect all calls to a selected destination (station, subscriber, group) whenever your line is not answered within a timeout. Your telephone will ring for the defined period of time, then the call will be redirected and the calling subscriber will hear the ringing tone.

To enable the service

***13 nn #**

To disable the service

#13

Where **nn** is the number to which you redirect your calls.

2.9.4. Call Redirection to PSTN or PN

By activating this service you redirect all calls to a selected destination in the PSTN. The service is identical with call redirection - immediately, busy and no answer, the destination is a PSTN or PN number dialled including the respective access code.

Example

***11 x nn #**

Where **x** is the PSTN/PN access code and **nn** is the number to which you redirect your calls.

2.9.5. Call Redirection Disable

This service cancels all active call redirection settings.

#10

3. SECURED PBX SERVICES

3.1. Station Disable/Enable

This service helps disable a station for outgoing calls to a PSTN/ PN or the 2N NETSTAR PBX. Incoming calls do not ring on this line.

If a subscriber tries to dial this station, he or she gets the busy tone.

The station is disabled/enabled using the NETSTAR Assistant.

3.2. Station Locking/Unlocking for Incoming Calls in Mobility Extension Mode

Used for user locking of a station for incoming calls if the ME mode is active.

If locked, the station works normally with all outgoing call restrictions as set by the Administrator. If an incoming call is routed to this station, the telephone does not ring.

This parameter is selected in the User profiles using the NETSTAR Assistant.

3.3. Log IN/Log OUT Station

Used for user login/logout to a selected interface. Useful in operations where the user's working place is not fixed and for hotel room telephone operation.

3.3.1. Log IN

A station gets logged in to the interface to which the telephone used for the service enable is connected. Multiple stations may be logged in to one interface. The last-logged-in station is used for outgoing identification. If a station was logged in to another port, it is logged out of the original port automatically.

To log in

***66 nn #PIN**

Where **nn** is the number of the station to be logged in and **PIN** is the user security key. The service requires a PIN, the Administrator can define a no-PIN use.

3.3.2. Log OUT

A station gets logged out of the interface to which the telephone used for the service enable is connected.
The station may be logged in to any port any time.

To log out

#66 nn #PIN

Where **nn** is the number of the station to be logged out and **PIN** is the user security key. The service requires a PIN, the Administrator can define a no-PIN use.

3.4. Private Call

The service helps designate selected outgoing calls as private calls to be filtered easily in the accounting SW. The service allows the users without stable stations to make private calls. It is useful in environments with multiple users and a limited number of stations.

3.4.1. From Own Station

It is a service for users who have been assigned a station. The service requires only a PIN; no station number is entered. A no-PIN use can be selected too.

To enable

***71 PIN**

3.4.2. From Other Station

It is a service for users who have not been assigned a station or who need to make a call from another subscriber's line. The service requires the station number and PIN entering. A no-PIN use can be selected too.

To enable

***72 nn PIN**

Where **nn** is the number of the station to be accounted and **PIN** is the user security key.

3.5. PIN Setting

Used for setting and modifying the user PIN code. The PIN can be set from any user station and is common for all stations assigned to one user. It is required in some 2N NETSTAR services and the user is always invited by the system to enter it.

Setting

***70 old*new*new**

To set a new PIN

***70 1111*1111**

To modify an old PIN

***70 1111*2222*2222**

To delete your PIN, enter the original PIN and press an asterisk twice.

4. TIME-DEPENDENT PBX SERVICES

4.1. DATE and TIME Setting

To set date and time, use either the 2N NETSTAR administration console or the NETSTAR Assistant. In either case, you have to know the login name and password for a user with administrator rights.

4.2. Alarm Clock

This service helps set alarm ringing of your telephone in two ways. Your telephone rings for 1 minute to wake you up. If you are just calling at that time, your telephone will start ringing when you have finished the call. The Administrator can define a selected count of alarm ring cycles.

To terminate alarm ringing, pick up the handset or let all defined cycles get exhausted.

4.2.1. Single Alarm

The service sets alarm ringing for a selected time and date. If you enter time only, the alarm date is the day on which you activate the service, i.e. the present day.

To enable alarm clock with date setting

***51 hhmm*DDMM#**

To enable alarm clock with time setting

***51 hhmm*#**

To cancel setting

#51

Where **hh** is an hour, **mm** a minute, **DD** a day and **MM** a month.

4.2.2. Repeated Alarm – under construction

The service sets alarm ringing at a defined time. The alarm clock then rings every day at the defined time. One time setting can be selected only for repeated ringing.

To enable alarm ringing

***52 hhmm#**

To disable setting

#52

Where *hh* is an hour and *mm* is a minute.

4.2.3. Cancel All Alarms – under construction

The service cancels all alarm ringing settings of your station.

#50

4.3. Time Modes

Used for variable call processing in different time periods, e.g. different routing of incoming calls in the day/night modes, or outgoing call routing depending on providers' best rate times.

2N NETSTAR allows the user to set an unlimited number of time conditions.

Time conditions are defined and assigned by the Administrator. Ask your servicing organisation for service setting.

5. SECRETARY SERVICES

5.1. Quick Intercom

Suppose you need to communicate some information to a colleague, secretary or the chief quickly. The Intercom will call them, notifies an incoming call and hooks off the telephone. All you have to do is speak. The service is available with 2N StarPoint telephones only.

5.1.1. With Alert

Press and hold the Intercom button on your 2N StarPoint telephone. The destination (2N StarPoint) gives a short ring and gets off-hook immediately. Start speaking. To terminate the call, release the Intercom button.

You can set more Intercom buttons than one on your telephone if you have more destinations.

If a telephone type other than 2N StarPoint is used as the end-point station, this telephone rings until the user answers the call.

To set the Intercom button use the NETSTAR Assistant.

5.2. Call Rejection

To reject an incoming call, use the Call Rejection service. To do this, you have to use ISDN telephones or 2N StarPoint telephones.

5.2.1. Single Call Rejection

To reject a call, use the Escape or any other dedicated button of your ISDN telephone or the so-programmed Escape button of your 2N StarPoint telephone. If the Escape button has not been programmed, press the ► "Forward" button twice or the ◀ "Backward" button once and then the confirmation button to reject the incoming call.

When you have rejected a call, the calling subscriber can hear the busy tone. In case more stations are ringing, the caller hears the ringing tone until you reject the call on all ringing stations.

6. MOBILITY EXTENSION

With the Mobility Extension you can use your mobile phone like a standard telephone connected to the 2N NETSTAR PBX. With the Mobility Extension you will be available at your company telephone number even if you are off your office. Moreover, you can make outgoing calls as if you called from your fixed telephone station connected to the 2N NETSTAR system. Your outgoing identification will be preserved too of course.

Note: To use the Mobility Extension service you need a GSM station created by the system Administrator.

6.1. Incoming Calls

When a call is coming to your NETSTAR telephone number, your Mobility Extension station will ring together with your internal fixed line. The incoming call will be identified by the GSM gateway telephone number on your mobile display.

Note: Upon an incoming call to your Mobility Extension, an outgoing call will be established (and billed if necessary) from the 2N NETSTAR PBX to your mobile phone.

6.1.1. Ringing Off/On

To disable the Mobility Extension ringing for incoming calls: Dial the Mobility Extension access number from your mobile phone and, after the Mobility Extension voice message is replayed, dial the service code (#55). To enable ringing dial *55.

Disable ringing

#55

Enable ringing

*55

6.2. Outgoing Calls from Mobility Extension

6.2.1. Outgoing Call to 2N NETSTAR Internal Station

To make an outgoing call from your Mobility Extension, dial the Mobility Extension access number. Your login to the 2N NETSTAR system will be confirmed by a Mobility Extension voice message. After that, you can dial any telephone numbers as from your fixed telephone station.

Example: The Mobility Extension access code is 123123123. Suppose you want to speak to the internal subscriber 2345: dial the Mobility Extension access number 123123123. Your login will be confirmed by a Mobility Extension voice message. Now dial the internal subscriber number: 2345.

6.2.2. Outgoing Call to PSTN via 2N NETSTAR

Outgoing calls to a public network can be made (depending on your rights) like calls to internal (subscriber) lines. Your outgoing call will be identified by the telephone number assigned to you by the 2N NETSTAR PBX.

Note: An outgoing call from your Mobility Extension via the 2N NETSTAR PBX will be billed as your mobile phone's call to 2N NETSTAR plus 2N NETSTAR's outgoing call to the number called by you.

Example: The Mobility Extension access code is 123123123. Suppose you want to speak to the external subscriber 654 654 654: dial the Mobility Extension access number 123123123. Your login will be confirmed by a Mobility Extension voice message. Now dial the CO line access code (0) and the external subscriber number: 0 654 654 654.

6.3. Call Transfer

You can transfer calls with the Mobility Extension like with a fixed station. You just use the code 7* for call transfer with the Mobility Extension, which is equivalent to the FLASH key on fixed telephone stations. Calls can be transferred to telephone numbers within the 2N NETSTAR system and public telephone numbers outside 2N NETSTAR. You can also use the code 7* for call alternation or return to transferred call from your Mobility Extension.

Example: Suppose you want to transfer (with hang-up) the current call from your Mobility Extension: dial, into the call, 7* and the telephone number to which you want to transfer the call. The calling party hears music in the handset while waiting for transfer. If you hear the ringing tone after your dialling, hang up to transfer the call. The calling party hears the ringing tone. If you hear the busy tone after your dialling, the called party is busy and the call cannot be transferred. To return to the calling party and complete the call or transfer it to another user, re-enter 7*.

Example: Suppose you want to transfer (without hang-up) the current call from your Mobility Extension: dial, into the call, 7* and the telephone number to which you want to transfer the call. The calling party hears music in the handset while waiting. If you hear the ringing tone after your dialling, wait until the called party answers and then either hang up to transfer the call, or re-enter 7* to return to the original call. If you hear the busy tone after your dialling, the called party is busy and the call cannot be transferred. You can return to the calling party and complete the call or transfer it to another user.

Mobility Extension call transfer

7* number

where **nn** is the number of the transferee.

Return to transferred call or call alternation

7*

The Mobility Extension users can also use the code 9# to return to the inactive call with simultaneous termination of the active call.

Example: Two calls have been established on your Mobility Extension (via the 2N NETSTAR PBX), e.g. using 7*. To terminate the active call and, at the same time, activate the inactive call, dial 9#.

Switch to inactive call and active call termination

9#

6.4. Other Services

Standard 2N NETSTAR services can be used like outgoing calls, e.g. alarm clock – after logging to the 2N NETSTAR PBX, dial the service code (*51) and follow the instructions replayed to you.

The Mobility Extension users can use other standard services, such as call redirection - immediately (*11), on busy (*12), at no answer (*13), etc. The access to these services is the same as if you used a fixed internal station. The only difference is that the FLASH key is replaced with the 7* code.

7. OTHER SERVICES

7.1. Access to Broadcast

The service provides interconnection with a broadcast transmitter, which transmits messages from any telephone station. Access to the interface of the AUX (out) type.

Dial the service access code, perform a message and hang up.

The access to broadcast can be connected with a relay that automatically controls the broadcast PBX amplifier input.

Ask your servicing organisation for service setting.

Access to broadcast

***22**

7.2. Radio Service

The service helps connect any audio signal (e.g. a radio).

Access to the AUX (in) interface.

Dial the service access code and listen to your favourite radio station.

Ask your servicing organisation for service setting.

Access to radio

#22

7.3. Close/Open Relay Permanently

The service is responsible for permanent closing or opening of the relay. The initial status is determined by the HW configuration. The relay helps you control various devices connected to your system.

Dial the access code and hang up - the relay remains in the status you have selected. Ask your servicing organisation for service setting.

Close relay

***23x**

Open relay

#23x

Where x is the relay to be controlled.

7.4. Close/Open Relay Temporarily

The service is responsible for temporary closing or opening of the relay. The initial status is determined by the HW configuration. The relay helps you control various devices connected to your system.

Dial the access code and hang up - the relay remains in the status you have selected for a certain period of time.

Ask your servicing organisation for service setting.

Close relay

***24x**

Open relay

#24x

Where x is the relay to be controlled.

8. ACCOUNTING DATA

The 2N NETSTAR PBX records all types of calls unless they are excluded from accounting by software. A call is recorded whenever it is terminated and/or successfully transferred to another extension. The outgoing call duration starts after the last dialled digit and a programmable timeout is subtracted from it. Incoming calls are billed the moment they are answered by the station.

8.1. Accounting Record Description

An accounting record (sentence) is a string of ASCII characters. Its length is variable. The first four data have fixed positions only. The record parts are separated with a '-'.
If an item is not included, its position can be found by the " - " character, which is not omitted when the item is absent.

Every accounting record starts with a \$ to be distinguished from other records included in one and the same file, e.g. log data.

\$nnnnnnnnnn[:ccccccccc]-ymmdd-hhmmss-caller-CLIP-P-status-type-called-CPN-R-t1-t2-T-LCR-Z-cause-<-|+>pppppppppp[<-|+>qqqqqqqqqq]

8.1.1. Meaning of Items

nnnnnnnnnn - represents a unique number of the sentence record consisting of 10 digits (32 bits) and includes the REFERENCE item from the accounting record. This item is used for record identification and the pppppppppp item, which is described later, links a daughter sentence (e.g. a record arisen after call transfer) with its parent sentence.

ccccccccc - call reference, available from Version 1.30 up, used for linking of multiple lines that are associated with one call. It is a unique number created upon call establishing. For example, for a call to a group, N lines of calls to the group extensions are created, all of them with one and the same call reference.

yymmdd - represents the accounting record ending date, i.e. the accounting date.

hhmmss - represents a call end time; to get the call start time deduct the ringing time and call duration items from this time (and date if necessary).

caller - a text string including the caller's name. This item is the most relevant for charge logging per party.

CLIP - the caller's number, stored at the calling station. This item is the most relevant for charge logging per telephone.

P - the P letter identifies the port/interface type, e.g. G for a GSM line, which allows for charge logging per port (e.g. costs of all GSM lines). The xxx characters behind the port type identify the port number. These numbers do not always start from 1 (or 0) for each port type, but cover all PBX ports.

I,i	-ISDN (PRI or BRI)
D,d	-Coronet
A,a	-internal analog line
C,c	-external analog line
G,g	-GSM line
S,s	-SIP line
X,x	-unknown port

Internal or external ports are differentiated by small or capital letters respectively.

A service or call according to the DISA table:

n - a service where xxx is the service internal code, see the Appendix to Service
b -a call according to the DISA table where xxx is the DISA table Id

status - this string represents the call type - incoming, outgoing, accomplished, non-accomplished, forwarded, transferred, etc.

IN – incoming (from an external subscriber to an internal one), accomplished
INN – non-accomplished incoming call
OUT – outgoing accomplished call
OUTN – outgoing non-accomplished call
FRW – forwarded call
TRF – transferred call

type - call type with regard to the bearer - voice, data, FAX, etc.

VCE -voice call

FAX -fax call
DAT -data call

A private call (billed on the account of a private person); the PRV abbreviation follows the colon, e.g. VCE:PRV is a private voice call.

- called** - a string with the called party's name, an internal subscriber's name is always included, an external subscriber' name is displayed only if the PBX knows it (is listed in the telephone directory or has a station of its own).
- CPN** - the called party's number, the number actually dialed by the subscriber is stored. For example, if you use an abbreviated dialling, the abbreviated dialling is displayed and the number actually transmitted to the port is not displayed behind the colon until it passes the LCR, refer to the LCR below.
- R** - like Pxxx, represents the port used for calling. The identification includes the port type (letter) and the port number.
- t1** - call duration in seconds.
- t2** - ringing duration before answer.
- T** - count of metering or pseudo-metering pulses during a call (or during ringing if the case is DISA-simulated ringing).
- LCR** - an item defining the call route, relevant for billing purposes. Suppose a call was made to the USA via an IP gateway, which dials the US number by calling over the Internet into a US gateway and then through local networks. The data will be obtained by NetStar from the LCR and stored in each route. The values will represent a local call, free call, etc. If the number sent to the port is different from the number actually dialed by the subscriber, the number sent to the port is included behind the colon (including LCR modifications, etc.).
- Z** - represents an item that helps logging charges per jobs, projects, and so on. It is possible to determine using a service before, during or after the call with respect to which job the call should be accounted. For example, it is possible to select a job from the list of jobs in the Cornet telephone menu.
- cause** - cause of call disconnection, represents a number between 0 to 255 (1 byte) according to the ITU Q.850 and ETSI 300.102 standards.
- <-|+>** - represents either a – (minus) or + (plus) character; minus means that pppppppppp includes the line reference, while plus means the call reference (see cccccccccc).

pppppppppp - this item identifies the parental record, i.e. gives the number of the preceding record. It is not associated with the call start (original sentence) but only with the preceding record that initiated the call. So, to find the whole structure, go backwards recursively.

<-|+> - represents either a – (minus) or + (plus) character; minus means that qqqqqqqqqq includes the line reference, while plus means the call reference (see cccccccccc).

qqqqqqqqqq - type of reference (e.g. reference to the line that initiated transfer in the event of a transferred call).

8.1.2. IP Buffer

An IP Buffer is part of the 2N NETSTAR PBX. It is a TCP/IP server, which sends records itself to a connected client. The IP Buffer checks clients' IP addresses and, if no IP address is included, the connection is rejected. One connection is only allowed from one IP address, and any other connection attempt is rejected. An open connection keeps the position of the currently transmitted record and, when the connection is terminated, records are sent starting with the last-transmitted sentence.

9. SERVICE TABLE

Service	Dial	P.	Note
Basic Services			
Call to internal subscriber	nnnn (2111)	7	
Call to external PSTN or PN subscriber	0	7	
Quick dialling	n (8)	8	
Hot line	-	8	
REDIAL	-	8	
LOG dialling	-	8	
Direct seizure	nn (91)	8	
Connecting Services			
Call transfer	F	9	H
Return to transferred call	F	10	H
Call alternation	F	10	H
Call forwarding	-	10	H
HOLD	-	10	H
MUTE	-	10	H
Call parking	F *33 n	11	Z,H
Call unparking	#33 n	11	V
Take over ringing from own group	*#	12	
Take over ringing from station	**nn#	12	
Take over ringing from another group	#*nn#	12	
Redirect call - always	*11 nn #	13	Z
Cancel call redirection - always	#11	13	V
Redirect calls - busy	*12 nn #	13	Z
Cancel call redirection - busy	#12	13	V
Redirect call - no answer	*13 nn #	14	Z
Cancel call redirection - no answer	#13	14	V
Redirect calls to PSTN	*11 x nn#	14	Z
Cancel all redirection settings	#10	14	V
Secured Services			
Station disable/enable	-	15	Z,V
ME ringing blocking/unblocking	-	15	
Log IN station	*66 nn PIN	15	
Log OUT station	#66 nnPIN	16	Z,V
Private call	*71 PIN	16	
Private call from another station	*72 nn PIN	16	Z,V
PIN code setting	*70	17	
Time Dependent Services			
DATE and TIME setting	-	18	
Single alarm clock/ringing - enable	*51hhmm*DDMM#	18	Z

2N NETSTAR – User Manual

Single alarm clock - disable	#51	18	V
Cancel all alarm settings	#50	19	V
Secretary Services			
Intercom	-	20	
Call rejection	-	20	R
Mobility Extension			
Enable ringing to station	*55		
Disable ringing to station	#55		
ME transfer FLASH	7*		
ME hang up	9#		
Other Services			
Broadcast	*22	22	
Radio	#22	22	
Close relay permanently	*23x	23	
Open relay permanently	#23x	23	
Close relay temporarily	*24x	23	
Open relay temporarily	#24x	23	

All the services above are designed for tone dialling telephones.

Note: examples of settings are given in brackets

Explanatory notes: R - into ringing tone H - into call O – into busy tone

unless provided otherwise - into dialtone

Z = enable V = disable

If you use a service into the call, dial FLASH on your tone dialling telephone or R depending on your telephone type before dialling the service.

The manufacturer reserves the right to improve the product even in contradiction with the documentation submitted.

Use the product only in accordance with the Instructions for Use and for purposes it has been designed and manufactured for.

When the service life of the product or a part thereof expires, dispose of the same in compliance with applicable environmental regulations.

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