

ARS through PBX to PBX network (H.323)

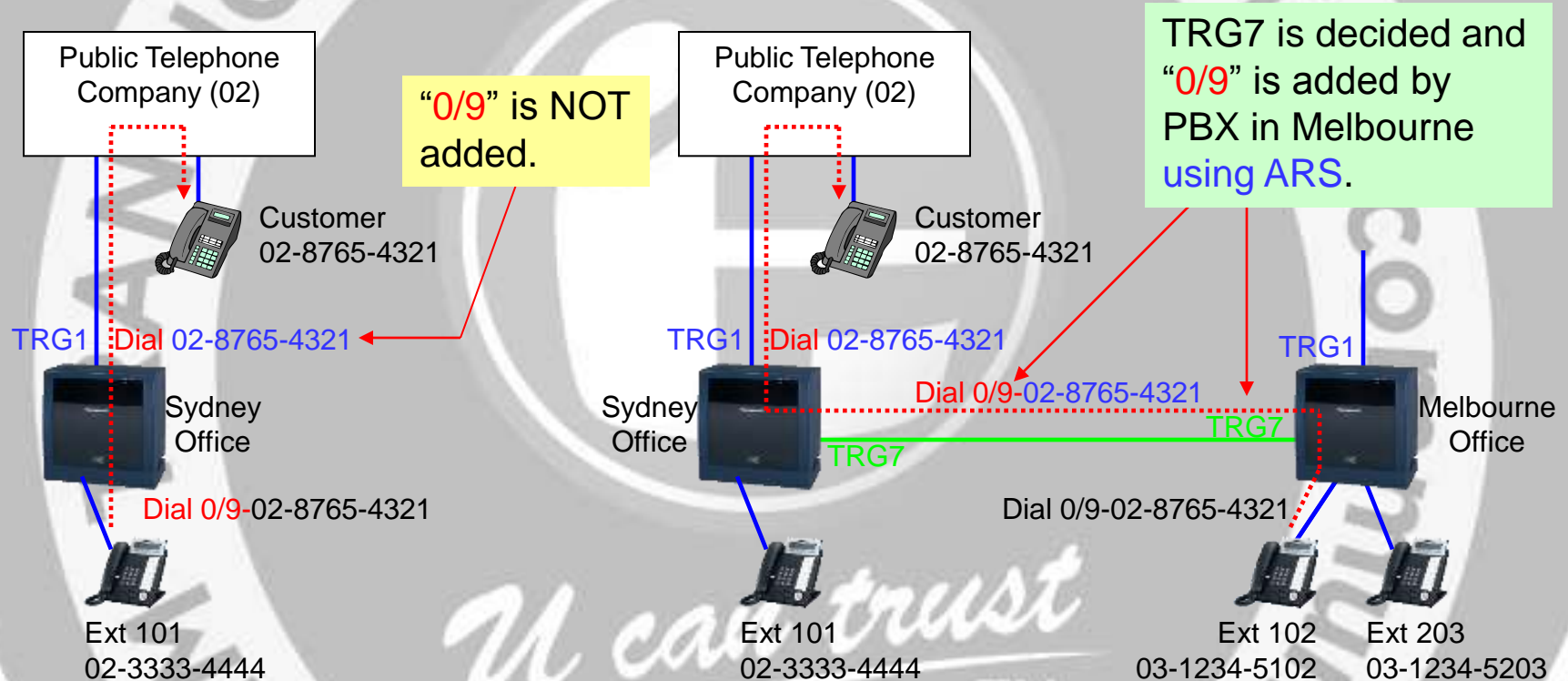
This document explains how to program for above, after programming of calling extensions in other PBX.



**Programming
for network **without**
PBX Office Code (7-xx)**

Concept of Programming

ARS feature is solution for this request.



If "0/9-02-8765-4321" is dialed from other PBX or extension of PBX in Sydney, PBX in Sydney dials "02-8765-4321" to telephone company.

So other PBX in Melbourne or Perth has to send dial "0/9-02-8765-4321" to PBX in Sydney using ARS.

ARS feature decides trunk group and adds required dial such as "0/9".

Programming -0

KX-TDE Maintenance Console - [8. ARS - 5. Carrier]

File(F) Disconnect(D) Tool(T) Utility(U) View(V) Window(W) Help(H)

System Menu x 8.5 Carrier

1.Configuration
2.System
3.Group
4.Extension
5.Optional Device
6.Feature
7.TRS
8.ARS
1.System Setting
2.Leading Number
3.Routing Plan Time
4.Routing Plan Priority
5.Carrier
9.Private Network
10.CO & Incoming Call
11.Maintenance

OK(O) Cancel(C) Apply(A)

Carrier TRG 1 - 16 TRG 17 - 32 TRG 33 - 48 TRG 49 - 64 Authorisation Code for Tenant

Carrier	Carrier Name (20 characters)	Removed Number of Digits	Modify Command	Carrier Access Code (32 digits)
1	via Sydney PBX	0	CH	
2	via Melbourne PBX	0	CH	
3	via Perth PBX	0	CH	
4		0	CH	
5		0	CH	
6		0	CH	
7		0	CH	
8		0	CH	
9		0	CH	
10		0	CH	

Batch Mode: Type : TDE200 Level : Installer Version005-000 Region006-017

Carrier name is just reference for easy programming.

The screenshot shows the KX-TDE Maintenance Console interface. The main window is titled "8.1 System Setting" and contains the following elements:

- System Menu (Left):** A list of configuration categories. "1. System Setting" is highlighted with a red circle.
- ARS System Setting (Main):**
 - Buttons: OK(O), Cancel(C), Apply(A)
 - ARS Mode: A dropdown menu set to "On for Local Access Operation", highlighted with a red box.
 - Mode When Any Carrier is not programmed for the Dial: A dropdown menu set to "Local Access".
- 2.6.1 Main (Inset Window):**
 - Buttons: OK(O), Cancel(C), Apply(A)
 - Extension: KX-T7710
 - Features Tab: A table listing features and their dial codes.

No.	Feature	Dial (4 digits)
1	Operator Call	9 or 0
2	Idle Line Access (Local Access)	0 or 9
3	Trunk Group Access	8
4	TIE Line Access	7
5	Redial	#
6	System Speed Dialling / Personal Speed Dialling	**
7	Personal Speed Dialling - Programming	*30
8	Doorphone Call	*31

ARS mode : ON

When user dials 0/9-xx-xxxxx-xxxxx, ARS feature works.

Programming -2

KX-TDE Maintenance Console - [8. ARS - 2. Leading Number]

File(F) Disconnect(D) Tool(T) Utility(U) View(V) Window(W) Help(H)

System Menu x 8.1 System Setting 8.2 Leading Number

1.Configuration
2.System
3.Group
4.Extension
5.Optional Device
6.Feature
7.TRS
8.ARS
1.System Setting
2.Leading Number
3.Routing Plan Time
9.Private Network
10.CO & Incoming Call
11.Maintenance

OK(O) Cancel(C) Apply(A)

1 - 100 101 - 200 201 - 300 301 - 400 401 - 500 501 - 600 601 - 700 701 - 800 801 - 900 901 - 1000

No.	Leading Number (16 digits)	Additional Number of Digits	Routing Plan Number
1	02	0	1
2	03	0	2
3	07	0	1
4	08	0	3
5		0	1
6		0	1
7		0	
8		0	
9		0	
10		0	

Batch Mode: Type : TDE200 Level : Installer

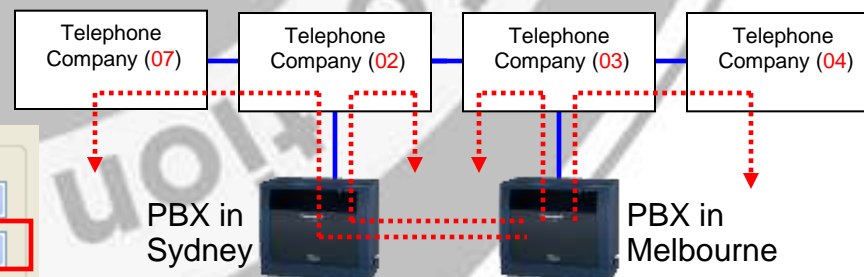
Routing Plan 1 for 0/9-02 Sydney and 0/9-07 Brisbane *

Routing Plan 2 for 0/9-03 Melbourne

Routing Plan 3 for 0/9-08 Perth

*) 02 and 07 via PBX in Sydney for this example

PBX calls other numbers such as "04" through local telephone company directly.



ARS System Setting

ARS Mode On for Local Access Operation

Mode When Any Carrier is not programmed for the Dial Local Access

KX-TDE Maintenance Console - [8. ARS - 3. Routing Plan Time]

File(F) Disconnect(D) Tool(T) Utility(U) View(V) Window(W) Help(H)

System Menu

- 1.Configuration
- 2.System
- 3.Group
- 4.Extension
- 5.Optional Device
- 6.Feature
- 7.TRS
- 8.ARS
 - 1.System Setting
 - 2.Leading Number
 - 3.Routing Plan Time**
 - 4.Routing Plan Priority
 - 5.Carrier
- 9.Private Network
- 10.CO & Incoming Call
- 11.Maintenance

8.1 System Setting | 8.2 Leading Number | 8.3 Routing Plan Time

OK(O) Cancel(C) Apply(A)

Routing Plan : 1

Time Setting(I) Time A Time B Time C Time D

	AM										PM										
	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
Sunday	Sun1-8:00:AM										Sun2-5:00:PM			Sun3-							
Monday	Mon1-8:00:AM										Mon2-5:00:PM			Mon3-							
Tuesday	Tue1-8:00:AM										Tue2-5:00:PM			Tue3-							
Wednesday	Wed1-8:00:AM										Wed2-5:00:PM			Wed3-							
Thursday	Thu1-8:00:AM										Thu2-5:00:PM			Thu3-							

Batch Mode: Type : TDE200 Level : Installer Version005-000 Region006-017

This will not be used for “ARS through PBX to PBX network” usually. If lowest cost carrier is different depend on time even for same destination, this programming is required.

KX-TDE Maintenance Console - [8. ARS - 4. Routing Plan Priority]

File(F) Disconnect(D) Tool(T) Utility(U) View(V) Window(W) Help(H)

System Menu x

8.1 System Setting | 8.2 Leading Number | 8.3 Routing Plan Time | **8.4 Routing Plan Priority**

OK(O) Cancel(C) Apply(A)

Routing Plan 1

Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday

Week	Time-A	Time-B	Time-C	Time-D
Priority 1	01 : via Sydney PBX	01 : via Sydney PBX	01 : via Sydney PBX	01 : via Sydney PBX
Priority 2	02 : via Melbourne...	02 : via Melbourne...	02 : via Melbourne...	02 : via Melbourne...
Priority 3	None	None	None	None
Priority 4	None	None	None	None
Priority 5	None	None	None	None
Priority 6	None	None	None	None

Batch Mode: Type : TDE200 Level : Installer Version005-000 Region006-017

This is programming example for PBX in Melbourne.

Priority 1 : PBX in Sydney is used for routing plan 1 to Sydney / Brisbane.

Priority 2 : If all VoIP H.323 channels are occupied, PBX in Melbourne can call local telephone company directly based on programming in next page.

*) Programming is required for all days and for each routing plan.

Programming -5A

System Menu

1.Configuration
2.System
3.Group
4.Extension
5.Optional Device
6.Feature
7.TRS
8.ARS
3.Routing Plan Time
4.Routing Plan Priority
5.Carrier
9.Private Network
10.CO & Incoming Call
11.Maintenance

8.1 System Setting 8.2 Leading Number 8.3 Routing Plan Time 8.4 Routing Plan Priority 8.5 Carrier

Carrier TRG 1 - 16 TRG 17 - 32 TRG 33 - 48 TRG 49 - 64 Authorisation Code for Tenant

Carrier	Carrier Name (20 characters)	Removed Number	Modify Command	Carrier Access Code (32 digits)
1	via Sydney PBX	0	CH	0 or 9
2	via Melbourne PBX	0	CH	
3	via Perth PBX	0	CH	0 or 9
4		0	CH	
5		0	CH	
6		0		
7		0		
8		0		
9		0		

Carrier TRG 1 - 16 TRG 17 - 32 TRG 33 - 48 TRG 49 - 64

Carrier	Trunk Group						
	TRG01	TRG02	TRG03	TRG04	TRG05	TRG06	TRG07
1							■
2	■						
3							■
4							

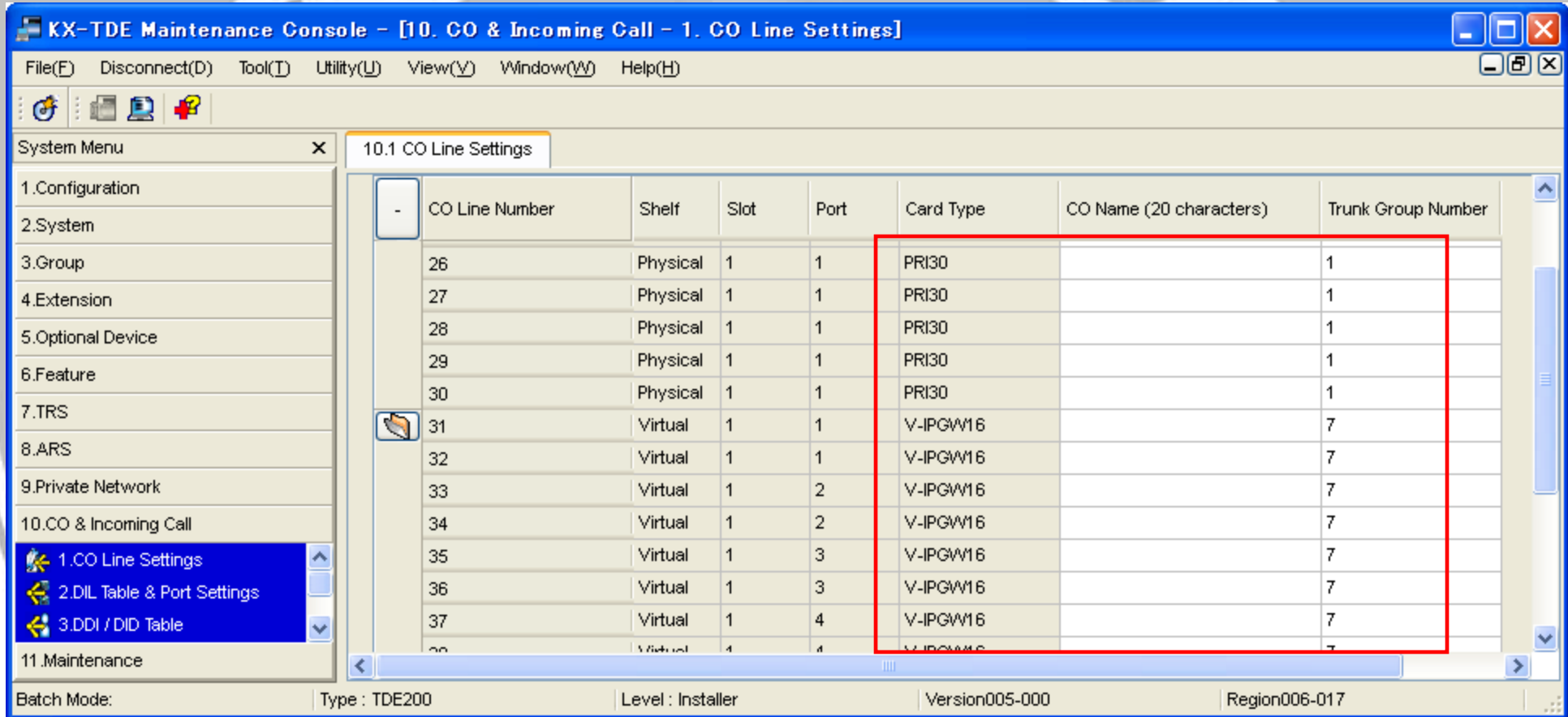
This is programming example for PBX in Melbourne.

Trunk Group 1 is lines of local telephone company in Melbourne.

03-xxxx-xxxx is dialed to TRG1.

Trunk Group 7 is VoIP H.323.

0/9-02-xxxx-xxxx, 0/9-07 or 0/9-08 is dialed to TRG7 (VoIP).



KX-TDE Maintenance Console - [10. CO & Incoming Call - 1. CO Line Settings]

File(E) Disconnect(D) Tool(T) Utility(U) View(V) Window(W) Help(H)

System Menu x 10.1 CO Line Settings

CO Line Number	Shelf	Slot	Port	Card Type	CO Name (20 characters)	Trunk Group Number
26	Physical	1	1	PRI30		1
27	Physical	1	1	PRI30		1
28	Physical	1	1	PRI30		1
29	Physical	1	1	PRI30		1
30	Physical	1	1	PRI30		1
31	Virtual	1	1	V-IPGW16		7
32	Virtual	1	1	V-IPGW16		7
33	Virtual	1	2	V-IPGW16		7
34	Virtual	1	2	V-IPGW16		7
35	Virtual	1	3	V-IPGW16		7
36	Virtual	1	3	V-IPGW16		7
37	Virtual	1	4	V-IPGW16		7

Batch Mode: Type : TDE200 Level : Installer Version005-000 Region006-017

Default of VoIP IP-GW (H.323) is Trunk Group 7.
Default of other trunk is Trunk Group 1.

Programming -7

KX-TDE Maintenance Console - [1. Configuration - 1. Slot - Shelf Property - Virtual IP Gateway - GW Settings]

File(F) Disconnect(D) Tool(T) Utility(U) View(V) Window(W) Help(H)

System Menu

1.1 Slot Shelf Property - Virtual IP Gateway GW Settings

OK(O) Cancel(C) Apply(A)

Main Option 1 Option 2 Option 3

No.	GW Name (20 characters)	GW IP Address	GW Group	Connection for IP-GW16	Protocol
1	Sydney PBX	192.168.0.21	1	Enable(TDA)	TCP
2	Melbourne PBX	192.168.0.31	1	Enable(TDA)	TCP
3	Perth	192.168.0.81	1	Enable(TDA)	TCP
4			None	Enable(TDA)	TCP
5			None	Enable(TDA)	TCP
6			None	Enable(TDA)	TCP
7			None	Enable(TDA)	TCP
8			None	Enable(TDA)	TCP
9			None	Enable(TDA)	TCP

Batch Mode: Type : TDE200 Level : Installer Version005-000 Region006-017

This page has been already programmed to call extensions in other PBXs through TRG7 (H.323).

Same group or "None"

Programming -8A

The screenshot shows the 'KX-TDE Maintenance Console' window. The title bar indicates the path: '1. Configuration - 1. Slot - Shelf Property - Virtual IP Gateway - DN2IP (Dialed Num...'. The interface includes a menu on the left with options like '1. Configuration', '2. System', '3. Group', etc. The main area has buttons for 'OK(O)', 'Cancel(C)', and 'Apply(A)'. Below these are two tables. The top table, highlighted with a red border, lists gateway information:

No.	GW Name (20 characters)	GW IP Address
1	Sydney PBX	192.168.0.21
2	Melbourne PBX	192.168.0.31
3	Perth	192.168.0.81

The bottom table lists configuration details for various entries:

No.	Leading Number (30 digits)	Remaining Number of Digits	GW No./GW Group Selection	GW Group	GW No.
1	1	2	GW Group	1	1
2	2	2	GW Group	1	1
3	3	2	GW Group	1	1
4	4	2	GW Group	1	1
5	5	2	GW Group	1	1
6	6	2	GW Group	1	1
7	7	2	GW Group	1	1
8	8	2	GW Group	1	1
9		29	GW No	1	1
10		29	GW No	1	1
11	007 or 907	8	GW No	1	1
12	002 or 902	8	GW No	1	1
13	003 or 903	8	GW No	1	2
14	008 or 908	8	GW No	1	3
15		8	GW No	1	1

At the bottom of the window, status information is displayed: 'Batch Mode: Type : TDE200 Level : Installer Version005-000 Region006-017'.

*) OUS (Out of Service) and INS (IN Service) of “Virtual IP-GW card” are required to activate programming in this page and previous page.

Programming -9

The screenshot shows the 'KX-TDE Maintenance Console' window. The title bar indicates the path: [3. Group - 1. Trunk Group - 1. TRG Settings]. The main window is divided into a left sidebar with a tree view, a central table, and a right diagram.

Table Data:

Trunk Group	Group Name (20 characters)	COS	Line Hunting Order
1		7	High -> Low
2		7	High -> Low
3		7	High -> Low
4		7	High -> Low
5		7	High -> Low
6		7	High -> Low
7	VoIP	1	High -> Low
8		7	High -> Low
9		7	High -> Low
10		7	High -> Low
11		7	High -> Low

Diagram Description: A network diagram on the right shows a 'Public Telephone Company (02)' at the top. Below it is a PBX system labeled 'TRG1' connected to a telephone labeled 'Ext 101 02-3333-4444'. A cloud labeled 'IP Network' is connected to the PBX via a green line labeled 'TRG7'. A pink callout box points to the IP Network connection with the text: 'TRS level should NOT be 7 to call CO.' Red dashed arrows indicate the call path from the phone through the PBX to the Public Telephone Company.

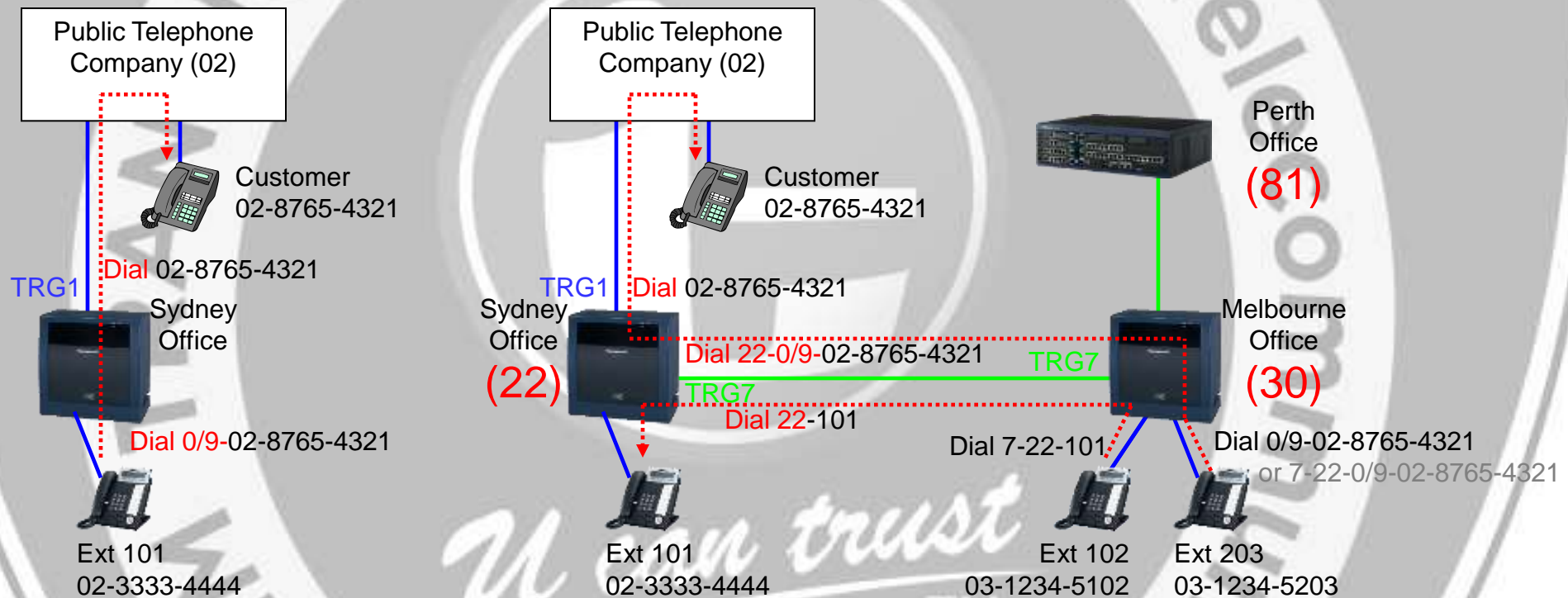
If COS (Class of Service) is 7, TRS (Toll Restriction) level is 7 by default. TRS level 7 is not allowed to call to public network. Verification code is other solution to change TRS level. It can be dialed from network also.



**Programming
for network **with**
PBX Office Code (7-xx)**

Concept of Programming

ARS feature is solution for this request.



“22xxxxxxxx” is sent from other PBX to PBX in Sydney because PBX office code of PBX in Sydney is “22” in this example. PBX in Sydney removes “22”. If “0/9-02-8765-4” is dialed from other PBX (after removing “22”) or extension, PBX in Sydney dials “02-8765-4321” to telephone company. So other PBX in Melbourne or Perth has to send dial “22-0/9-02-8765-4321” to PBX in Sydney using ARS.

Programming -5B

The screenshot displays the 'KX-TDE Maintenance Console - [B. ARS - 5. Carrier]' window. The 'Carrier' tab is selected, and the 'Carrier Access Code' column is highlighted. The table below shows the carrier configuration:

Carrier	Carrier Name (20 characters)	Removed Number	Modify Command	Carrier Access Code (32 digits)
1	via Sydney PBX	0	CH	220 or 229
2	via Melbourne PBX	0	CH	
3	via Parth PBX	0	CH	810 or 819
4		0	CH	
5		0	CH	
6				
7				
8				
9				

The secondary table shows the mapping of carriers to Trunk Groups (TRG01-TRG07):

Carrier	TRG01	TRG02	TRG03	TRG04	TRG05	TRG06	TRG07
1							<input checked="" type="checkbox"/>
2	<input checked="" type="checkbox"/>						
3							<input checked="" type="checkbox"/>
4							

This is programming example for PBX in Melbourne.

Trunk Group 1 is lines of local telephone company in Melbourne.

03-xxxx-xxxx is dialed to TRG1.

Trunk Group 7 is VoIP H.323.

22-0/9-02-xxxx-xxxx, 22-0/9-0-07 or 81-0/9-08 is dialed to TRG7 (VoIP).

Programming -8B

The screenshot shows the 'DN2IP' configuration window in the KX-TDE Maintenance Console. The window title is 'KX-TDE Maintenance Console - [1. Configuration - 1. Slot - Shelf Property - Virtual IP Gateway - DN2IP (D...'. The menu bar includes File(F), Disconnect(D), Tool(T), Utility(U), View(V), Window(W), and Help(H). The System Menu on the left shows '1. Configuration' selected, with sub-items '1. Slot', '2. Portable Station', and '3. Option'. The main area has tabs for '1.1 Slot', 'Shelf Property - Virtual IP Gateway', and 'DN2IP'. Below the tabs are 'OK(O)', 'Cancel(C)', and 'Apply(A)' buttons. Two tables are displayed:

No.	GW Name (20 characters)	GW IP Address
1	Sydney PBX	192.168.0.21
2	Melbourne PBX	192.168.0.31
3	Perth	192.168.0.81

No.	Leading Number (30 digits)	Remaining Number of Digits	GW No/GW Group Selection	GW Group	GW No.
1	220 or 229	10	GW No	1	1
2	22	3	GW No	1	1
3	300 or 309	10	GW No	1	2
4	30	3	GW No	1	2
5	810 or 819	10	GW No	1	3
6	81	3	GW No	1	3
7		29	GW No	1	1
8		29	GW No	1	1
9		29	GW No	1	1
10		29	GW No	1	1

At the bottom of the window, the status bar shows: Batch Mode: Type : TDE200 Level : Installer Version005-000 Region006-017

*) Except 5B and 8B, programming for “with PBX office code” is same as “without PBX office code”.



End of Document