
CHAPTER 4

Enhanced Automated Attendant



This chapter shows you how to design, configure and implement a multi-level auto attendant, using TFB's Enhanced Automated Attendant (Auto Attendant for short). The following topics are covered.

- What is TFB Auto Attendant? (*page 1*)
- Configuration (*page 1*)
- Troubleshooting and Maintenance (*page 13*)

What is Auto Attendant?

TFB's Auto Attendant enhances your call-routing efficiency by providing callers with an automated, touchtone menu system that can be completely customized to your requirements. Using touchtone inputs, callers can route themselves to the appropriate menus, prompts, special-case handling, or PBX extensions. Powerful menu-building features allow you to implement each touchtone menu or submenu to your specifications, and specify associated custom-recorded prompts. Auto Attendant also includes tools for assigning functions to touchtone buttons, as well as options to handle callers' input errors, time-outs, and menu navigation requirements. Included with Auto Attendant on most systems is TFB's Enhanced Announcements module. See Chapter 3 for information on configuring Enhanced Announcements.

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Configuration

This section shows you how to configure Auto Attendant by creating the touchtone menu system on CTI Server, then routing calls to your menus from the desired pilots in the ACD.

Designing Auto Attendant Menus

To create an Auto Attendant, first define all menus and submenus in your system in the forms-based Auto Attendant tool. Each menu definition consists of a menu name and number, prompt numbers that specify the recorded prompts to play for each menu, touchtone key assignments, and timeout/error configurations. Auto Attendant has the capacity to handle menu systems of varying complexity, but regardless of how complicated your requirements are, the procedure for defining menus is the same. It's important to note that it's far easier to *enter* menu data than to *change* it, so be sure to plan all menus and submenus, and to script all prompts beforehand. By numbering your menus and announcements with a consistent methodology, you can easily implement even the most intricate system.

What Information is Required to Specify Each Menu?

In general, the following information must be specified in the Auto Attendant form for each functional menu in your system:

- **A menu number and description** – This includes specifying whether it's a Main menu or submenu, and entering the menu number and description.
- **An ACD IVR Announcement number (for 'main' menus)** – The *IVR* number is how the **ACD** routes calls to that menu.
- **The prompts for this menu: main, error and timeout** – The verbal announcements made when the caller enters a menu (“press ‘1’ for...”), when undefined keys are hit (“that is not a valid selection, please re-enter...”), or the caller doesn't hit any key (“Sorry, we did not hear your selection...”).
- **The Touchtone keypad configuration** – Define the action to be taken when a caller presses each touchtone key

Creating an Auto Attendant System

The Auto Attendant form on CTI Server is where you construct menus and define how calls are routed based on a caller's touchtone inputs. You can configure touchtone buttons to route callers to other menus, submenus, announcements, prompts, directly to agents, or to other PBX extensions. This section guides you through the three important steps that are required to implement an Auto Attendant menu system.

Step 1 Open the Auto Attendant form and define all Auto Attendant menus.


Step 2 Record all voice-prompts related to each menu.

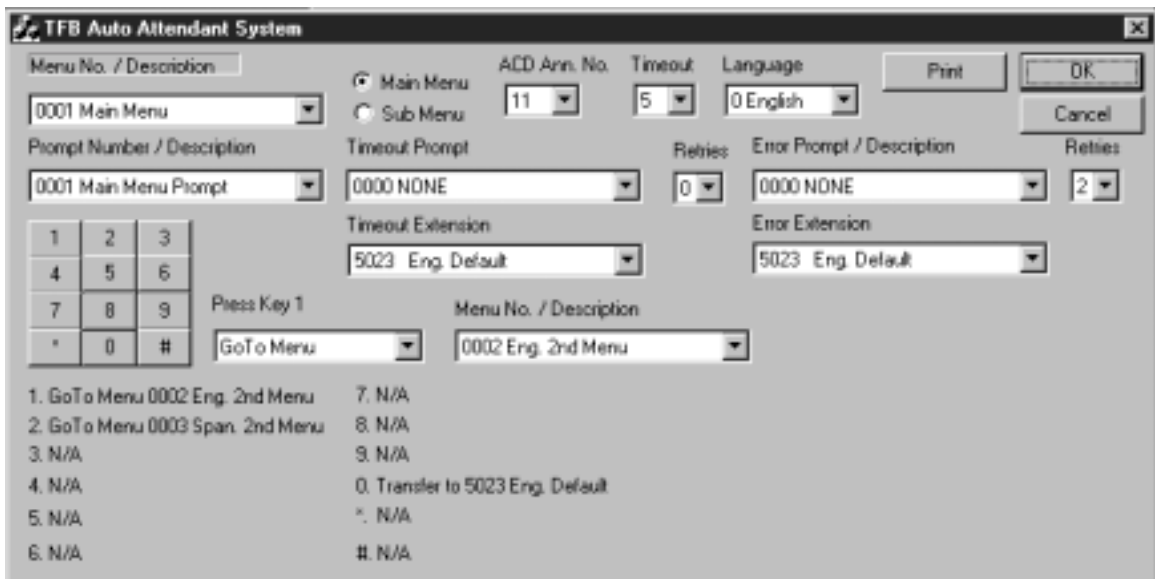
Step 3 Configure ACD CCVs to route the appropriate calls to Auto Attendant.

Starting the Auto Attendant System Form

To get started, open the Auto Attendant form from the icon on the CTI Server desktop.

To open the Auto Attendant form

- Click the Auto Attendant icon on the CTI Server desktop (node 1 only!).  TFB Auto Attendant
- If a shortcut is not defined, click the Windows **Start** menu, click **Run**, and type, `\tfb\bin\tfbaaup.exe`
- The TFB Auto Attendant form opens.



TFB Auto Attendant System

Menu No. / Description: 0001 Main Menu

ACD Ann. No.: 11

Timeout: 5

Language: 0 English

Prompt Number / Description: 0001 Main Menu Prompt

Timeout Prompt: 0000 NONE

Retries: 0

Error Prompt / Description: 0000 NONE

Retries: 2

Timeout Extension: 5023 Eng. Default

Error Extension: 5023 Eng. Default

Press Key 1: 1, 2, 3, 4, 5, 6, 7, 8, 9, *, 0, #

GoTo Menu: 0002 Eng. 2nd Menu

1. GoTo Menu 0002 Eng. 2nd Menu 7. N/A

2. GoTo Menu 0003 Span. 2nd Menu 8. N/A

3. N/A 9. N/A

4. N/A 0. Transfer to 5023 Eng. Default

5. N/A *. N/A

6. N/A #. N/A

<u>Field...</u>	<u>Usage...</u>
Menu No. Description	User-defined Menu Number 1 - 99.
Main Menu / Sub Menu	Indicates Menu type – main menu or sub menu.
ACD Ann No.	ACD <i>IVR Announcement</i> number for Main Menus only.
Timeout	Timeout value in seconds for this menu.
Language	Language code for this menu.
Print (Button)	Print Auto Attendant report (to Windows Notepad).
Prompt Number	Auto Attendant voice prompt number 0001 - 9999.
Timeout Prompt	Timeout prompt 0001 - 9999. A timeout occurs when the caller doesn't hit any touchtone key within the number of seconds specified in Timeout .
Retries (timeout)	Number of timeout retries (<i>after</i> the first try).
Error Prompt	Error prompt 0001 - 9999. An error occurs when the caller hits a touchtone key defined as 'N/A'.
Retries (error)	Number of error retries (<i>after</i> the first try).
Timeout Extension	Transfer extension when caller exhausts timeout retries .
Error Extension	Transfer extension when caller exhausts error retries .
Touch Tone Keypad Buttons	Select menu choices for the current menu.
Touch Tone Keypad Map	Shows menu choices defined for the current menu.

Assignable Touchtone Key Functions

<u><i>This Function...</i></u>	<u><i>Produces this Result...</i></u>
Transfer	Transfers the caller to the extension selected.
GoTo Menu	Routes the caller to the menu number selected.
Play Passage	Plays passage specified then returns to the current menu.
GoTo Main Menu	Returns to the first menu presented to caller.
Backup Menu	Backs up one menu level.
HangUp	Hangs up on caller.
Dial Extension	Directly dials a PBX extension. The key must be the first of the 4 or 5-digit direct extension number.
N/A	Defines the key as not valid for this menu. If the caller selects this key, the error prompt is played.

To define Auto Attendant Menus

In the Auto Attendant form...

- 1 **Enter a menu description** – Click the **Menu No. / Description** list in the top left corner of the form. Click **9999 Create new menu** at the bottom of the list. Enter a number (1-99) and description for your menu. The data entered in all other fields pertains **ONLY** to the menu shown in the **Menu No. / Description** field.
- 2 **Specify the type of menu.** Click **Main Menu** or **Sub Menu**. If you're defining a main menu, enter the *IVR Announcement Number* (10-98) you want to route calls to this menu. You can only route calls to Submenus from other menus, so you don't need to specify **ACD Ann. No.** for 'Sub' menus. Of course, you must define at least one main menu as the first menu callers on a given pilot are routed to.


The screenshot shows a form section with two radio buttons: 'Main Menu' (selected) and 'Sub Menu'. To the right is a label 'ACD Ann. No.' and a dropdown menu currently displaying the number '11'.

NOTE The *ONLY* difference between a **Main menu** and a **submenu** – Calls routed from the ACD to Auto Attendant can only go to 'Main' menus, hence the **ACD Ann. No.** field that appears when **Main Menu** is selected. 'Sub menus' are *only* launched from *other* menus. Main menus can be launched from sub menus, and vice versa.

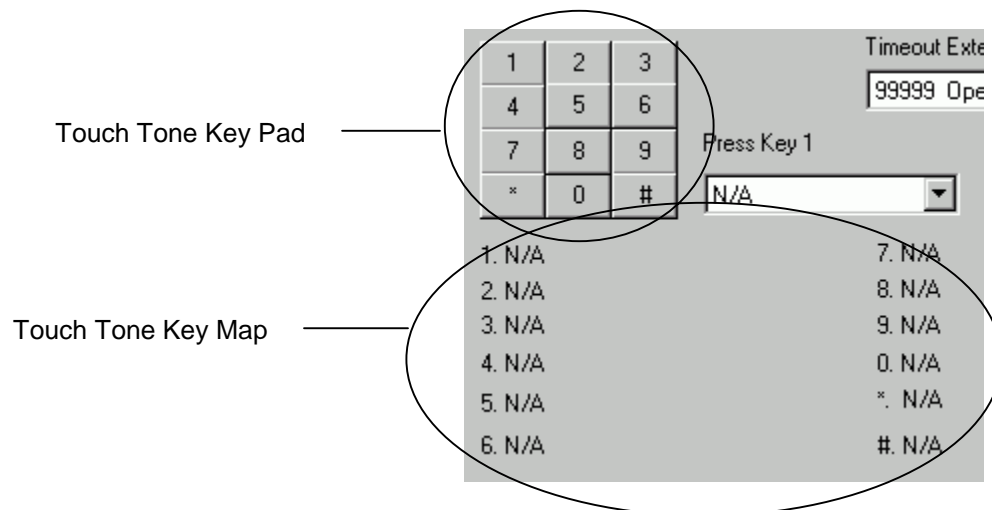
- 3 **Specify the Language.** English or Spanish are normally available. Your system may also have custom language options. This field pertains only to 'canned' prompts that are played during transfers or other common events. **More Information** – See the *Predefined Prompts* section.
- 4 **Specify the Prompt number and description for this menu.** Select a prompt from the list or click **9999 Create New Prompt**. Enter a prompt number (1-9998) and description. This specifies the prompt callers hear when they first reach this menu. The prompt is also replayed on each 'retry' caused by an error or timeout.
- 5 **Specify the timeout period in Timeout.** This is the number of seconds the system waits for caller input before playing the prompt specified in **Timeout Prompt**.
- 6 **Specify the Time-out prompt number and description for this menu, and enter the number of Retries.** Callers hear this prompt when they don't press any

keys within the number of seconds specified in **Timeout**. **Retries** is the number of timeouts that can happen before the caller is transferred to the **Timeout Extension**.

- 7 Specify the Time-out Extension**, the extension to which the caller is transferred after exhausting the number of timeout **retries**. You may specify a valid PBX extension or 'None' to make the system hang up when the caller exhausts the number of timeout **Retries**.
- 8 Specify the Error prompt number and description for this menu, and enter number of retries**. Click **9999 Create new prompt** at the bottom of the list, or select an existing prompt. Enter a prompt number (1-9999) and description for your menu. Callers hear this prompt when they press any key defined as 'N/A' (see *Step 10*).
- 9 Specify the Error Extension**. The extension to which the caller is transferred after exhausting the number of error retries. You may specify a valid PBX extension or 'None' to make the system hang up when the caller exhausts the number of timeout **Retries**.

TIP As you enter menu data, click **OK** to save your work at regular intervals. You must restart Auto Attendant each time, but because many experienced Windows users are in the habit of clicking the close  button to exit applications (which will *not* save your work), following this procedure may save time in the long run.

- 10 Configure the Touchtone Keys**. Assign the function you require to each key on the touchtone pad by clicking the desired key, then selecting a function from the **Press Key n** list box to the right of the key pad.



Key assignments are displayed in the Touch Tone Key Map as shown above. 'N/A' indicates no function is assigned to that key. Key assignments are unique to each menu, so whichever keys you assign in this menu, may be assigned differently in the next.

Key Map Functions	
<i>Function</i>	<i>Result</i>
Transfer	Transfers caller to the extension selected.
GoTo Menu	Transfers caller to the menu number selected.
Play Passage	Plays passage number selected and returns to the current menu.
GoTo Main Menu	Returns to the first menu presented to caller.
Backup Menu₁	Backs up one menu level unless it's already at the first menu presented to caller.
HangUp	Plays a brief "goodbye" message, then hangs up on caller.
Dial Extension	Allows callers to dial extensions directly. The assigned key must be the first digit of the 4 or 5-digit extension number.
Return to ACD	Returns control of the call to the next CCV step after the @IVR Announce <i>n</i> to that routed the call to Auto Attendant.
N/A	Denotes invalid/unassigned key.

Notice that various dialog boxes appear to the right of the key map depending on the function assigned. Enter values in those fields as appropriate.

1 – The backup function keeps track (in real time) of which menu the caller came from. You can safely define submenus with multiple parent menus up to a depth of 12, and repeated backups will backtrack reliably along the original path!



Completing Server Configuration

After specifying menu options, close the CTI Server window, then restart it by double-clicking the **TFB CTI Server** icon. This initializes your changes, and completes Auto Attendant configuration on the server. Next, you'll need to record all the prompts you referenced in your menu configuration. When you're satisfied with all the prompts, the section on ACD configuration will show you how to route calls to your main menus from each desired pilot.

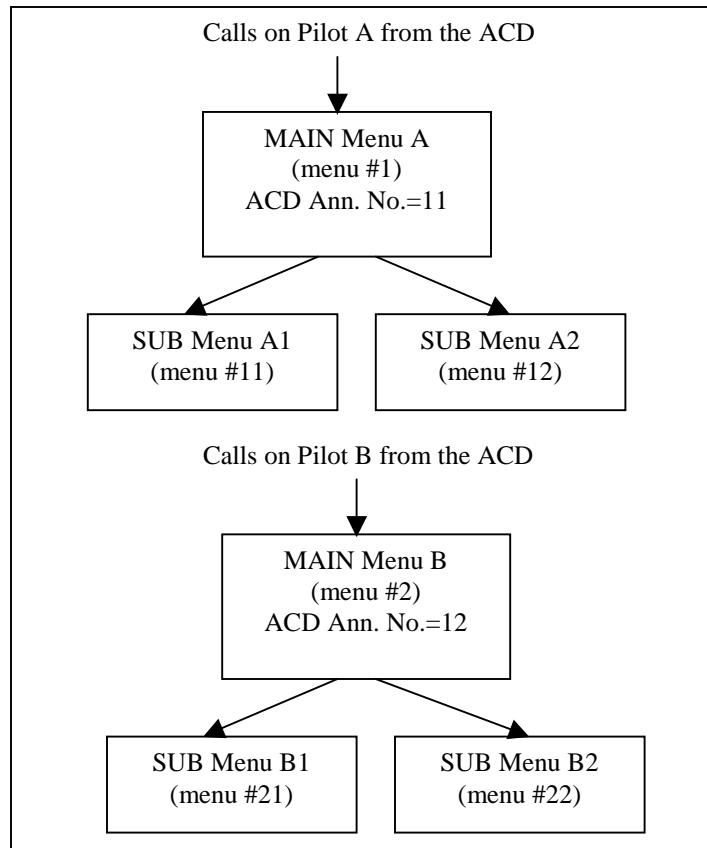
Defining Multiple Independent Menu Systems

Before recording prompts, it's worth reviewing the structure of your menu system. The way your menus interconnect can influence such factors as ease of use and accessibility to options. The design flexibility built in to Auto Attendant let's you determine routing options available to callers.

You can define multiple, independent menu systems, or 'menu trees', by defining multiple *main* menus, each with its own *unique* set of submenus. Assign a unique *IVR number* to each Main menu, then route calls on the desired pilots accordingly.

SAMPLE Two independent Menu 'trees' defined in Auto Attendant

Suppose you want to route calls to multiple, independent menu systems as determined by the incoming pilot. Multiple menu trees are easily defined within Auto Attendant. Two independent 'trees' are shown in the sample below, but you can define as many as you need within the limit of 99 *total* menus. The menu tree under main menu A is triggered by sending *IVR Announcement '11'*. The menu tree under main menu B is triggered by sending *IVR Announcement '12'*. The menu #'s shown are arbitrary.



Two Independent Menu Trees

Recording Prompts for Auto Attendant

After all desired menus are defined, you should record every menu prompt, error prompt, and timeout prompt referenced in the **...Prompt** fields of each menu. Auto Attendant recordings reside on the server in the `'\ffb\dvps\aa'` directory.

To record prompts for Auto Attendant

- 1 From any phone, dial the pilot configured to send *IVR Announcement* 99. This starts the TFB Recording Utility. The utility guides you through the recording process with verbal prompts.
- 2 Enter '1234#' when prompted for a password.
- 3 Enter '1' to record (enter '2' to hear existing prompts).
- 4 Enter '4' to specify Auto Attendant Prompts. Other types of prompts or announcements cannot be played by the auto attendant.
- 5 Enter the four-digit Auto Attendant prompt number to record. These are the prompt numbers you defined in the Auto Attendant form fields – **Prompt Number, Error Prompt, Timeout Prompt**. (0001-9998)
- 6 Record the prompt at the tone. Recording stops automatically when you stop talking for about 1 second. After completing a recording, the system will ask you to enter another prompt number. Repeat these steps to record each prompt in your system.

TIP When recording, start talking *immediately* after the tone. The system stops recording when it detects silence.

NOTES

Site / Section _____

Recording Utility DN _____

Predefined Prompts

You may have noticed that Auto Attendant only permits you to define the prompts played in three specific situations – for menu-related instructions, timeouts, and user errors.

What about the prompts that are spoken *between* menus, and when calls are transferred?

TFB has prerecorded these default audio announcements for you. Prerecorded announcements play automatically in predetermined situations. For example:

In this Situation...	Automated Attendant automatically plays this message... (or a similar passage)
When transferring a call	<i>“Please wait while we transfer your call”</i>
When the system ‘hangs-up’	<i>“Goodbye, and thank you for calling”</i>

These ‘canned’ messages can be changed from the Recording Utility, but they can’t be specified in the Auto Attendant form, except to change the language used.

NOTE Auto Attendant’s pre-defined messages are the primary reason for specifying the **Language** field in the Auto Attendant form. When your system is required to play prompts in more than one language, it’s important that the ‘canned’ messages also be played in the language selected for the current menu. It’s the **Language** selection that determines this.

More Information – For a completed list of canned messages supplied by TFB, see *Appendix n “Canned Announcements”*

ACD Configuration: Routing Calls to Auto Attendant

When you create an auto attendant, each Main menu must be ‘tagged’ with a unique *IVR Announcement Number*. Calls are routed to Auto Attendant menus when the ACD sends an *IVR Announcement number* that matches one of your tags.

NOTE There are two type of menus in the Auto Attendant – ‘Main’ menus, and ‘Sub’ menus. The ACD routes calls only to your *Main* menus. From there, callers can route themselves either to ‘sub’ menus or to other Main menus, as allowed by your touchtone menu configurations.



When you’re ready to activate Auto Attendant, configure the CCV’s for the desired pilots to send a unique *IVR Announcement number* (10 through 98) corresponding to each of your Main menus. Make sure you have completely defined your menus, recorded all related prompts, and reviewed your system on a test pilot before routing live calls to your main menus.

SAMPLE CCV to route a call to an Auto Attendant Menu

Routes calls to the menu tagged with ‘17’ in the **IVR Ann. No.** field on the Auto Attendant form.

```
1) @IVR Announcement 17
... [Next CCV step: route call to a default pilot!]
.
.
.
```



After the *@IVR Announcement* step, be sure to include a step that routes calls to a default pilot. Doing so ensures that calls will be handled properly in the unlikely event that *Infolink* or another CTI component goes down. If the call is successfully routed to Auto Attendant in step 1, the steps after ‘1) *@IVR Announcement 17*’, are not executed!



To avoid interrupting callers while they are interacting with Auto Attendant, do **NOT** queue the call to a split prior to routing them to Auto Attendant!

Activating Auto Attendant

After double-checking your menus in the Auto Attendant form and listening to your recorded prompts, route calls to your new Auto Attendant from a test pilot, and run through the menus.

To test Auto Attendant

- Close and restart the CTI Server window to activate your menu configuration.
- Configure a CCV to route incoming calls from a test pilot to each of your main menus in turn.
- Dial the test pilot from a PBX phone.
- Run through your system to be sure that prompts play when they should, and that all touchtone mapping is correct.

You can also review your menu configuration by clicking the **Print** button on the Auto-Att form (see *Auto Attendant Reporting* in this chapter).

If the test was satisfactory, Auto Attendant is ready for activation.

Your Auto Attendant is ready to go live if...

- All menus and submenus are completely defined and tested
- All related prompts and announcements are recorded



To activate Automated Attendant

- Configure the desired ACD CCVs to send an *IVR Announcement* corresponding to the **ACD Ann No.** field in each Main Menu.
- If you haven't already done so, close the CTI Server window, then double-click TFB CTI Server icon to restart it.

Your auto attendant is now live! CTI Server will automatically detect any *IVR Announcement (11-98)* on *Infolink*, and route the associated calls to any Main menu tagged with *that IVR Announcement number*.

More Information – See “*ACD Configuration: Routing Calls to Auto Attendant*”, previously in this chapter.

Troubleshooting and Maintenance

Enhanced Automated Attendant is maintenance-free after menus are created and routing has been enabled in the ACD! To the extent that you need to direct (or redirect) calls on certain pilots to and from existing menus, Auto Attendant can be effectively administered from ACD CCVs, without changing the CTI configuration. To add new menus, new prompts, or make other modifications, follow the procedures outlined in the section on *Creating an Auto Attendant System*, earlier in this chapter. If you have trouble getting Auto Attendant to work the way you want it to, see the following Troubleshooting guide for fast solutions.

Auto Attendant Reporting

It's important to note that the reporting feature in Auto Attendant does not relate to caller transactions, but rather to the static configuration of all Auto Attendant menus defined in your system.

You can view the Auto Attendant Report – a complete list of current menu and submenu configurations – by clicking the **Print** button on the Auto Attendant form. The report is displayed in a Notepad window where you can print (**File | Print**) or save it for review. This is a convenient way to view complex menu configurations in their entirety, and to spot problems or inconsistencies with touchtone key assignments.

Reading the Auto Attendant Report

The Auto Attendant report shows a menu definition for each menu in the system. As shown in the following sample, each menu definition consists of:

- **MENU HEADER** – Shows the menu number, type (main or sub), associated *IVR Announcement* number (for a Main menu), and the menu title.
- **PROMPT/EXTENSIONS BLOCK**. On the left side is a list of Menu, timeout, and error prompts (prompt title and number). On the right is a list of Timeout and error extensions.
- **TOUCHTONE KEY MAP** - Lists key assignments from 0-9 as well as '*' and '#' for this menu.

SAMPLE Auto Attendant Report File, tfbaa.prn


```


-----
Menu Header  ----- Menu 0001 Main Menu IVR Ann. 11 Main
-----
                Prompts Menu/TimeOut/Error      Exts TimeOut/Error
-----
Prompt/Extensions Block ----- 0001 Main Menu Prompt
                0901 No input prompt 1          0001 operator
                0801 General Error Prompt 1      0001 operator
-----
Touchtone key map ----- Menu Choice -> 0. N/A
                Menu Choice -> 1. GoTo Menu 0002 Tech Help Main
                Menu Choice -> 2. N/A
                Menu Choice -> 3. N/A
                Menu Choice -> 4. N/A
                Menu Choice -> 5. N/A
                Menu Choice -> 6. N/A
                Menu Choice -> 7. N/A
                Menu Choice -> 8. N/A
                Menu Choice -> 9. HangUp
                Menu Choice -> *. BackUp Menu
                Menu Choice -> #. N/A

```

The Auto Attendant report displays a similar menu definition for each menu in your system.

Troubleshooting Guide: Enhanced Automated Attendant

Problems / Questions	Solutions 
<p><i>Prompts</i></p> <p>Callers are correctly routed to Auto Attendant menus, but some or all prompts don't play audibly.</p>	<ul style="list-style-type: none"> ■ Check the announcement by listening to it with the TFB recording utility. See "Recording Auto Attendant Prompts". Enter '2' when prompted to 'record or listen'. Enter the desired announcement number. If it plays, then it was properly recorded. Otherwise, re-record the announcement. ■ Ensure that prompt numbers listed in the Auto Attendant prompt fields are the same as the prompt numbers you recorded.
<p><i>Routing</i></p> <p>Calls aren't routed to the menu system at all.</p>	<ul style="list-style-type: none"> ■ Ensure that the appropriate CCV's are configured to send the same <i>IVR Announcements numbers</i> as are assigned in the ACD Ann. No. field of each Main Menu, and restart the CTI Server window.
<p>Why do I need to specify the Language field in the Auto Attendant form when I can just record prompts in the second language and route callers based on a language menu choice?</p>	<ul style="list-style-type: none"> ■ The Language option is there because Auto Attendant plays 'canned' phrases in certain situations. These phrases are pre-recorded by TFB, and cannot be specified in any of the 'prompt' fields. For example, when transferring to another extension, the system plays "please wait while we transfer your call", or a similar message. The system uses the Language field to determine which language to play for this and other canned messages.
<p>How do I make the system hang up on callers who have exhausted timeout or error retries instead of transferring them to an error or timeout extension?</p>	<ul style="list-style-type: none"> ■ In the error/timeout extension fields on the Auto Attendant form, specify 'None' for the desired menus, instead of a PBX extension. After the caller has exhausted the configured number of retries, the system will hang up.

Problems / Questions	Solutions 
<p>Calls are correctly routed to Auto Attendant menus, but some Enhanced Announcements that previously played don't play now.</p>	<ul style="list-style-type: none"> ■ Ensure that your menus don't use any <i>IVR number</i> already assigned to Enhanced Announcements.
<p>Certain callers to Auto Attendant are increasing the abandoned call rate! Is there a way around this?</p>	<ul style="list-style-type: none"> ■ Yes. Calls can only be abandoned in the ACD if they are queued to a split. To avoid this situation, and to avoid the potential for interrupting an Auto Attendant session by transferring the caller to an agent, be sure calls are not queued to a split before routing to Auto Attendant.
<p>Callers on some pilots are transferred to an agent in the middle of an Auto Attendant session! What could be causing this?</p>	<ul style="list-style-type: none"> ■ To avoid this situation, be sure calls are not queued to a split before routing to Auto Attendant.

Quick Reference Guide: Enhanced Automated Attendant

What it Does	Enhanced Automated Attendant allows you to create customized, touchtone menu-systems that help callers route themselves more quickly and efficiently.
Executable	Drivers embedded in APM. <i>Also,</i> <code>\tfb\bin\tfbaaup.exe</code> (menu creation tool)
<small>Configuration</small> CTI Config.	None
<small>Configuration</small> ACD Config.	CCVs must send <i>IVR Announcements</i> 10-98 to route callers to each main menu tagged with a matching ACD Ann. No.
<small>Configuration</small> Related .cfg Files	tfbaa.cfg (created by Auto-Att form, do NOT edit directly)
Related Modules	None
Related file locations	Auto Attendant Prompts: <code>\tfb\dvps\aa</code>
Notes	You must record Auto Attendant Prompts by dialing pilot configured to send IVR 99

