NEC Corporation of America
DQA - Systems Engineering

February 28, 2014

911 & 9+911 Programming in an SV8500 Hotel System

General Description

Emergency calls in the United States are often accessed dialing 911. In businesses, there is typically an outside line access code to be dialed first (normally "9"). Businesses often have their telephony systems programmed so that both 911 and 9+911 will call the local Public Safety Answering Point (PSAP).

Hotel systems are different in that the Guest Room phones are set to be restricted for vacant rooms so that no unauthorized calls can made from those stations. This is known as Room Cutoff. To enable emergency calls on stations in vacant rooms, the SV8500 provides the ability for guest stations to have their restriction class automatically changed based in the combination of Do Not Disturb (DND) and Room Cutoff (RC) being set or not.

When implementing this feature, Restriction Service Classes (RSCs) 13 – 15 are reserved for this function. In essence, the guest station will have four (4) restriction classes it will follow. These are:

- Restriction Class (RSC x) assigned in the AGST/AISTL/ASPTL command and the station is not in DND or RC.
- Restriction Class 13 (RSC 13) – When the station is in RC only
- Restriction Class 14 (RSC 14) – When the station is in DND only
- Restriction Class 15 (RSC 15) – When the station is in RC and DND

This document will explain the programming necessary to program the guest station change of RSC function in a stand-alone Hotel system.

Assignment Procedure

This information contained in this document is written with the assumption that the system you are working with already has existing Station, Least Cost Routing (LCR), Route (ARTD) data, and Trunk (ATRK) data assigned.

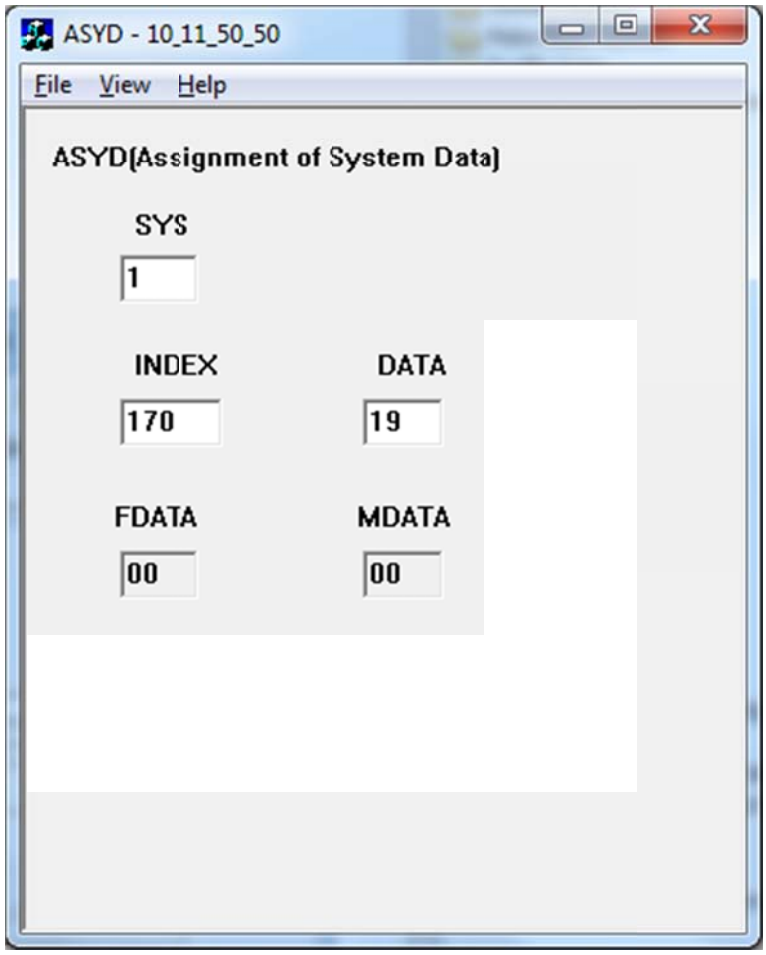
The following data are assigned using PCPro.

ASYD

Assign the following bits in ASYD, System Data 1:

Index170, Bit3 = 1 (Restriction at time of Room Cut Off and DND)
0 / 1 = Room Status Memory / Change of RSC

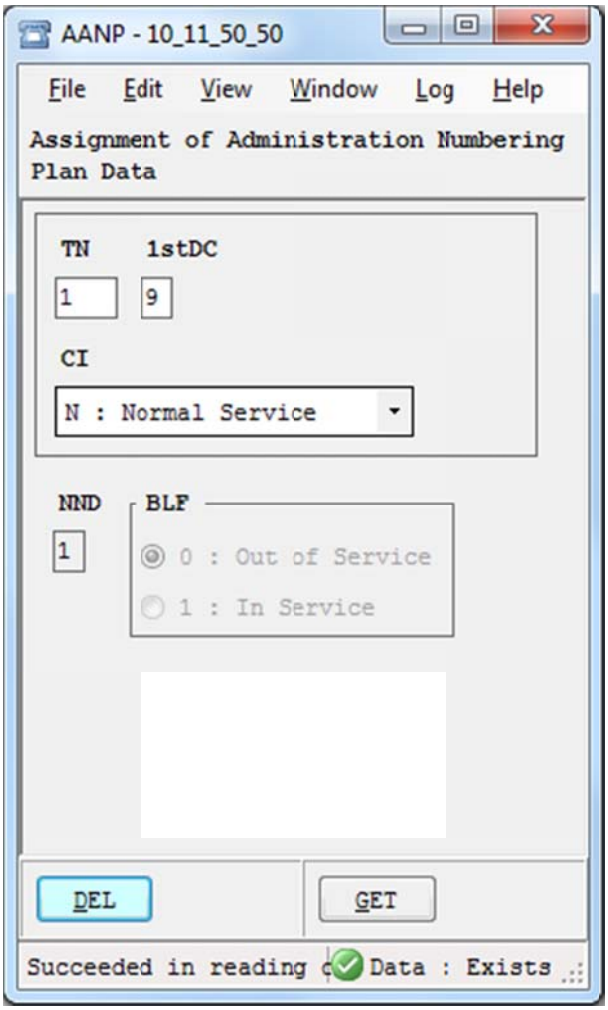
The screen example below shows Index170 being set with bit0, bit3, and bit 4 =1



AANP

In this example, the digit “9” is being used as the outside line access code.

The Tenant (TN) should be “1”
For the Connection Index (CI), assign “N: Normal Service” and “H: Hooking Service”
The Number Necessary Digits (NND) is normally assigned as 1 digit

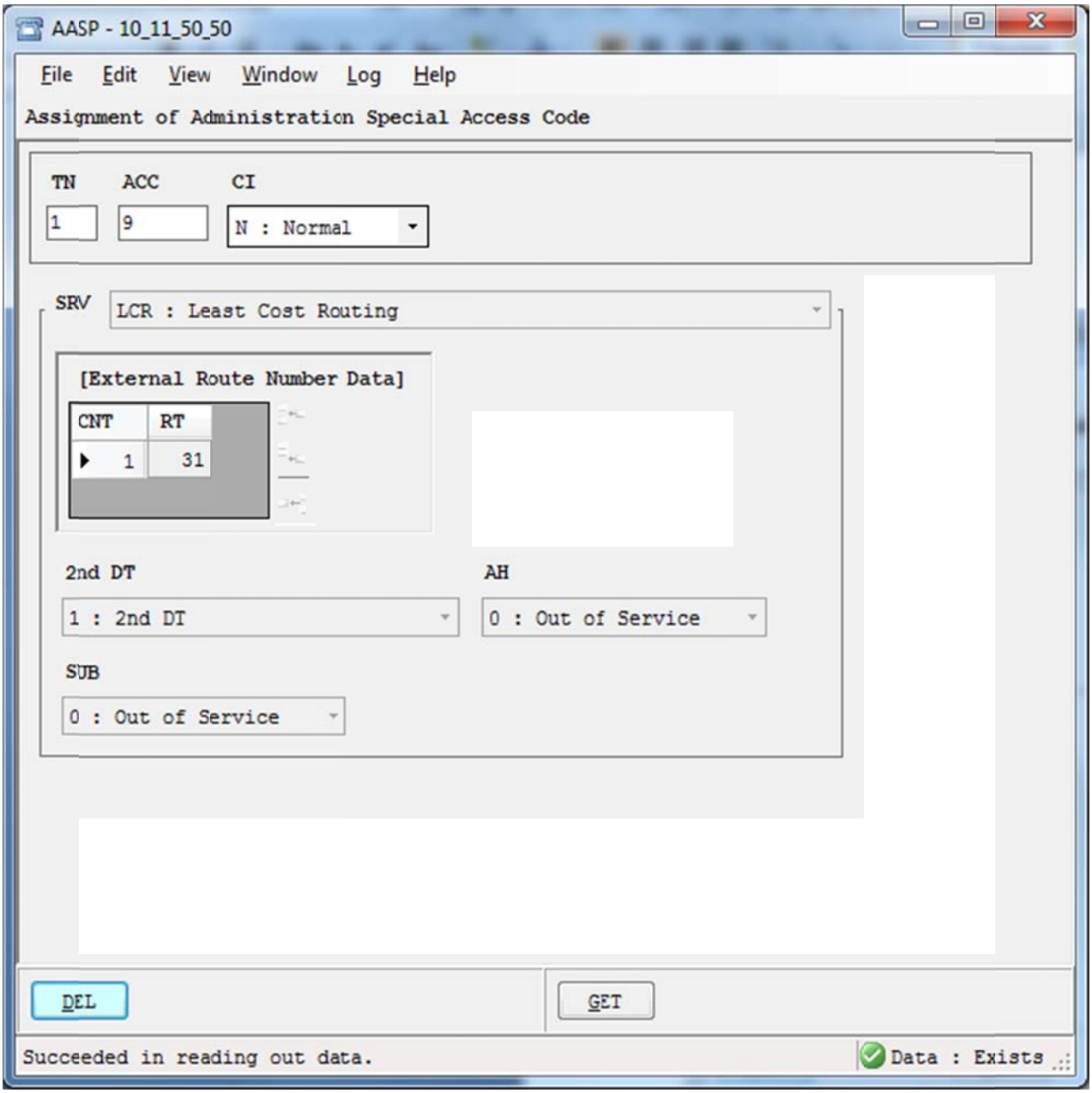


AASP

In this example, the digit “9” is being used as the outside line access code and the LCR Dummy Route is “31”.

The Tenant (TN) should be “1”
For the Connection Index (CI), assign “N: Normal Service” and “H: Hooking Service”
The type of Service (SRV) is “LCR: Least Cost Routing”
2nd DT = 1 to enable hearing 2nd Dial Tone after the digit “9” is pressed

The screen example below shows the LCR Dummy Route as RT: 31. You would enter CNT: 1 and the LCR Dummy Route assigned in the system you are working with.

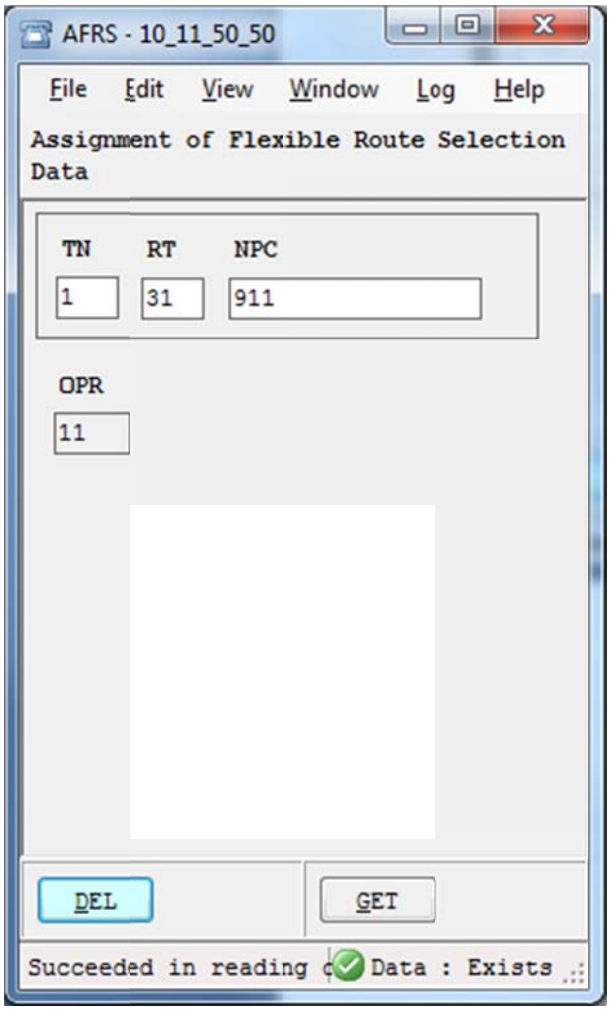


AFRS

In this example, the digit “9” is being used as the outside line access code and the LCR Dummy Route is “31”.

The Tenant (TN) should be “1”
The Number Pattern Code (NPC) we are assigning here is “**911**”
For the Outgoing Pattern Routing (OPR), select an available OPR you have not yet used.
It can be anywhere from 0 – 4000. ***(For this example, OPR: 11 is chosen)***

The screen example below shows the LCR Dummy Route as RT: 31. You would enter the LCR Dummy Route assigned in the system you are working with.

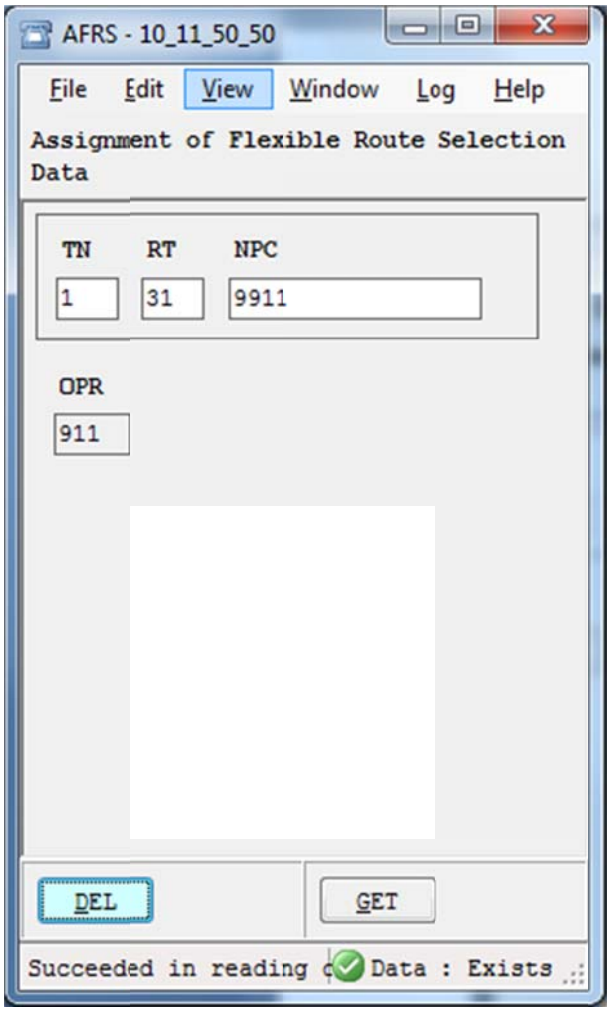


AFRS

In this example, the digit “9” is being used as the outside line access code and the LCR Dummy Route is “31”.

The Tenant (TN) should be “1”
The Number Pattern Code (NPC) we are assigning here is “**9+911**”
For the Outgoing Pattern Routing (OPR), select an available OPR you have not yet used.
It can be anywhere from 0 – 4000. ***(For this example, OPR: 911 is chosen)***

The screen example below shows the LCR Dummy Route as RT: 31. You would enter the LCR Dummy Route assigned in the system you are working with.



AOPR

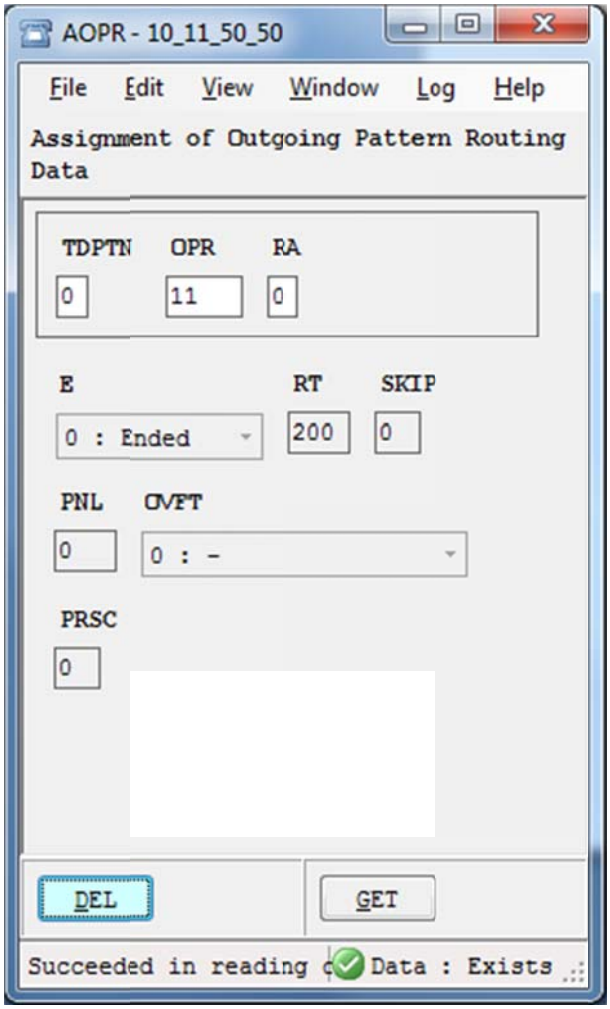
In this example, the NPC from the AFRS command "**911**" is set to use OPR "11".

The Time of Day Pattern (TDPTN) is usually "0".
The Route Advance (RA) is "0" for the 1st assignment.
End (E) is set to "0: Ended" if this is the only route 911 calls will go out.

The E parameter is an indicator label of the RA. When E=1 is assigned, more RA assignments are required until E=0 has been assigned. This is used if 911 calls can go out more than one route.

SKIP is set to "0" as you want all the digits (911) to be sent.
The PNL, OVFT, and PRSC parameters should be set to "0".

The screen example below shows the actual Outgoing Route as RT: 200. You would enter the actual Outgoing Route you will have 911 calls use.



AOPR

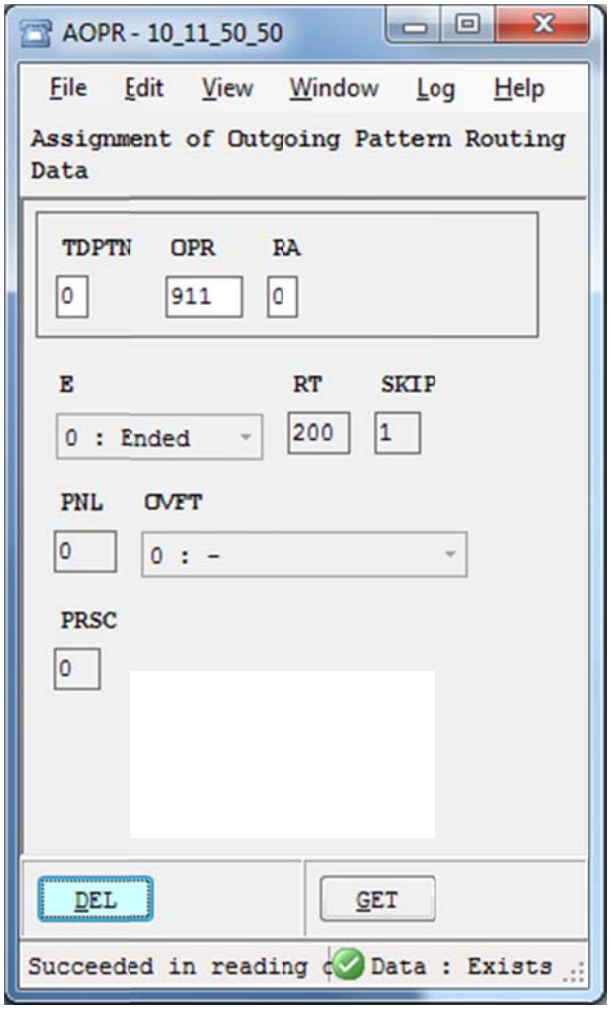
In this example, the NPC from the AFRS command "**911**" is set to use OPR "911".

The Time of Day Pattern (TDPTN) is usually "0".
The Route Advance (RA) is "0" for the 1st assignment.
End (E) is set to "0: Ended" if this is the only route 9+911 calls will go out.

The E parameter is an indicator label of the RA. When E=1 is assigned, more RA assignments are required until E=0 has been assigned. This is used if 911 calls can go out more than one route.

SKIP is set to "1" as you want to skip/remove the digit "9" from 9+911 from being sent.
The PNL, OVFT, and PRSC parameters should be set to "0".

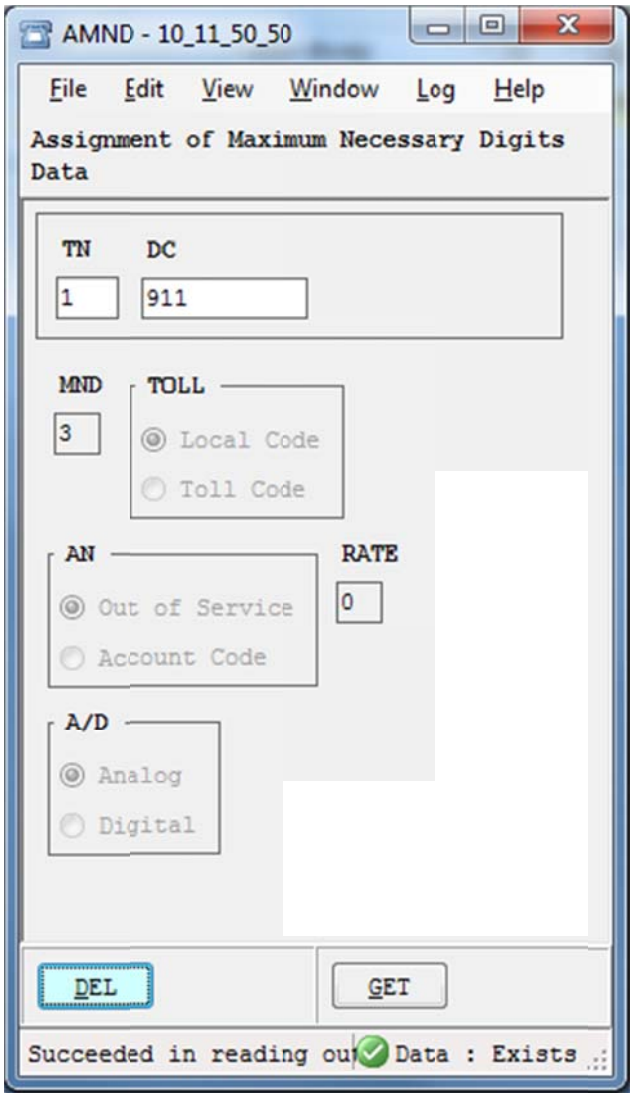
The screen example below shows the actual Outgoing Route as RT: 200. You would enter the actual Outgoing Route you will have 9+911 calls use.



AMND

In this example, the DC is the NPC from the AFRS command "**911**".

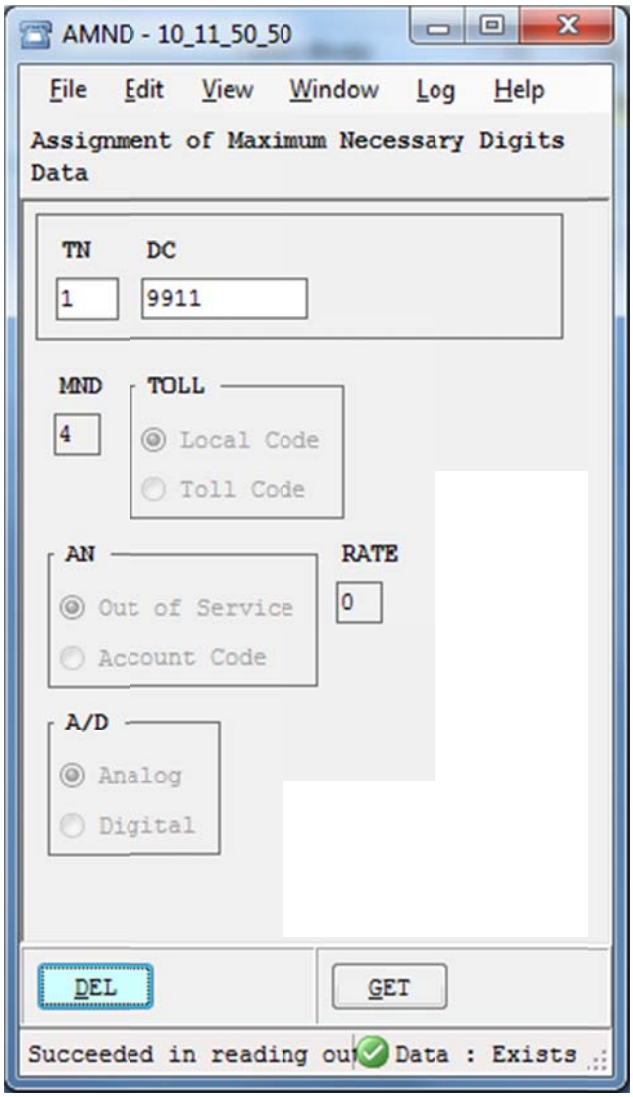
Tenant (TN) should be "1"
Maximum Necessary Digits (MND) is "3"
Toll Code Identification (TOLL) is set to "Local"
Account Number (AN) is "Out of Service"
Index Number for Billing (RATE) is set to "0"
Analog/Digital Line Data (A/D) setting depends are the trunks you are using for 911 calls.
If only a single route is assigned in AOPR, this setting should match the ARTD CDN45: A/D setting for that route. If multiple routes are assigned and there are a mixture of Analog and Digital Routes, select the "Digital" setting.



AMND

In this example, the DC is the NPC from the AFRS command "**9+911**".

Tenant (TN) should be "1"
Maximum Necessary Digits (MND) is "4"
Toll Code Identification (TOLL) is set to "Local"
Account Number (AN) is "Out of Service"
Index Number for Billing (RATE) is set to "0"
Analog/Digital Line Data (A/D) setting depends are the trunks you are using for 911 calls.
If only a single route is assigned in AOPR, this setting should match the ARTD CDN45: A/D setting for that route. If multiple routes are assigned and there are a mixture of Analog and Digital Routes, select the "Digital" setting.

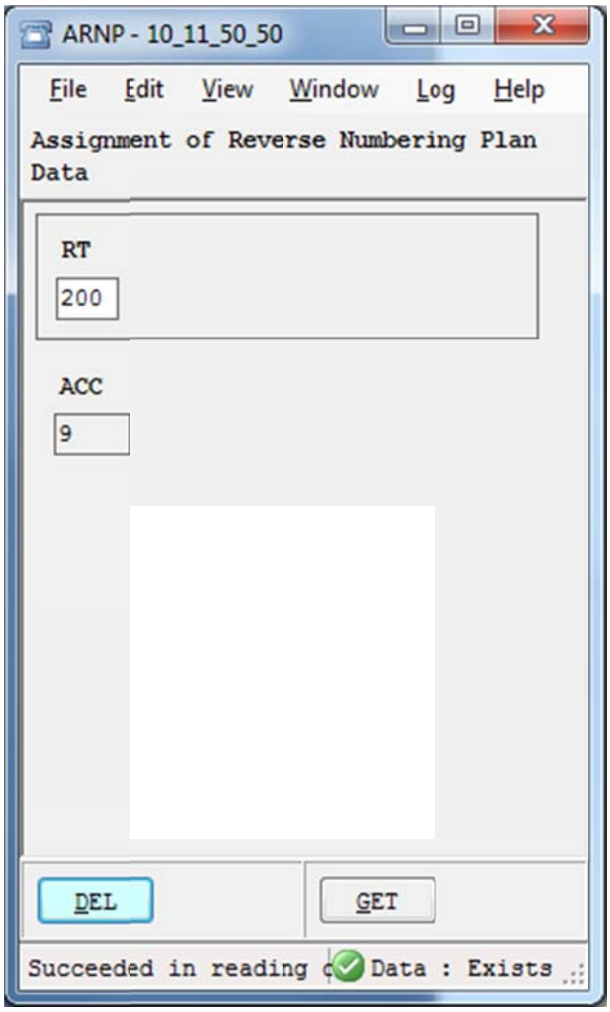


ARNP

In this example, Route 200 is being used for the actual Outgoing Route code as assigned in AOPR.

The Access Code (ACC) should be the digit “9” that we have been using as the LCR Access Code in this document.

If you assigned multiple routes in the AOPR command, you need to assign this command for each of those routes.



ARSC

In this example, Route 200 is being used for the actual Outgoing Route code as assigned in AOPR.

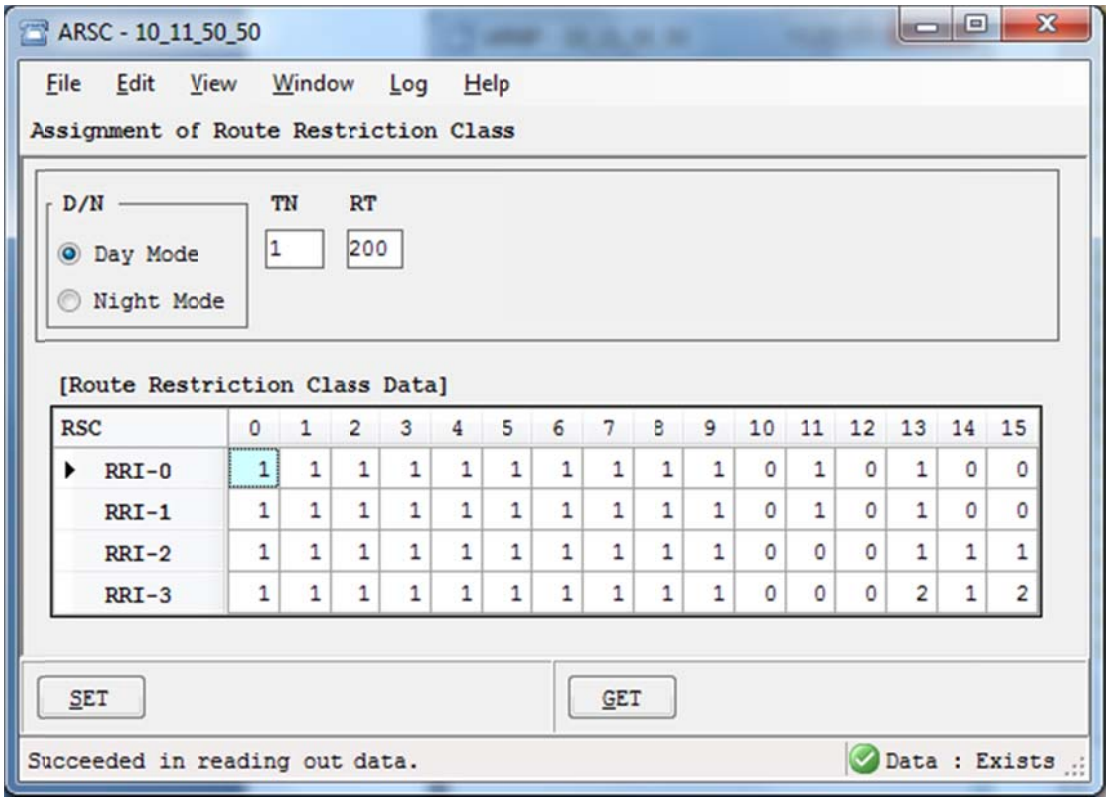
Day Mode/Night Mode (D/N): If the Restriction Class data is set for common in System Data, you only need to program Day Mode.
Tenant (TN) should be "1"
Route Restriction Index (RRI) is for how a call comes into or goes out the SV8500.

- RRI-0 Trunk incoming connection with an Attendant Console (or a station) assistance.
- RRI-1 Trunk incoming connection without assistance.
- RRI-2 Trunk outgoing connection with an Attendant Console (or a station) assistance.
- RRI-3 Trunk outgoing connection without assistance.

While the assignment for the Restriction Class (RSC x) assigned in the AGST/AISTL/ASPTL command and the station is not in DND or RC is set as you normally would, RSCs 13 – 15 should be assigned as shown below except for RSC:14 RRI-3. RSC:14 – because RSC:14 is for guest stations in DND only, RRI-3 should be assigned the same as the Restriction Class (RSC x) assigned in the AGST/AISTL/ASPTL command.

- Restriction Class 13 (RSC 13) – When the station is in RC only
- Restriction Class 14 (RSC 14) – When the station is in DND only
- Restriction Class 15 (RSC 15) – When the station is in RC and DND

The below example for RSCs 1 – 11 RRI-3 is not a typical assignment. They are also often Toll Restricted "2", or "0" when that RSC is not currently used in the system or those stations are fully restricted from making outside calls.



RSC	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
RRI-0	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0
RRI-1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0
RRI-2	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1
RRI-3	1	1	1	1	1	1	1	1	1	1	0	0	0	2	1	2

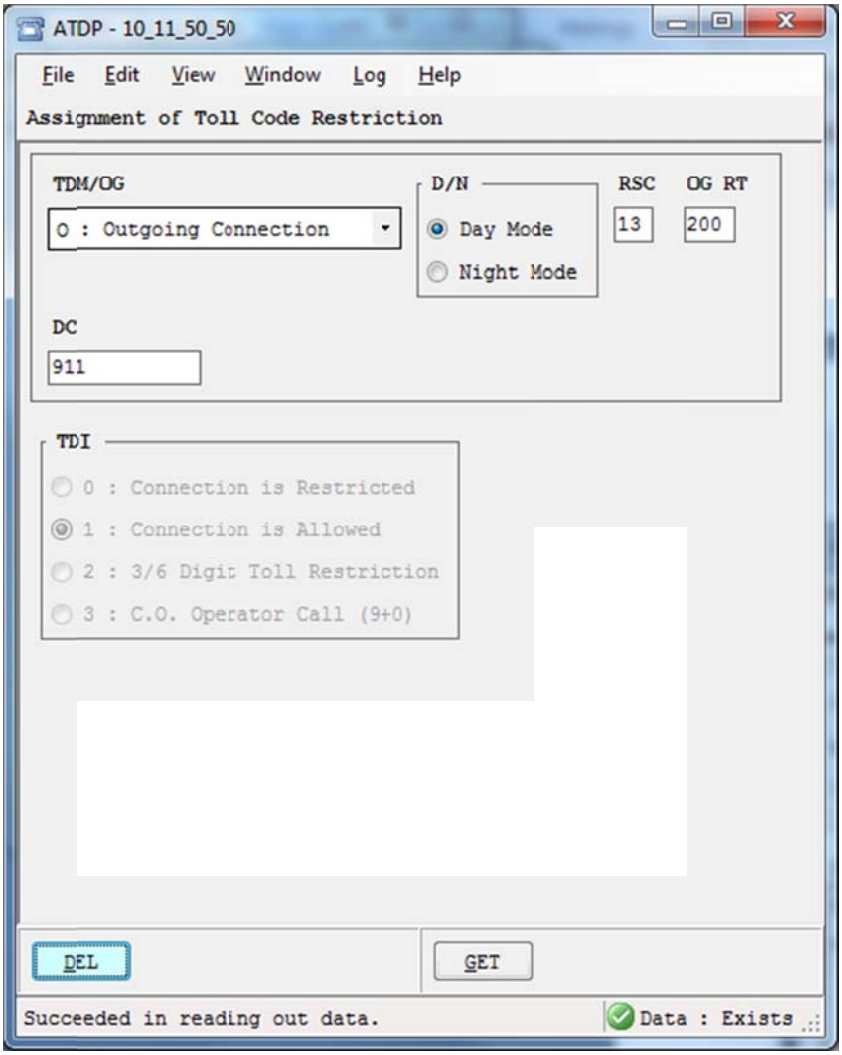
ATDP

In this example, Route 200 is being used for the actual Outgoing Route code as assigned in AOPR and the DC is the NPC from the AFRS command "**911**".

In this example, it is assumed that the Toll Table was set up as default restricted and you allow certain dialing pattern to be allowed. Setting up the default restriction of the table to be fully allowed or fully restricted is beyond the scope of this document. Refer to the Univerge SV8500 Data Programming Manual – Business for those details. In this example, the table was set as restricted where you are now allowing certain numbers to be dialed for Restriction Classes 13 & 15.

Tandem/Outgoing selection is "O: Outgoing Connection"
Day Mode/Night Mode (D/N): If the Toll Code Restriction data is set for common in System Data, you only need to program Day Mode.
Restriction Class (RSC) – You need to make sure both RSC:13 (Room Cutoff only set) and RSC:15 (Room Cutoff and Do Not Disturb set) are assigned
Restriction Data (TDI) is set to allow 911 calls.

If you assigned multiple routes in the AOPR command, you need to assign this command for each of those routes.



ATDP

In this example, Route 200 is being used for the actual Outgoing Route code as assigned in AOPR and the DC is the NPC from the AFRS command "**9+911**".

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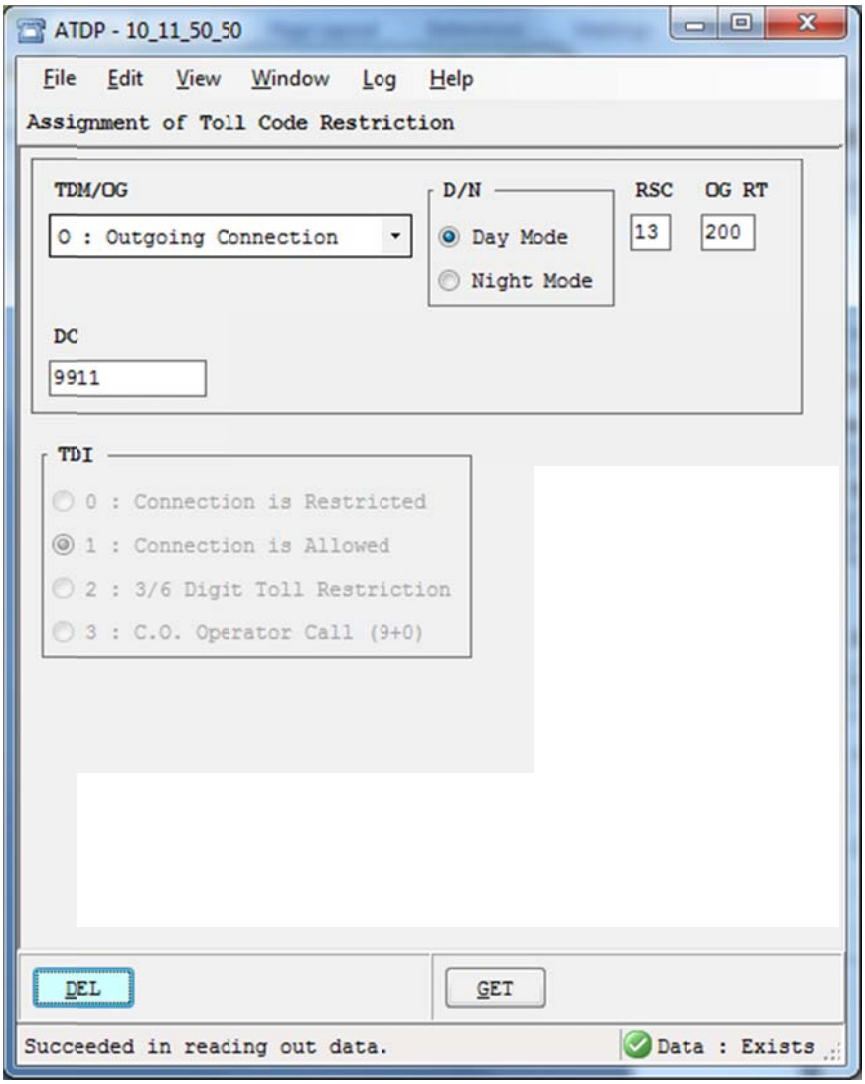
Tandem/Outgoing selection is "O: Outgoing Connection"
Day Mode/Night Mode (D/N): If the Toll Code Restriction data is set for common in System Data, you only need to program Day Mode.
Restriction Class (RSC) – You need to make sure both RSC:13 (Room Cutoff only set) and RSC:15 (Room Cutoff and Do Not Disturb set) are assigned
Restriction Data (TDI) is set to allow 9+911 calls.

If you assigned multiple routes in the AOPR command, you need to assign this command for each of those routes.



ASCR

The previous commands in this document (except the ASYD setting) relate to setting up dialing patterns and incoming/outgoing restrictions for trunk calls. Because the guest change of RSC function has been enabled (ASYD, System Data 1, Index170, Bit3 = 1), you also need to set restrictions for incoming/outgoing station-to-station calls. Station-to-station connections will be allowed for each RSC until they are restricted by this command. As such, you are using this command to restrict RSCs from calling other RSCs.

Day Mode/Night Mode (D/N): If the Toll Code Restriction data is set for common in System Data, you only need to program Day Mode.
Direct Dial from Station or via Attendant Console (DIAL/ATT) – both must be assigned
Calling Tenant (TN) should be "1"
Called Tenant (TN) should be "1"
Restriction/Allow – As stated above, RSCs are allowed until restricted by this command, so you will always be setting "0"

Calling RSC & Called RSC:

- RSCs 0 – 12 are your normal RSCs as assigned in the AAST/AGST/AISTL/ASPTL command. As such, there is no need to make any assignments for Calling RSC 0 – 12 to Called RSC 0 – 12, unless you specifically want to make restrictions between any of those RSC combinations.

- RSCs 13 – 15 are when the guest stations are in some combination of Room Cutoff (RC) and Do Not Disturb (DND).

  Restriction Class 13 (RSC 13) – When the station is in RC only
  Restriction Class 14 (RSC 14) – When the station is in DND only
  Restriction Class 15 (RSC 15) – When the station is in RC and DND

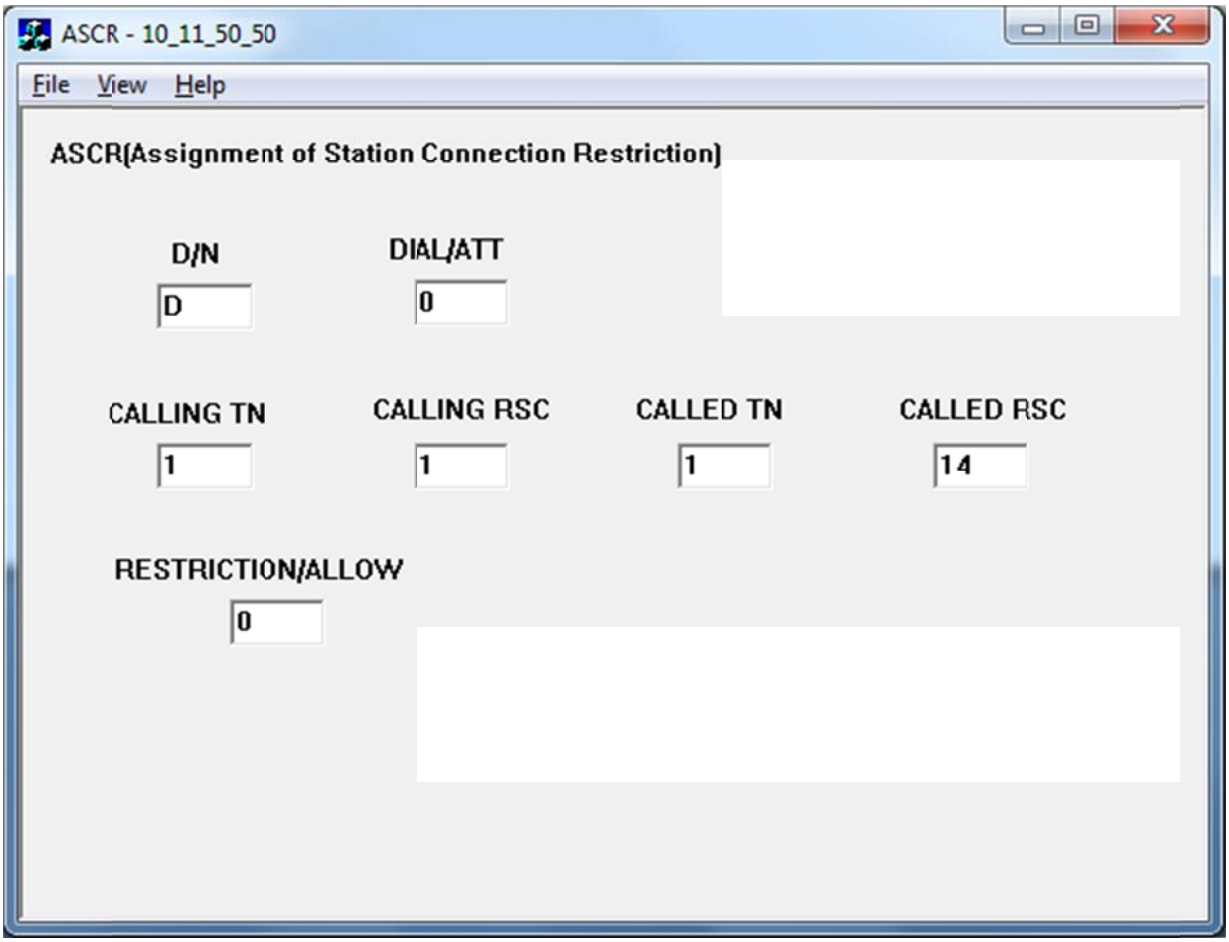
  - Calling RSC = 13 & 15 – These RSCs are when guest stations are in RC. That means outgoing calls are to be restricted. Typically, it's all outgoing calls except for the Hotel Attendant Console (Hotel Operator). You set the restriction to Calling RSC: 13 & 15 to Called RSC: 1 – 15. The SV8500 Hotel Attendant Console is assigned RSC: 0 which is why that is not assigned.

    NOTE: There may be systems where there is no Hotel Attendant Console or some other reason you need a vacant room (or some other Hotel decided reason to put an occupied room in RC) to be able to call a specific internal station or stations. In those cases, you may need to not restrict RSC: 13 & 15 from calling that RSC.

  - Called RSC = 14 & 15 – These RSCs are when guest stations are in DND. That means calls to those stations are to be restricted. You set the restriction to Calling RSC: 0 – 15 to Called RSC: 14 & 15.

    NOTE: The Hotel Attendant Console is equipped with a DND Override key. So, if an emergency call from the outside must speak to the guest in DND, the Hotel Attendant can process the call. The DND OVR key allows the Hotel Operator to call and speak to the guest, then complete the transfer. So include RSC: 0 in the Calling RSC. If there is no Hotel Attendant Console or some other need, you do not restrict the station(s) in a specific RSC from calling RSC: 14 & 15.

The screen example below depicts an assignment of one necessary entry. As explained in this section, there are many entries needed to properly program the ASCR command.



NOTES: