

Avaya Solution & Interoperability Test Lab

Application Notes for Konftel 300W and Avaya Aura TM Communication Manager – Issue 1.0

Abstract

These Application Notes describe the compliance testing of Konftel 300W with Avaya AuraTM Communication Manager. The Konftel 300W is a conference unit which communicates with Communication Manager via the Avaya R4 DECT base station. The compliance testing tested the major functions of the Konftel 300W product.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

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1. Introduction

These Application Notes describe the configuration steps required for Konftel 300W to successfully interoperate with Communication Manager via the Avaya R4 DECT base station. The Konftel 300W is a wireless DECT conference endpoint which can be attached to an external power source or run from its internal rechargeable battery. Placed within a conference room, the Konftel 300W enables all of the participants in the room to take part in a telephone conversation. A conference can be initiated with up to two other parties as allowed by Communication Manager for single line appearance telephones. Due to its wireless roaming abilities and internal power source, the 300W can be moved among conference rooms without reconnection or reconfiguration. The unit also performs echo cancellation to avoid feedback problems that might otherwise occur. A "Conference" function key allows the easy establishment of recurring or ad hoc conferences. For conferences with more than three participants, the Communication Manager "meet-me" conference feature can be used. The Konftel 300W has a keypad/display, shown in the figure below, which serves as a telephone keypad, as well as providing additional functions.



Figure 1: Konftel 300W Keypad /Display

The 300W communicates with Communication Manager via one or more Avaya R4 DECT base stations, as dictated by the coverage requirements of the campus within which the 300W is used.

This document details the configuration used for the compliance testing of Konftel 300W with Communication Manager and the Avaya R4 DECT base station.

1.1. Interoperability Compliance Testing

The compliance testing included the following test scenarios:

- Registration / De-registration
- Roaming
- Basic call (local, external, priority call)
- Long calls
- Call waiting and call toggle
- Hold / retrieve
- Supervised / blind transfer
- Ad hoc conference
- Automatic conference
- Instant conference
- Meet-Me conference
- DTMF
- Serviceability: automatic startup after power interruption

1.2. Support

Support from Avaya is available at http://support.avaya.com/. Support for Konftel products is available at

Web-based support: http://www.konftel.com/
 Email: info@konftel.com
 International help desk: +46 90706489
 North American help: +1 866-606-4728.

2. Reference Configuration

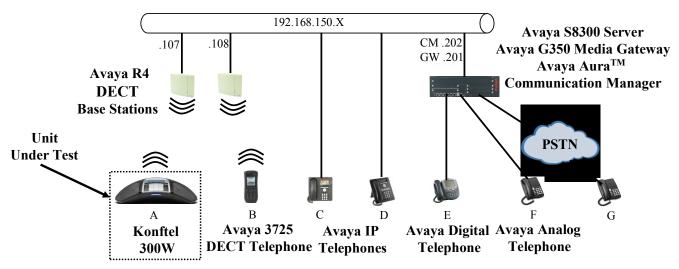


Figure 2: Reference Configuration

The Konftel 300W in the above diagram interfaces wirelessly to Communication Manager via the Avaya R4 DECT base stations. Although it is possible to use the Konftel 300W with a single Avaya R4 base station, two Avaya R4 base stations are included in the reference configuration, to allow the roaming abilities of the Konftel 300W to be tested.

The following table contains additional information about how each of the telephones contained in the above diagram are configured in Communication Manager:

Diagram	Ext	Endpoint
A	10302	Konftel 300W
В	10304	Avaya 3725 DECT Telephone
С	10172	Avaya 9620 IP Telephone
D	10062	Avaya 1608 IP Telephone
Е	10202	Avaya 2410 Digital Telephone
F	10001	Avaya 2500 Analog Telephone
G	06911111111	ISDN endpoint

Table 1: Extensions Used for Testing

3. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Software Component	Version
Avaya Aura TM Communication Manager	R015x.01.2.416.4
Avaya G350 Media Gateway	30.10.4
Avaya G350 Analog Module	HW06/FW093
Avaya 2410 Digital Telephone	5.0
Avaya 1608 Telephone	1.2.2
Avaya 9620 Telephone	3.1.1
Avaya 3725 DECT Telephone	3.0.10
	Hardware: IPBS1-Y3/PB,
Avaya R4 DECT	IPBS: 3.2.8,
	Bootcode: 3.0.26
Konftel 300W	1.7b.XXXX

Table 2: Equipment and Versions Validated

4. Configure Avaya Aura[™] Communication Manager

The configuration and verification operations illustrated in this section were performed using the Communication Manager System Administration Terminal (SAT).

Note that the configuration of the interface to the PSTN is out of the scope of these Application Notes.

4.1. Verify System-Parameters Special-Applications

Use the **display system-parameters special-applications** command to verify that Communication Manager is configured to meet the minimum requirements to support the special applications used for these tests, as shown by the parameter values in **Table 3**. If these are not met in the configuration, please contact an Avaya representative for further assistance.

Parameter	Usage
PMS X-Station Mobility over IP	The value must be set to "y".

Table 3: Configuration Values for System-Parameters Special-Applications

```
display system-parameters special-applications
                                                                Page
                                                                      4 of
                            SPECIAL APPLICATIONS
     (SA8481) - Replace Calling Party Number with ASAI ANI? n
               (SA8500) - Expanded UUI Display Information? n
                (SA8506) - Altura Interoperability (FIPN)? n
                (SA8507) - H245 Support With Other Vendors? n
                (SA8508) - Multiple Emergency Access Codes? n
 (SA8510) - NTT Mapping of ISDN Called-Party Subaddress IE? n
                      (SA8517) - Authorization Code By COR? n
          (SA8520) - Hoteling Application for IP Terminals? n
  (SA8558) - Increase Automatic MWI & VuStats (S8700 only)? n
                (SA8567) - PHS X-Station Mobility over IP? y
       (SA8569) - No Service Observing Tone Heard by Agent? n
                 (SA8573) - Call xfer via ASAI on CAS Main? n
          (SA8582) - PSA Location and Display Enhancements? n
              (SA8587) - Networked PSA via QSIG Diversion? n
                         (SA8589) - Background BSR Polling? n
     (SA8608) - Increase Crisis Alert Buttons (S8700 only)? n
                      (SA8621) - SCH Feature Enhancements? n
```

Figure 3: System-Parameters Special-Applications Form, Page 4

4.2. Verify System-Parameters Customer-Options

Use the **display system-parameters customer-options** command to verify that Communication Manager is configured to meet the minimum requirements to support the configuration used for these tests, as shown by the parameter values in **Table 4**. If these are not met in the configuration, please contact an Avaya representative for further assistance.

Parameter	Usage						
Maximum Stations (Page 1)	The value must be sufficient to allow the number of stations,						
Waximum Stations (Lage 1)	including the 300W, shown in Table 1 .						
Maximum XMOBILE	The value must be sufficient to allow the number of DECT						
Stations (Page 1)	stations, including the 300W, shown in Table 1 .						
Maximum Concurrently	The value must be sufficient to allow the number of IP stations,						
Registered IP Stations (Page 2)	including the 300W, shown in Table 1						

Table 4: Configuration Values for System-Parameters Customer-Options

```
display system-parameters customer-options
                                                                 Page 1 of 11
                                OPTIONAL FEATURES
     G3 Version: V15
                                                 Software Package: Standard
      Location: 2
                                              RFA System ID (SID): 1
      Platform: 13
                                              RFA Module ID (MID): 1
                                                              USED
                                Platform Maximum Ports: 900
                                      Maximum Stations: 450
                                                              8
                              Maximum XMOBILE Stations: 100
                                                              0
                    Maximum Off-PBX Telephones - EC500: 0
                                                              0
                    Maximum Off-PBX Telephones -
                                                   OPS: 100
                                                              Ω
                    Maximum Off-PBX Telephones - PBFMC: 0
                    Maximum Off-PBX Telephones - PVFMC: 0
                                                              0
                    Maximum Off-PBX Telephones - SCCAN: 0
```

Figure 4: System-Parameters Customer-Options Form, Page 1

```
2 of 11
display system-parameters customer-options
                                                                 Page
                                OPTIONAL FEATURES
IP PORT CAPACITIES
                                                              USED
                    Maximum Administered H.323 Trunks: 1000
           Maximum Concurrently Registered IP Stations: 18000 5
            Maximum Administered Remote Office Trunks: 0
Maximum Concurrently Registered Remote Office Stations: 0
             Maximum Concurrently Registered IP eCons: 0
 Max Concur Registered Unauthenticated H.323 Stations: 0
                                                              0
                 Maximum Video Capable H.323 Stations: 0
                  Maximum Video Capable IP Softphones: 0
                       Maximum Administered SIP Trunks: 1000
 Maximum Administered Ad-hoc Video Conferencing Ports: 0
  Maximum Number of DS1 Boards with Echo Cancellation: 0
                                                              0
                            Maximum TN2501 VAL Boards: 10
                                                              1
                    Maximum Media Gateway VAL Sources: 0
                                                              0
          Maximum TN2602 Boards with 80 VoIP Channels: 128
         Maximum TN2602 Boards with 320 VoIP Channels: 128
                                                              Ω
  Maximum Number of Expanded Meet-me Conference Ports: 0
```

Figure 5: System-Parameters Customer-Options Form, Page 2

4.3. Configure IP Interfaces

Use the **change node-names ip** command to configure the IP address of the Avaya R4 master base station.

Figure 6: Node-Names IP Form

4.3.1. Interface to Avaya R4

The signaling group and trunk group described in this section are closely interrelated. If the signaling group is allocated first, all trunk group parameters must initially be set to blank and entered in a subsequent step, after the trunk group has been added.

Use the **add signaling-group** command to allocate a signaling group for interface to the Avaya R5 using the following parameters:

Parameter	Usage
Group Type	Enter "h.323".
Max number of NCA TSC	Enter a value of 1 or greater.
Max number of CA TSC	Enter a value of 1 or greater.
Trunk Group for NCA TSC	Enter the number of the DECT trunk group allocated in Figure 8 .
X-Mobility/Wireless Type	Enter "DECT".
Trunk Group for Channel Selection	Enter the number of the DECT trunk group allocated in Figure 8 .
Near-end Node Name	Enter "procr" do designate the G350 processor as the near end node name.
Far-end Node Name	Enter "dect" to assign the Avaya R4 base station as the far end node name.
Near-end Listen Port	Specify an otherwise unused port to be used to listen for incoming voice traffic.
Far-end Listen Port	Specify the port assigned to the Avaya R4 as "Local Port" in Figure 31 .
Direct IP-IP Audio	Enter "y" to allow direct IP-IP endpoint connections
Connections	(shuffling).

Table 5: Avaya R4 Signaling-Group Parameters

```
add signaling-group 8
                                                               Page 1 of 6
                               SIGNALING GROUP
Group Number: 8
                             Group Type: h.323
                          Remote Office? n
                                                    Max number of NCA TSC: 5
                                    SBS? n
                                                     Max number of CA TSC: 5
    IP Video? n
                                                  Trunk Group for NCA TSC: 8
      Trunk Group for Channel Selection: 8
                                                 X-Mobility/Wireless Type: DECT
     TSC Supplementary Service Protocol: a
                        T303 Timer(sec): 10
  H.245 DTMF Signal Tone Duration(msec):
  Near-end Node Name: procr
                                            Far-end Node Name: dect
Near-end Listen Port: 5210
                                          Far-end Listen Port: 5210
                                       Far-end Network Region: 1
                                        Calls Share IP Signaling Connection? n
        LRQ Required? n
        RRQ Required? n
                                            Bypass If IP Threshold Exceeded? n
                                                     H.235 Annex H Required? n
                                             Direct IP-IP Audio Connections? y
        DTMF over IP: out-of-band
 Link Loss Delay Timer(sec): 90
                                                       IP Audio Hairpinning? n
        Enable Layer 3 Test? y
                                                Interworking Message: PROGress
H.323 Station Outgoing Direct Media? n
                                        DCP/Analog Bearer Capability: 3.1kHz
```

Figure 7: Avaya R4 Signaling-Group Form

Use the **add trunk-group <n>** command, were <n> is an unused trunk number, to allocate a trunk group to be used as an interface to the Avaya R4 Base Station. Use the parameters show in the following table.

Parameter	Usage
Group Type (Page 1)	Enter "isdn".
Group Name (Page 1)	Assign a name for identification purposes.
TAC (Page 1)	Enter the Trunk Access Code to be used to identify this trunk.
Direction (Page 1)	Enter "two-way
Carrier Medium (Page 1)	Enter "H.323".
Service Type (Page 1)	Enter "tie".
Member Assignment Method (Page 1)	Enter "auto".
Signaling Group (Page 1)	Enter number of the signaling group allocated in Figure 7 .
Number of Members (Page 1)	Enter a number large enough to support the maximum number of anticipated simultaneous calls to be made via the DECT trunk.
Codeset to Send Display (Page 2)	CONNECT Reliable When Call Leaves ISDN
Digit Handling (in/out) (Page 2)	Enter "overlap/enbloc"
Disconnect Supervision In / Out (Page 2)	Enter "y" / "y".
CONNECT Reliable When Call Leaves ISDN (Page 2)	Enter "n".
NCA-TSC Trunk Member (Page 3)	Enter "1".
Send Calling Number (Page 3)	Enter "y".
Format (Page 3)	Enter "unk-pvt"
Send Connected Number (Page 3)	Enter "y".

Table 6: Avaya R4 Trunk-Group Parameters

```
add trunk-group 8

TRUNK GROUP

Group Number: 8

Group Type: isdn

CDR Reports: y

COR: 1

TN: 1

TAC: *08

Direction: two-way

Dial Access? y

Queue Length: 0

Service Type: tie

Member Assignment Method: auto

Signaling Group: 8

Number of Members: 10
```

Figure 8: Avaya R4 Trunk-Group Form, Page 1

```
Page 2 of 21
add change trunk-group 8
     Group Type: isdn
TRUNK PARAMETERS
        Codeset to Send Display: 0
                                       Codeset to Send National IEs: 6
                                       Charge Advice: none
 Supplementary Service Protocol: a
                                       Digit Handling (in/out): overlap/enbloc
      Digit Treatment:
                                                               Digits:
                                                  Digital Loss Group: 18
Incoming Calling Number - Delete:
                                      Insert:
                                                             Format:
Disconnect Supervision - In? y Out? y
Answer Supervision Timeout: 0
                                     CONNECT Reliable When Call Leaves ISDN? n
```

Figure 9: Avaya R4 Trunk-Group Form, Page 2

```
add trunk-group 8
                                                                Page
                                                                       3 of 21
TRUNK FEATURES
          ACA Assignment? n
                                        Measured: none
                               Internal Alert? n Maintenance Tests? y
Data Restriction? n NCA-TSC Trunk Member: 1
                                                           Maintenance Tests? y
                                                          Send Calling Number: y
                                       Send Name: n
            Used for DCS? n
                                                         Send EMU Visitor CPN? n
   Suppress # Outpulsing? n
                              Format: unk-pvt
                                               UUI IE Treatment: service-provider
                                                   Replace Restricted Numbers? n
                                                  Replace Unavailable Numbers? n
                                                         Send Connected Number: y
                                                     Hold/Unhold Notifications? n
             Send UUI IE? y
                                                 Modify Tandem Calling Number? n
               Send UCID? n
Send Codeset 6/7 LAI IE? y
```

Figure 10: Avaya R4 Trunk-Group Form, Page 3

4.4. Add Stations

4.4.1. Add Mobile Stations

Use the **add station** command to add an extension for each of the mobile extensions listed in **Table 1** using the parameters shown in the following table.

Parameter	Usage
Type	Enter "XMOBILE" for an analog telephone.
Name	Enter an appropriate name to identify the station.
XMOBILE Type	Enter "DECT".
Mobility Trunk Group	Enter the number of the trunk group which allocated in Figure 8 for connection to the Avaya R4 base station.
Cell Phone Number	Enter the number allocated to this station.
Mapping Mode	Enter "both".
Length of Display	Enter "12x3".

Table 7: Mobile Station Parameters

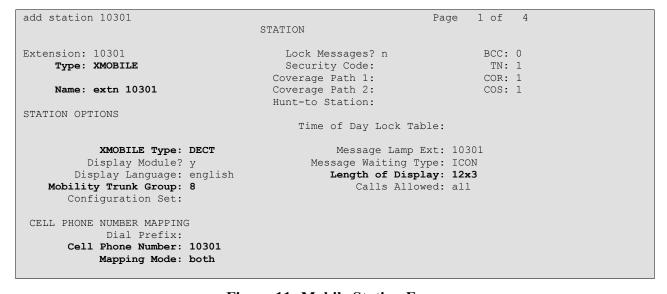


Figure 11: Mobile Station Form

4.4.2. Add IP Stations

Use the **add station** command to add an extension for each of the IP extensions listed in **Table 1** using the parameters shown in the following table.

Parameter	Usage
Type	Enter endpoint type as shown in Table 1 .
Name	Enter an appropriate name to identify the station.
Security Code	Enter an appropriate security code for the station.

Table 8: IP Station Parameters

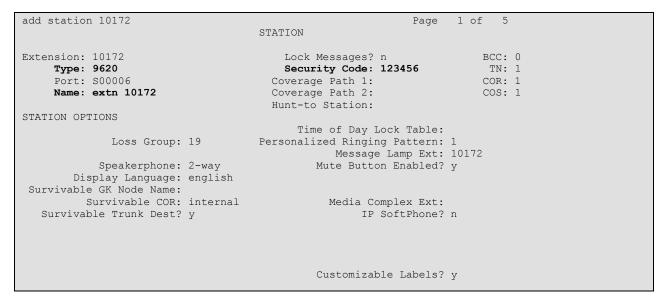


Figure 12: IP Station Form

4.4.3. Add Analog Stations

Use the **add station** command to add an extension for each of the room extensions listed in **Table 1** using the parameters shown in the following table.

Parameter	Usage
Type	Enter "2500" for an analog telephone.
Port	Enter the address of the port to which the telephone is attached.
Name	Enter an appropriate name to identify the station.

Table 9: Analog Station Parameters

```
Page 1 of 4
add station 10202
                                               STATION
Extension: 10202
                                                    Lock Messages? n
                                                                                         BCC: 0
                                               Lock Messages? n
Security Code:
Coverage Path 1:
Coverage Path 2:
Hunt-to Station:
     Type: 2500
                                                                                            TN: 1
      Port: 001V702
                                                                                          COR: 1
                                                                                           cos: 1
      Name: extn 10202
                                                                                        Tests? y
STATION OPTIONS
      XOIP Endpoint type: auto Time of Day Lock Table:

Loss Group: 1 Message Waiting Indicator: none
Off Premises Station? n
     Off Premises Station? n
            Survivable COR: internal
   Survivable Trunk Dest? y
```

Figure 13: Analog Station Form

4.4.4. Add Digital Stations

Use the **add station** command to add an extension for each of the room extensions listed in **Table 1** using the parameters shown in the following table.

Parameter	Usage
Type	Enter endpoint type as shown in Table 1 .
Port	Enter the address of the port to which the telephone is attached.
Name	Enter an appropriate name to identify the station.

Table 10: Mobile Station Parameters

```
add station 10001
                                                           Page 1 of 5
                                    STATION
                                      Lock Messages? n
Security Code:
Extension: 10001
                                                                    BCC: 0
    Type: 2410
                                                                      TN: 1
    Port: 001V301
                                     Coverage Path 1:
                                                                     COR: 1
    Name: extn 10001
                                                                     COS: 1
                                     Coverage Path 2:
                                     Hunt-to Station:
STATION OPTIONS
                                         Time of Day Lock Table:
            Loss Group: 2 Personalized Ringing Pattern: 1
                                              Message Lamp Ext: 10001
       Speakerphone: 2-way
Display Language: english
                                           Mute Button Enabled? y
         Survivable COR: internal
                                          Media Complex Ext:
  Survivable Trunk Dest? y
                                                   IP SoftPhone? n
                                            Customizable Labels? y
```

Figure 14: Mobile Room Station Form

4.5. Configure Meet-Me Conferencing

Since Communication Manager limits single line-appearance endpoints to initiating conferences with a maximum of two other participants, a "meet-me" conference can optionally be established if more that this number of participants is required. Use of this feature requires that "Enhanced Conferencing" be included in the feature set, as indicated by the "system-parameters customeroptions" form. Furthermore, the "Maximum Media Gateway VAL Sources" configuration value must be sufficient to allow the Media Gateway to serve as a source of announcements. If these requirements are not met in the configuration, please contact an Avaya representative for further assistance.

```
display system-parameters customer-options
                                                                       2 of 11
                               OPTIONAL FEATURES
IP PORT CAPACITIES
                                                             USED
                    Maximum Administered H.323 Trunks: 100
                                                             10
          Maximum Concurrently Registered IP Stations: 450
            Maximum Administered Remote Office Trunks: 0
                                                             0
Maximum Concurrently Registered Remote Office Stations: 0
             Maximum Concurrently Registered IP eCons: 0
 Max Concur Registered Unauthenticated H.323 Stations: 0
                 Maximum Video Capable H.323 Stations: 0
                  Maximum Video Capable IP Softphones: 0
                      Maximum Administered SIP Trunks: 100
 Maximum Administered Ad-hoc Video Conferencing Ports: 0
  Maximum Number of DS1 Boards with Echo Cancellation: 0
                            Maximum TN2501 VAL Boards: 0
                    Maximum Media Gateway VAL Sources: 10
          Maximum TN2602 Boards with 80 VoIP Channels: 0
                                                             0
         Maximum TN2602 Boards with 320 VoIP Channels: 0
                                                             0
  Maximum Number of Expanded Meet-me Conference Ports: 0
```

Figure 15: System-Parameters Customer-Options Form, Page 2

```
display system-parameters customer-options
                                                                      4 of 11
                               OPTIONAL FEATURES
  Emergency Access to Attendant? y
                                                               IP Stations? y
          Enable 'dadmin' Login? y
                                                        ISDN Feature Plus? n
          Enhanced Conferencing? y
                Enhanced EC500? y
                                       ISDN/SIP Network Call Redirection? n
   Enterprise Survivable Server? n
                                                          ISDN-BRI Trunks? y
      Enterprise Wide Licensing? n
                                                                  ISDN-PRI? v
             ESS Administration? n
                                               Local Survivable Processor? n
         Extended Cvg/Fwd Admin? y
                                                    Malicious Call Trace? n
    External Device Alarm Admin? n
                                                  Media Encryption Over IP? n
 Five Port Networks Max Per MCC? n
                                    Mode Code for Centralized Voice Mail? n
              Flexible Billing? n
  Forced Entry of Account Codes? n
                                                  Multifrequency Signaling? y
                                      Multimedia Call Handling (Basic)? n
     Global Call Classification? n
          Hospitality (Basic)? y
                                       Multimedia Call Handling (Enhanced)? n
Hospitality (G3V3 Enhancements)? y
                                                Multimedia IP SIP Trunking? n
                     IP Trunks? v
          IP Attendant Consoles? n
```

Figure 16: System-Parameters Customer-Options Form, Page 4

4.5.1. Create Conference Announcements

Configure the announcement facility of the media gateway by entering the parameters shown below for port V9 of the media gateway.

```
change media-gateway 1
                                                          Page 1 of
                           MEDIA GATEWAY
        Number: 1
                                          Registered? y
         Type: g350
Name: G350
                               FW Version/HW Vintage: 30 .10 .4 /3
                                MGP IP Address: 192.168.150.201
    Serial No: 06IS48006975 Controller IP Address: 192.168.150.202
  Encrypt Link? y
                   Location: 1
                                        MAC Address: 00:04:0d:f1:f8:31
Network Region: 1
                                           Site Data:
 Recovery Rule: none
Slot Module Type Name
V1:
     S8300
                          ICC MM
V2: MM720
                          BRI MM
     MM712
                          DCP MM
V3:
V4: MM710
                          DS1 MM
V5: MM710
                         DS1 MM
     MM314 ETH 24P MM
1T+2L-Integ-Analog ANA IMM
V6: MM314
V7:
V8:
                                               Max Survivable IP Ext: 8
V9:
     gateway-announcements ANN VMM
```

Figure 17: Media-Gateway Form

Enable the announcement facility by entering the following command:

enable announcement-board v9

Announcements can be created from an Avaya IP station which has a COS which has the **Console Permissions** parameter set to "y".

change change cos														Pε	ige	1	of	2	
CLASS OF SERVICE																			
	0	1	2	3	4	5	6	7	8	9	1.0	11	12	13	1 4	15			
Auto Callback	n	V	V	V	V	n	V	n	V	n	V	n	V	n	V	n			
Call Fwd-All Calls	n	У	У	У	У	n	n	У	У	n	n	У	У	n	n	У			
Data Privacy	n	У	У	У	n	У	У	У	У	n	n	n	n	У	У	У			
Priority Calling	n	У	У	У	n	n	n	n	n	У	У	У	У	У	У	У			
Console Permissions	n	У	n	У	n	n	n	n	n	n	n	n	n	n	n	n			
Off-hook Alert	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n			
Client Room	n	У	n	У	n	n	n	n	n	n	n	n	n	n	n	n			
Restrict Call Fwd-Off Net	У	У	У	У	У	У	У	У	У	У	У	У	У	У	У	У			
Call Forwarding Busy/DA	n	У	У	n	n	n	n	n	n	n	n	n	n	n	n	n			
Personal Station Access (PSA)	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n			
Extended Forwarding All	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n			
Extended Forwarding B/DA	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n			
Trk-to-Trk Transfer Override	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n			
QSIG Call Offer Originations	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n			
Contact Closure Activation	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n			

Figure 18: Announcement Creation Station COS Form

A Feature Access code must be allocated to create an announcement.

```
change feature-access-codes
                                                                 Page 1 of 8
                               FEATURE ACCESS CODE (FAC)
         Abbreviated Dialing List1 Access Code:
         Abbreviated Dialing List2 Access Code:
        Abbreviated Dialing List3 Access Code:
Abbreviated Dial - Prgm Group List Access Code:
                     Announcement Access Code: #01
                      Answer Back Access Code:
                         Attendant Access Code:
      Auto Alternate Routing (AAR) Access Code:
   Auto Route Selection (ARS) - Access Code 1: 0
                                                     Access Code 2:
                Automatic Callback Activation:
                                                      Deactivation:
Call Forwarding Activation Busy/DA: All:
Call Forwarding Enhanced Status: Act:
                                                        Deactivation:
                                                       Deactivation:
                         Call Park Access Code:
                       Call Pickup Access Code:
CAS Remote Hold/Answer Hold-Unhold Access Code:
                 CDR Account Code Access Code:
                        Change COR Access Code:
                   Change Coverage Access Code:
            Conditional Call Extend Activation:
                                                       Deactivation:
                   Contact Closure Open Code:
                                                          Close Code:
```

Figure 19: Announcement Access Code

The announcements shown in the following table must be created, by dialing the announcement access code shown in **Figure 19** from a station which has "console permissions" enabled in its COS (see **Figure 18**), and speaking each announcement at the prompt.

Extension	Announcement Text
3921	"Welcome to the conference, please enter your conference code"
3922	"Please re-enter your conference code"
3923	"Your conference code was not recognized"
3924	"Your are the first member of the conference"
3925	"The conference capacity has been exhausted"
3926	"There are already participants logged into the conference"

Table 11: Conference Announcements

Use the **change announcements** command to create announcement records on the physical medium, in this case the Avaya media gateway. The "Ext" value used is the extension which is to be assigned to the announcement. This can be any unused extension. Assign the "Type" to "integrated". Any text value can be assigned to "Name", as it is only used for informational purposes. The media gateway integrated announcement interface port should be assigned to "Group/Board".

```
add announcement 3921

ANNOUNCEMENTS/AUDIO SOURCES

Extension: 3921

COR: 1

Annc Name: welcome

TN: 1

Annc Type: integrated

Queue? y

Group/Board: 001V9

Protected? n

Rate: 64
```

Record the required announcements from the station which has the COS with console permission (Ext. 10172) via the following procedure:

- Dial the Announcement feature access code (#01), which was configured in **Figure 19**.
- Dial the extension of the announcement to be created.
- Dial 1
- Speak the announcement
- Dial #

Repeat this procedure for each of the announcements in **Table 11**.

4.5.2. Configure Meet-Me Conference Vector

Enter the **change vector** <n> command, where n is an unused vector using the parameters shown in the following form. The content of each of the announcements is shown in **Table 11**.

```
change vector 3
                                                                                                     Page
                                                                                                                1 of
                                                      CALL VECTOR
      Number: 3
                                            Name: conference
                                                                     Meet-me Conf? y
 Basic? y EAS? y G3V4 Enhanced? y ANI/II-Digits? y ASAI Routing? y Prompting? y LAI? n G3V4 Adv Route? y CINFO? y BSR? y Holidays? y
Variables? y 3.0 Enhanced? y

Ol collect 6 digits after announcement 3921

O2 goto step 6 if digits = meet-me-access
O3 collect 6 digits after announcement 3922

O4 goto step 6 if digits = meet-me-access
O5 disconnect after announcement 3923
06 goto step 11 if meet-me-idle
07 goto step 14 if meet-me-full
08 announcement 3926
09 route-to
                     meetme
10 stop
11 announcement 3924
12 route-to meetme
13 stop
14 disconnect after announcement 3925
```

Figure 20: Meet-Me Conference Vector Form

4.5.3. Configure Meet-Me Conference Vector Directory Number

Enter the **add vdn** <n> command, where n is an unused extension using the parameters shown in the following table.

Parameter	Usage
Extension	Enter an unused extension contained within the dial plan.
Name	Enter an appropriate name to identify the station.
Destination	Enter the vector number to be used for the conference, defined in Figure 20 .
Meet-me Conferencing	Enter "y".
Conference Access Code	Enter an appropriate code to be used for the authorization of conference participants.
Conference Controller	Enter the extension of the station which controls the conference. This can be the extension of the Konftel 300W. This station has the ability to change the Conference Access code.

Table 12: Meet-Me Conference Vector Directory Number Parameters

```
add vdn 11003

VECTOR DIRECTORY NUMBER

Extension: 11003

Name: Conference
Destination: Vector Number 3

Meet-me Conferencing? y

COR: 1
TN: 1
```

Figure 21: Meet-Me Conference Vector Directory Number Form, Page 1

```
add vdn 11003

VECTOR DIRECTORY NUMBER

MEET-ME CONFERENCE PARAMETERS:

Conference Access Code: 123456
Conference Controller: 10302
Conference Type: 6-party
```

Figure 22: Meet-Me Conference Vector Directory Number Form, Page 2

4.5.4. Configure Meet-Me Conference Access Code Change Feature

Enter the **change feature-access-codes** command to configure the feature access code to be used to change the conference access code.

```
change feature-access-codes
                                                               Page 3 of 8
                              FEATURE ACCESS CODE (FAC)
            Leave Word Calling Send A Message:
          Leave Word Calling Cancel A Message:
  Limit Number of Concurrent Calls Activation:
                                                      Deactivation:
             Malicious Call Trace Activation:
                                                      Deactivation:
        Meet-me Conference Access Code Change: *60
         Message Sequence Trace (MST) Disable:
PASTE (Display PBX data on Phone) Access Code:
 Personal Station Access (PSA) Associate Code:
                                                      Dissociate Code:
       Per Call CPN Blocking Code Access Code:
     Per Call CPN Unblocking Code Access Code:
                 Priority Calling Access Code:
                          Program Access Code:
      Refresh Terminal Parameters Access Code:
             Remote Send All Calls Activation:
                                                      Deactivation:
              Self Station Display Activation:
                    Send All Calls Activation:
                                                      Deactivation:
        Station Firmware Download Access Code:
```

Figure 23: Meet-Me Conference Access Code Change Sequence

5. Configure Avaya R4 Base Stations

Although it is possible to use the Konftel 300W with a single Avaya R4 base station, two Avaya R4 base stations are included in the reference configuration, to allow the roaming abilities of the Konftel 300W to be tested.

In its un-configured state, the Avaya R4 base station is set to be a DHCP client. Thus, the MAC address of each base station to be included in the configuration should be entered into the DHCP server together with the IP address, network mask, and default gateway address which are to be assigned to that base station. The Avaya R4 base stations have an integrated HTTP server which allows the input of configuration parameters via a web browser.

Each Avaya R4 base station consists of two independent components:

- A PBX interface component which has a trunk interface to the PBX and an IP interface to one or more radio components.
- A radio component which interfaces to the wireless endpoints via DECT and via IP interface to a Master base station containing an active PBX interface component.

The unit which serves as Master has an active PBX interface component and can also have an active radio component. Any additional base stations, hereafter referred to as Slave base stations, can extend radio coverage. Each has an active radio component which communicates with the Master via IP, and an inactive PBX interface component.

5.1. Configure Master Base Station

Enter the URL of the master base station into a web browser and select the "System administration" control.

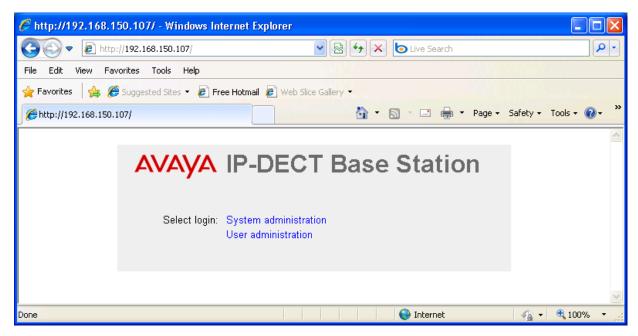


Figure 24: Master Base Selection

Enter the appropriate credentials and click "OK". For the first-time login, the default password is "changeme". After initial login, this should be changed to an appropriate value, for security reasons.



Figure 25: Master Base Station Login

The initial display shows the **General->Info** tab, which contains version/hardware identification information.

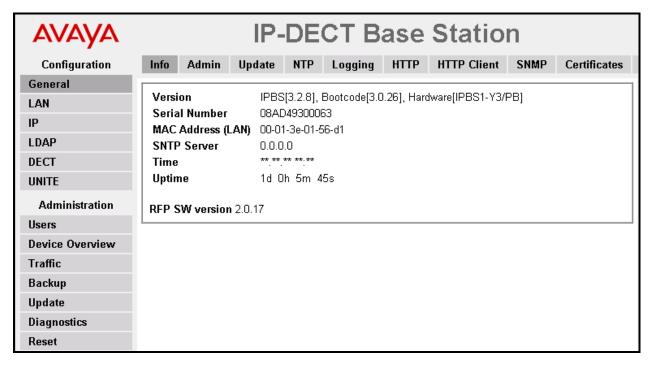


Figure 26: Master Base Station General -> Info Tab

Select the **LAN->IP** tab. Verify that the IP parameters assigned to the base station correspond to those which are configured in the DHCP reservation.

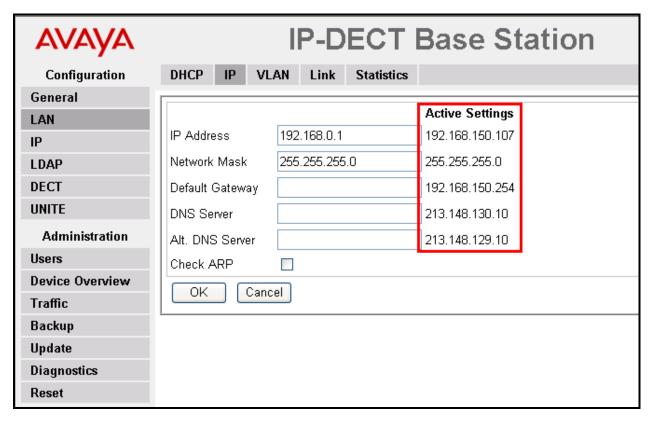


Figure 27: Master Base Station LAN -> IP Tab

Select the **General->Admin** tab. Enter the parameters shown in the following table and click "OK".

Parameter	Usage
Device Name	Enter an appropriate name to identify the master base station.
User Name	Enter "admin", the default administrator user name.
Password	Enter an appropriate password.

Table 13: Master Base Station General -> Admin Tab Parameters

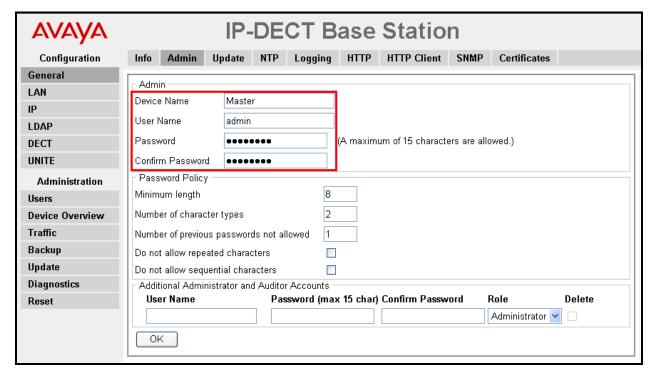


Figure 28: Master Base Station General -> Admin Tab

Select the **DECT->Master** tab Enter the parameters shown in the following table and click "OK".

Parameter	Usage
Mode	Select "Active" from the drop-down menu.
PBX	Select "ACM" from the drop-down menu.
Protocol	Select "H.323/XMobile" from the drop-down menu.

Table 14: Master Base Station DECT -> Master Tab Parameters

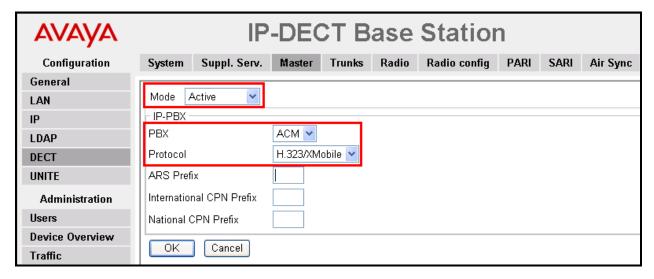


Figure 29: Master Base Station DECT -> Master Tab

Select the **DECT** -> **System** tab. Enter the parameters shown in the following table and click "OK".

Parameter	Usage
System Name	Enter an appropriate name to identify this base station.
Password / Confirm	Enter an appropriate password for this base station.
Subscriptions	Select "With System AC" from the drop-down menu.
Authentication Code	Enter an appropriate code to be used by endpoints for registration authentication.
Frequency	Select "Europe" from the drop-down menu.
Coder	Select "G711A" from the drop-down menu.
Frame (ms)	Select "20" from the drop-down menu.

Table 15: Master Base Station DECT -> System Tab Parameters

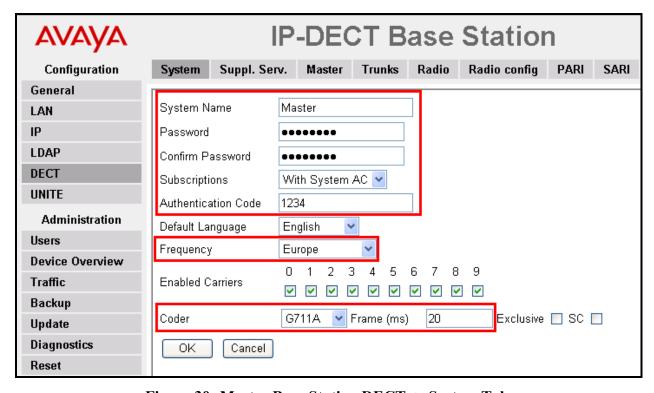


Figure 30: Master Base Station DECT -> System Tab

Select the **DECT->Trunks** tab. Enter the parameters shown in the following table and click "OK".

Parameter	Usage
Name	Enter an appropriate name to identify this trunk.
	Enter the number of the local port which is read by this base
Local Port	station. This must be the same values assigned to "Far-end Listen
	Port" in Figure 7.
CS IP Address	Enter the IP assigned to the proc interface in Figure 6 .
	Enter the number of the local port which is read by this base
CS Port	station. This must be the same values assigned to "Near-end
	Listen Port" in Figure 7.

Table 16: Master Base Station DECT -> Trunks Tab Parameters

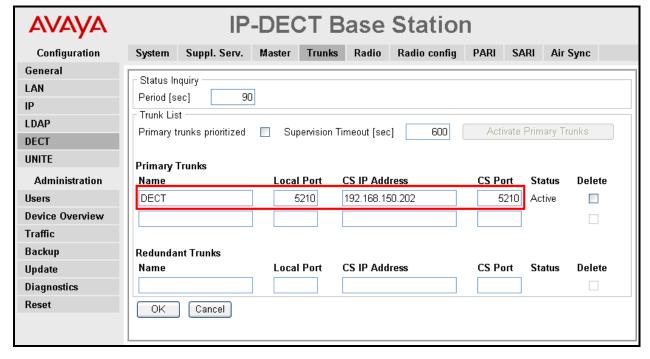


Figure 31: Master Base Station DECT -> Trunks Tab

Select the **DECT->Radio** tab. Enter the parameters shown in the following table and click "OK".

Parameter	Usage
Name	Enter the System Name assigned to this base station in Figure 30 .
Password	Enter the password assigned to this base station in Figure 30 .
Master IP Address	Enter the IP address assigned to this base station, as displayed by the "Active Settings" in Figure 27 .

Table 17: Master Base Station DECT -> Radio Tab Parameters

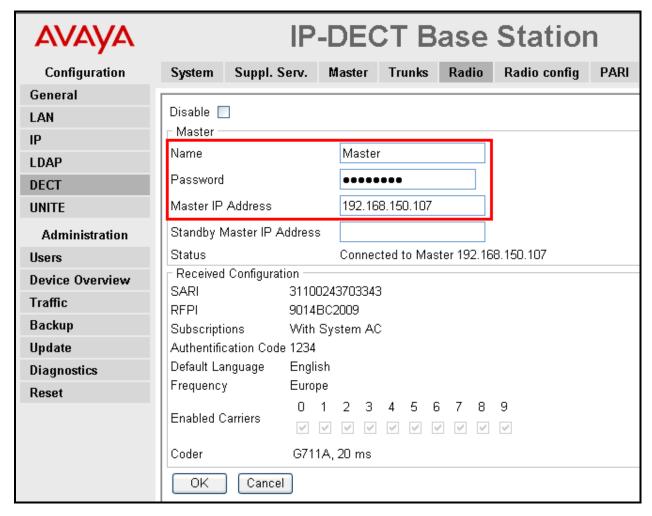


Figure 32: Master Base Station DECT -> Radio Tab

Select the **DECT->Air Sync** tab. Enter the parameters shown in the following table, click "OK".

Parameter	Usage
Sync Mode	Select "Master" from the drop-down menu.

Table 18: Master Base Station DECT -> Air Sync Tab Parameters

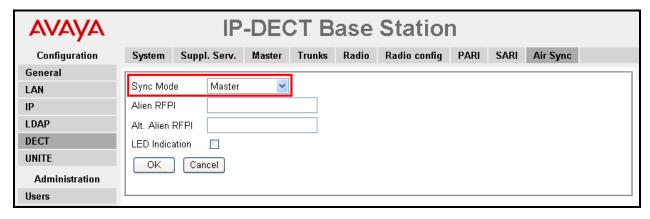


Figure 33: Master Base Station DECT -> Air Sync Tab

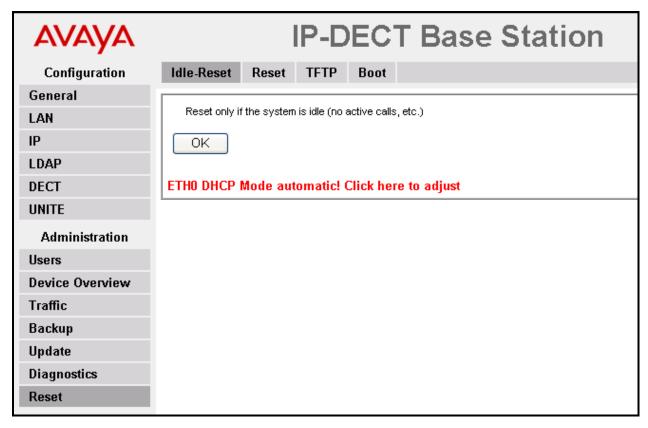


Figure 34: Master Base Station Reset -> Idle-Reset Tab

5.2. Configure Slave Base Station

Enter the URL of the slave base station into a web browser and select the "System Administration" control.

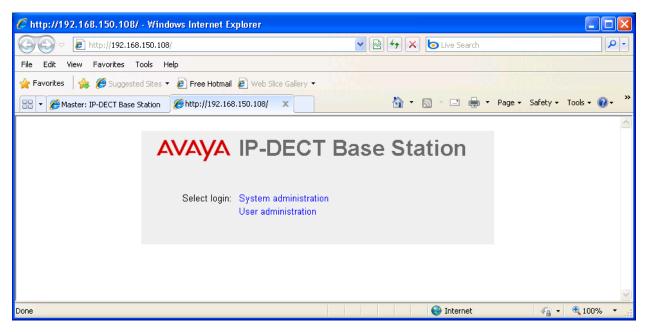


Figure 35: Slave Base Selection

Enter the appropriate credentials and click "OK". For the first-time login, the default password is "changeme".



Figure 36: Slave Base Station Login

The initial display shows the **General->Info** tab, which contains version/hardware identification information.

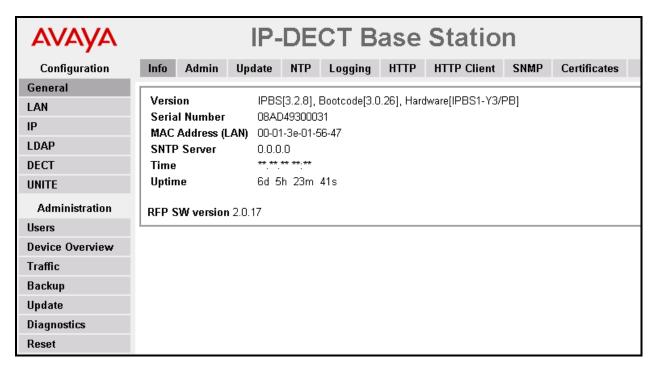


Figure 37: Slave Base Station General -> Info Tab

Select the **LAN->IP** tab. Verify that the IP parameters assigned to the base station correspond to those which are configured in the DHCP reservation.

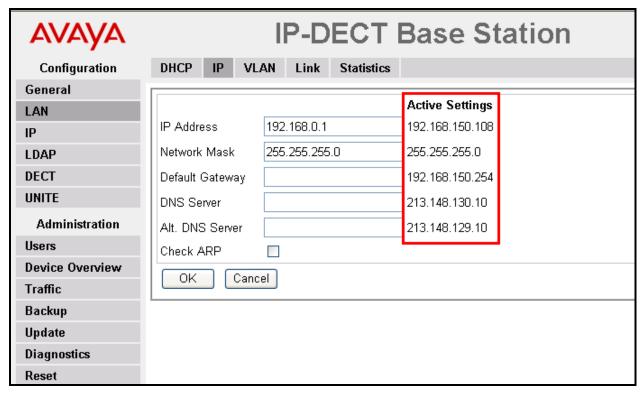


Figure 38: Slave Base Station LAN -> IP Tab

Select the **General->Admin** tab Enter the parameters shown in the following table and click "OK".

Parameter	Usage
Device Name	Enter an appropriate name to identify the slave base station.
User Name	Enter "admin", the default administrator user name.
Password	Enter an appropriate password.

Table 19: Slave Base Station General -> Admin Tab Parameters

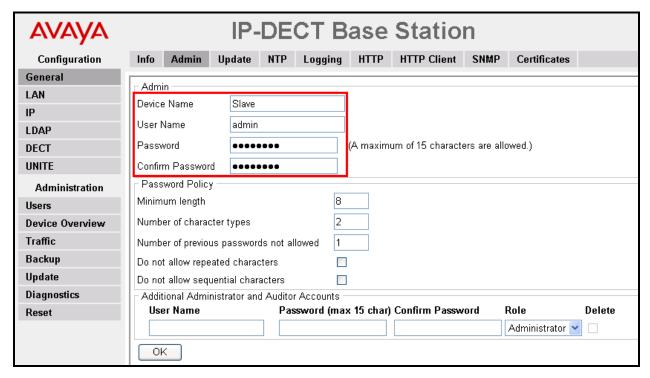


Figure 39: Slave Base Station General -> Admin Tab

Select the **DECT->Master** tab Enter the parameters shown in the following table and click "ok".

Parameter	Usage
Mode	Select "Off" from the drop-down menu.

Table 20: Slave Base Station DECT -> Master Tab Parameters



Figure 40: Slave Base Station DECT -> Master Tab

Select the **DECT** -> **System** tab. Enter the parameters shown in the following table and click "ok".

Parameter	Usage
Name	Enter the System Name assigned to the master base station in Figure
	30.
Password	Enter the password assigned to the master base station in Figure 30 .
Master IP Address	Enter the IP address assigned to the master base station, as displayed
	by the "Active Settings" in Figure 27 .

Table 21: Slave Base Station DECT -> Radio Tab Parameters

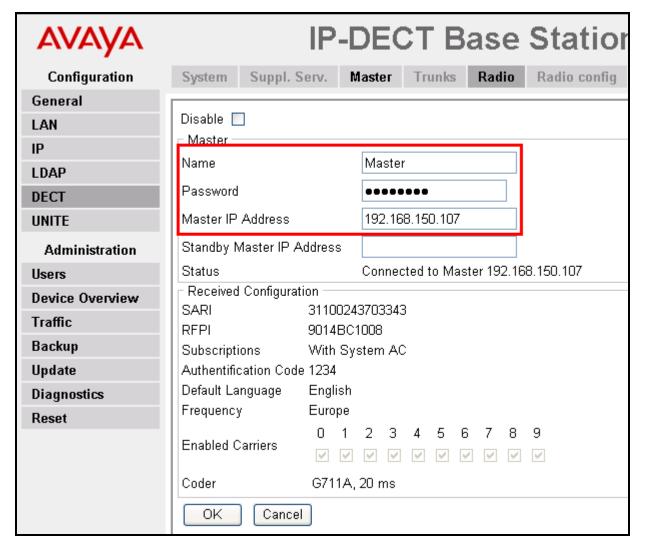


Figure 41: Slave Base Station DECT -> Radio Tab

Select the **DECT** -> **Air-Sync** tab Enter the parameters shown in the following table, click "ok".

Parameter	Usage
Sync Mode	Select "Backup-Master" from the drop-down menu.

Table 22: Slave Base Station DECT -> Air Sync Tab Parameters

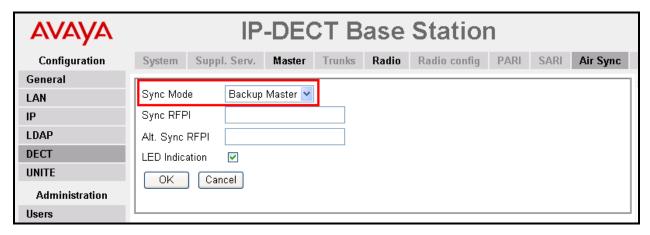


Figure 42: Slave Base Station DECT -> Air Sync Tab

Select the **Reset->Idle-Reset** tab and click "OK".

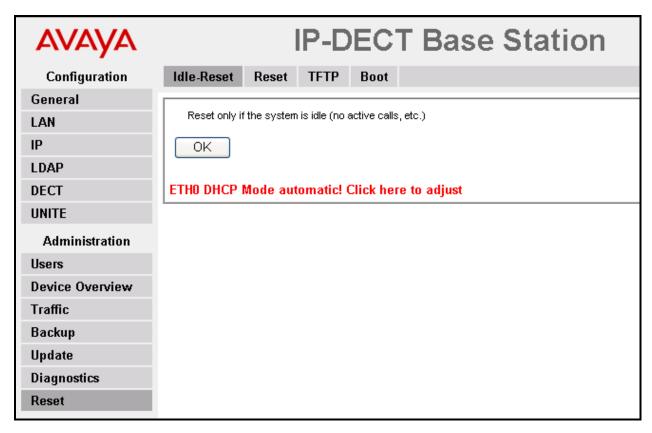


Figure 43: Slave Base Station Reset -> Idle-Reset Tab

6. Configure Konftel 300W

The Konftel 300W can be registered with an Avaya R4 base station via the "Menu" key shown in **Figure 1**. The initial depression of this key initiates menu mode, which provides access to the top level of the menu tree shown in the figure below. The "up arrow" and "down arrow" keys provide navigation at a given menu level, and the "OK" key descends into a menu branch. Depression of the "Menu" key while within the menu tree cancels menu mode.

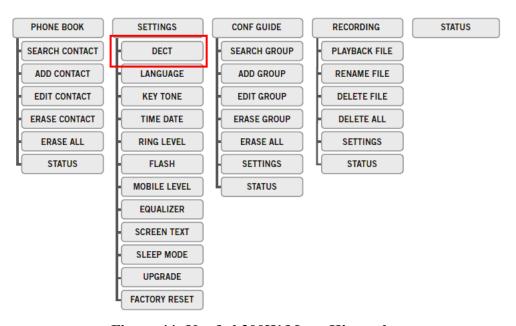


Figure 44: Konftel 300W Menu Hierarchy

To register the 300W with an Avaya R4 base station, use the following key sequence:

- Press the "Menu" key.
- Push the "down" key to navigate to "SETTINGS".
- Push the "OK" key to select "SETTINGS".
- Push the "OK" key to select "DECT".
- Push the "down" key to navigate to "REGISTER".
- Push the "OK" key to select "REGISTER".
- When prompted, enter the "Authentication Code" which was configured in **Figure 30**.
- Push the "MENU" key to exit the menu.

After the initial registration attempt, the Master base station will create an entry in its "Anonymous" user table. Note this entry and then click "Delete" and navigate to the "Users" tab

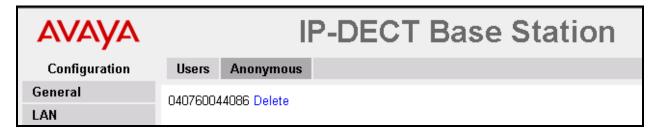


Figure 45: Master Base Station Users -> Anonymous Tab

Navigate to the Users -> Users tab and click "new".

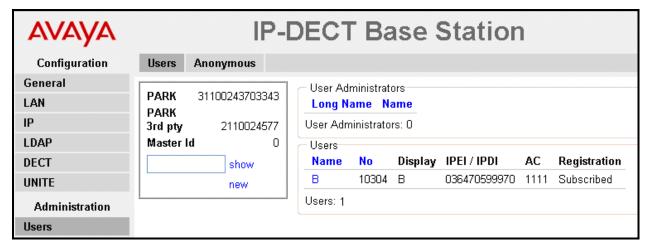


Figure 46: Master Base Station Users -> Users Tab

Enter the parameters show in the following table, click "OK", and reset the Master base station.

Parameter	Usage
Long Name	Enter an appropriate to identify the Konftel 300W.
Number	Enter the extension from Table 1 to be assigned to the Konftel 300W.
IPEI / IPDI	Enter the code from Figure 45 .

Table 23: Master Base Station New User Parameters

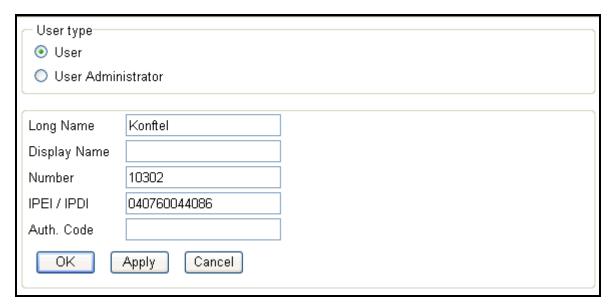


Figure 47: Master Base Station New User Screen

Repeat the Konftel 300W registration procedure. The Konftel 300W should now register with the Master base station.

7. General Test Approach and Test Results

The compliance testing of Konftel 300W interoperating with Communication Manager was performed manually. The tests were functional in nature, and no performance testing was done. The following issues were encountered during testing:

- 1. Although the Konftel 300W automatic conference feature allows conferences to be created with up to five participants, Communication Manager restricts single line appearance telephones, such as the Konftel 300W, to create conferences with a maximum of two other participants. Alternatively, the Communication Manager "meet-me" conference feature described in **section 4.5** can be used to establish conferences with up to six participants.
- 2. It is not possible to un-register the Konftel 300W from the DECT base station using the "De-register" function: the Konftel 300W responds with "NOT SUPPORTED" when this feature is selected.

With the exception of the above-described problems, all tests which were performed produced the expected result. **Section 1.1** contains a list of tests which were performed.

8. Verification Steps

The correct installation and configuration of 300W can be verified by performing the steps shown below.

8.1. Verify Avaya Aura[™] Configuration

Enter the "status signaling-group" command from the Communication Manager SAT terminal and verify that the signaling group is in the "in-service" state.

```
status signaling-group 8

STATUS SIGNALING GROUP

Group ID: 8

Group Type: h.323

Signaling Type: facility associated signaling

Group State: in-service
```

Figure 48: Signaling Group Status

Enter the "status trunk" command from the Communication Manager SAT terminal and verify that the all of the trunk members are in the "in-service/idle" state.

```
status trunk 8
                                 TRUNK GROUP STATUS
Member
                  Service State
                                         Mtce Connected Ports
                                         Busy
0008/001 T00019 in-service/idle
0008/002 T00020 in-service/idle
                                         nο
0008/003 T00021 in-service/idle
                                         no
0008/004 T00022 in-service/idle
0008/005 T00023 in-service/idle
0008/006 T00024 in-service/idle
                                         no
                                          no
0008/007 T00025 in-service/idle
                                         no
0008/008 T00026 in-service/idle
                                         no
0008/009 T00027
                    in-service/idle
0008/010 T00028 in-service/idle
```

Figure 49: Trunk Status

If meet-me conferencing has been configured, the configuration can be verified by changing the conference access code from the Konftel 300W, by performing the following steps from the Konftel 300W:

Dial Sequence	Response
Dial the Meet-me Conference Feature Access Code defined in	Dial tone
Figure 23	
Dial the conference bridge VDN defined in Figure 21 followed by	Silence
" # ".	
Dial the current Access Code defined in Figure 22 followed by	Dial tone
"#".	
Dial the Access Code followed by "#".	Dial tone
Dial NEW Access Code again followed by "#".	Confirmation tone

Table 24: Dial Sequence for Changing Conference Access Code

8.2. Verify Avaya R5 Master Base Station Configuration

From the Avaya R4 DECT base station, the **Device Overview** -> **Radios** tab should show registrations for the both the Master and Slave base stations.

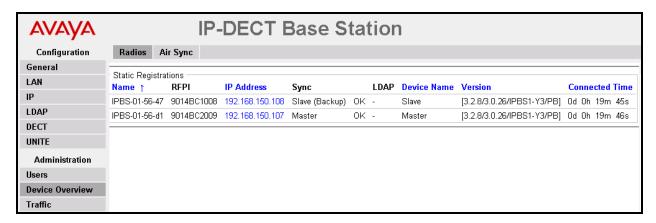


Figure 50: Master Base Station Radio Status

8.3. Verify Konftel 300W Configuration

To verify that the Konftel 300W is registered with one of the Avaya R4 base stations:

- Press the "Menu" key.
- Push the "down" key repeatedly to navigate to "STATUS".
- Push the "OK" key to select "STATUS".
- Push the "down" key repeatedly to navigate to "IPEI/PARK"
- Verify that the first seven digits of the PARK are identical to the first seven digits of master base station SARI.

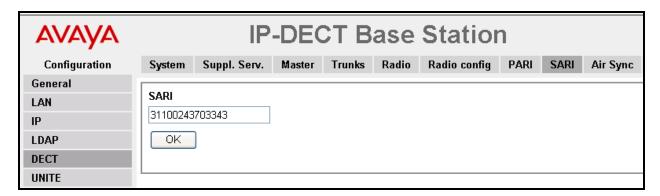


Figure 51: Master Base Station SARI

9. Conclusion

These Application Notes contain instructions for configuring a solution with Communication Manager, the Konftel 300W, and the Avaya R4 base stations. A list of instructions is provided to enable the user to verify that the various components have been correctly configured.

10. Additional References

This section references documentation relevant to these Application Notes. The Avaya product documentation is available at http://support.avaya.com.

- [1] *Administering Avaya Aura* TM *Communication Manager*, January 2009, Document Number 03-300509.
- [2] *Avaya Aura*TM *Communication Manager Feature Description and Implementation*, May 2009, Document Number 555-245-205.
- [3] Avaya DECT R4 Installation and Administration Manual, August 2009, Document Number 21-603363.
- [4] Konftel 300W Quick Reference Guide: 110090-61-001, Rev 1b

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