

TECH TALK

Volume 2 Issue 2

Panasonic Communications Systems Division

Remote Programming

Here's How To Put An
External Modem On Your
KX-TD816/1232
And
KX-TVS200/100/75
Systems

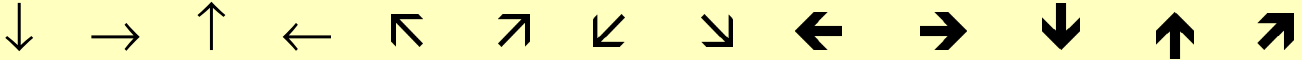
Full Instructions
For 4 Different Modems
Inside

THE NEW PANASONIC DIGITAL KX-TD308

View A Per System
Power Consumption
Chart

On Page 5

LOOK AT THE PROBLEM FROM EVERY ANGLE



After installing any type of phone system or Voice Mail System, you will invariably encounter some type of problem. In some cases you can troubleshoot the problems over the phone with the customer. The cause of the problem might be user error, but as we all know, most likely you will have to spend some of your valuable time back at the jobsite "chasing down" these problems. If the problem is intermittent, you might have to make more than one visit.

When "chasing down" these problems, it is very important that you look at the problem from many different angles. Not every problem is solved by making a simple change in wiring or programming. The following story shows how a problem on a residential installation ended up having nothing to do with the way the system was installed or programmed. In this case the problem wasn't even caused by any equipment that the dealer installed.

One of our dealers recently installed a phone system, other than Panasonic, in a newly built house. After a couple of weeks the homeowner called with a problem. The customer claimed that for the last three days, at about 3:00 in the morning, the extension in his son's room (extension 18) would ring for no reason. After many hours of troubleshooting,

with no results, the technician called Tech Support for help. The Tech from this other company was quick to say that it wasn't the phone system and was not able to help the dealer solve the problem. This went on for many weeks until the customer demanded that the dealer replace the system.

At the dealer's expense he replaced the system and installed a Panasonic KX-T61610. All he had to do was replace the KSU

and Phones, the wiring stayed the same. Even the Extension Numbers were the same. Well, later that same night the customer's son was again rudely awakened by a ringing phone, and the next morning the dealer got a very nasty phone call from the very irate customer.

Not knowing what else to do, the dealer called us here at Panasonic Tech Support. Knowing how our system works, our tech assured him that the problem wasn't being caused by the phone switch. He then had the dealer ask the customer some questions, such as.... Has there been any construction done recently? Has there been any electrical work performed in the past weeks? Has any new equipment, of any kind, been added to the house recently. To this the customer replied that he recently had a Satellite Dish System installed on his Television. After further investigation we found that the control unit for the Satellite Dish was programmed to dial into a 1-800 number every night to upload some user information. The person who installed that unit connected it to the extension next to the television, and didn't program it to dial a "9" first. Every night that unit would go off-hook on the Intercom and start dialing 1-800-XXX-XXXX, resulting in extension 18 momentarily ringing.

This is why you must look at these strange problems from many different angles. It's like you almost have to think in 3D (Three Dimensions). The answer is not always staring you in the face. In the above case, the dealer was able to charge his customer for most of the time he lost on this problem which was caused by outside equipment, but not every situation will have a nice profitable ending.

The answer is not always staring you in the face

It's like you almost have to think in

3D

Who Says There's No Such Thing As A

FREE LUNCH

Just look for specially marked cartons of Panasonic KX-T7000 and KX-T7200 series phones.

Each one you purchase will have a special mail-in coupon good for \$5 worth of Burger Buck™ Certificates, which you can redeem at over 6,000 Burger King® restaurants around the country.

For more details, ask your Distributer.

This promotion ends soon, so get your coupons in now!



Installing Modems On The KX-TD 816/1232



The Panasonic KX-TD816 AND KX-TD1232 phone systems can be programmed remotely by connecting a modem to the RS232/EIA port of the phone system. *This can only be done with the "-1" and above systems. It is also advised that you have a good working knowledge of modems and the Hayes AT Command Sets.* It is important to remember that even though there are some basic standards for these modems, *each manufacturer may have a different method of making the same function work in their modem design. It is strongly advised that you consult with the manufacturer of the modem you choose should you experience trouble.*

Your Modem should be able to do the following :

- 1) Ignore the Data Terminal Ready signal of the serial port (DTR Ignored).
- 2) Disable flow control.
- 3) Be able to set the DTR operating mode to asynchronous mode with no speed buffering of data (normal).
- 4) Disable Data compression.



There are 2 ways to program the necessary AT command sets in to the External Modem that will be attached to the KX-TD1232/816-1.

- 1) By entering the AT commands in the External Modem Setting screen of the KX-TD1232/816-1 using the Operating & Maintenance Tool Version 3.13 or higher. And then dialing the code for Modem Initialization 791x from the main phone with the modem connected to the KX-TD1232/816
- 2) By entering the AT commands directly in the external modem with a computer using a standard communication software such as PCPLUS(c) or a Data Terminal. And then connecting the modem to the KX-TD1232/816-1 cabinet.

At the time of this printing four modems have been tested, using these AT commands, and found to work reliably for this purpose.

They are:

- 1) **Hayes Accura 288.....AT&D0&K0&M0% C0S0=1&W0**
- 2) **Motorola Modem Surf.....AT&D0% C0\G0\N0\Q0S0=1&W0**
- 3) **Zoom V.34+2836AT&D0&K0&Q0&M0% C0S0=1&W0**
- 4) **Boca MV.34ED.....AT&D0&K0&Q6% C0\N0S0=1&W0**



Step #1: Connect to the KX-TD1232-1 or KX-TD816-1 KSU in interactive mode and locate the programming screen called "EXTERNAL MODEM SETTING" which is located under the "AUXILIARY PORTS MENU.

Step #2: At "Modem Manual Initialization Command Area #1", enter the correct "AT" command from the list above.
REMEMBER THE (0) IN THE AT COMMANDS MEAN THE # NUMBER ZERO!!

Step #3: Back out and save this screen, then return to the main screen.

Step #4: Enter "5" for "DSHS CONNECT / DISCONNECT", and continue to disconnect from the system. Remove the cable connecting the computer to the Digital System.

Step #5: Using an industry standard DB25 Male to Male Modem cable connect the Modem to the Phone System. This is done by connecting one side of the DB25 cable to the RS232/EIA communication port of the Digital System, and the other side of the DB25 Modem cable to the RS232 port of the Modem. Turn the power switch of the Modem on.

Step #6: Go to the main programming station jack (01) and either by lifting the handset or pressing the speaker-button of the proprietary set get intercom dial tone and enter 7911. This will instruct the Phone System to send the string programmed in step #2 above to the Modem.

At this point the "AA" light of your modem should be on, and your modem is ready for remote programming.

Connecting Remotely To Your Digital System

Step #1: From the Remote location computer enter the MODEM CONNECT screen of your programming tool. (Ver.3.13 or Higher) This is found in the DSHS CONNECT/DISCONNECT choice (5) of the main screen

Step #2: Enter the correct Com Port. Set the Interface to 9600 BPS. Set the connection type to AUTO. Set the NL (New Line) Code to CR+LF. Set Dial Mode TONE/PULSE. Enter in the number to be dialed by the modem attached to your computer to reach

Installing Modems On The KX-TVS 75/100/200



The Panasonic KX-TVS75/100/200 Voice Processing Systems can be programmed remotely by connecting a modem to the RS232/EIA port of the VPS. *It is advised that you have a good working knowledge of modems and the Hayes AT Command Sets.* It is important to remember that even though there are some basic standards for these modems, *each manufacturer may have a different method of making the same function work in their modem design. It is strongly advised that you consult with the manufacturer of the modem you choose should you experience trouble.*

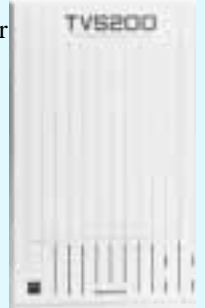
There are 2 ways to program the necessary AT command sets in to the modem that will be attached to the KX-TVS75/100/200:

- 1) By entering the AT commands directly in the external modem with a computer using a standard communication software such as PCPLUS(c) or a Data Terminal. And then connecting the modem to the KX-TVS75/100/200 RS232 PORT.
- 2) By entering the AT commands in the External Modem Setting program area of the KX-TVS200 (EMDM). And then dialing the code for Modem Initialization while in the KX-TVS200 system manager's mailbox with the modem connected to the KX-TVS200 RS232c Port. **THIS CAN BE DONE IN THE KX-TVS200 ONLY !!**

At the time of this printing four modems, using these AT strings, have been tested and found to work reliably for this purpose.

They are:

- 1) **Hayes Accura 28.8.....AT&D0&K0&M0%C0Q1S0=1&W0**
- 2) **Motorola Modem Surf.....AT&D0&K0\G0\N0\Q0%C0Q1S0=1&W0**
- 3) **Boca MV.34ED.....AT&D0&K0&Q6\N0%C0Q1S0=1&W0**
- 4) **Zoom V.34+2836.....AT&D0&K0&Q0\N1%C0Q1S0=1&W0**



INSTALLING A MODEM ON THE KX-TVS200 ONLY!

Step #1: After entering the main programming menu of the KX-TVS200, choose 3 for "Utility Command"

Step #2: At the "\$" sign, enter the command EMDM.

Step #3: Enter 1, to choose command #1. Then enter a comment or the name of the modem. Then enter one of the above commands, depending on which of the four modems you have, and hit the enter button: (Remember that the (0) means the number zero!)

Step #4: After entering the modem string and hitting enter, the system will return the instructions on how to send the string to the modem. Follow this procedure. (Connect the modem to the voice mail using an RS232C straight cable. Then access the

Voice

Mail

Modem Type	Hayes Acurra 28.8	Motorola Modem Surf	Boca MV.34ED	Zoom V.34+2836
Correct Lites	AA, TR, HS, & MR	TR	AA, TR, HS	AA, TR, HS, & MR

System and dial #6*999, after the Personal Greeting plays dial 91. This will send command #1 to the modem.)

At this point, your Modem is ready for Remote Programming and should have the following lites turned on. If the correct lites are not on then try repeating steps 1-4.

INSTALLING A MODEM ON THE KX-TVS75 & KX-TVS100

Step #1: Connect a Modem cable (straight through) from your Computer's Com Port to the RS232c connector of your Modem. If you

As with all Systems, you should make sure to initialize the KX-TD308 before doing any programming. The correct way to do this on the KX-TD308, is to first turn the power switch on...Oops! sorry, no power switch... After mounting on the wall and powering up, you can enter the program mode and go to program #900 (System Clear). Hitting the Next button and then the Store button will correctly initialize the system. After hitting the

KX-TD308

Is this your first KX-TD308 install?

Make sure that you bring your new installation manual with you because we do not include one with the system. If you do not have one yet, you can order it from

Valley National Distributors at 1-888-201-4030

They are also the only Panasonic authorized distributor of our chip upgrades and programming disks.

(Upgrades and disks that are purchased from other

The Music On Hold port on the KX-TD308 is slightly different than the other Digital systems.

On the KX-TD1232 and the KX-TD816, the MOH Jack requires a two conductor Phono Plug that is 3.5 mm in diameter.

On the KX-TD308, the MOH Jack requires a two conductor Phono Plug that is 2.5 mm in diameter.

The two Optional Cards available for the KX-TD308 are the KX-TD30870 (4 - SLT Extension Expansion Card), and the KX-TD30891 (Caller Id / DISA / Fax Detection Card).

The KX-TD30870 adds Four Extra Device Ports (XDP) to jacks 5 through 8, for a maximum of 8 digital sets and 8 SLT sets.

The KX-TD30891 will display caller ID on all ringing Proprietary Phones, and 1 single line Display Phone. It will also give you Direct Inward System Access (DISA) with one outgoing message and single digit dialing, and Fax detection which when programmed allows an incoming Fax call to be connected to a pre-specified extension.

GROUND YOUR SYSTEM!

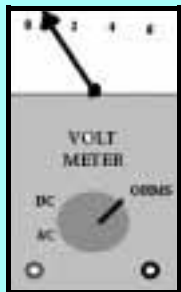
Don't Leave Without Grounding The System.

When hammering an 8 foot copper pipe into the ground is not an option, a third prong ground is nice, but a separate cold water pipe ground is much better.

All of our systems have a separate ground lug somewhere on the cabinet.

!USE IT!

(If You Don't Use It, You Might Lose It)



** Always use your voltmeter to measure and make sure that you have a good ground.

With your meter set to Ohms, measure between the system ground lug and the third prong ground of your AC outlet.

A measurement of 1-3 Ohms is a good ground. Anything above that is a faulty ground and should be fixed.

Battery Back-Up

SYSTEM	POWER CONSUMPTION	BATTERY BACK-UP UNIT
KX-T336	480 Watts 4.5 Amps/shelf	* KX-A26
KX-T123211D	140 Watts 1.4 Amps	* KX-A26
KX-T61610	65 Watts 0.7 Amps	KX-A16
KX-T30810	26 Watts 0.3 Amps	KX-A16
KX-TD308	50 Watts .4 Amps	Use A UPS
KX-TD816	100 Watts 1.0 Amps	* KX-A46
KX-TD1232	140 Watts 1.4 Amps	* KX-A46
KX-TVP150	75 Watts 1.2 Amps	* KX-A26
KX-TVS75	20 Watts 0.3 Amps	Use A UPS
KX-TVS100	38 Watts 0.4 Amps	Use A UPS
KX-TVS200	80 Watts 0.7 Amps	Use A UPS

*These units require 2 - 12 volt DC Gel Cell Batteries, connected in series.

Use the above table when sizing up a Back-Up Power Supply / UPS

Designation Strips From BAUDCOM

We all know how to tell a good installation from a bad one. On a bad install the dealer leaves the phone with sloppily written desi strips or leaves it up to the customer to label the phone. While on a perfect install the dealer comes prepared with beautiful pre-printed desi strips made by BAUDCOM. These desi strips or overlays are specially engineered to fit any Panasonic KXT7000 and KXT7200 phone or DSS console. When you order these overlays from Baudcom you will get the software and the overlays making it possible to use your computer and Laser Printer to create great looking desi strips, giving all of your installs that

TECH TALK FAQ
FREQUENTLY ASKED QUESTIONS

Q: When installing a caller ID Card into the KX-TD1232 system, should I place it in the upper or lower position?

A: There are two places to install a Caller ID Card into the KX-TD1232 Cabinet... The lower position is for lines 1 - 4, just like the lower amphonol is for stations 1 - 8. The upper position is for lines 5 - 8, just like the upper amphonol is for stations 9 - 16.

Q: I programmed a VTR button onto my customer's phone, but why doesn't it work for all of the mailboxes?

A: In order for the VTR button to work, the phone system must see that Mailbox number as a valid Station number. One of your Digital or XDP ports has to have an Extension number that is the same as the Mailbox that you are transferring to. You don't have to have a telephone installed on these ports, just change an unused port to a number that matches the Mailbox that you want to use for these "Phantom Mailboxes. You might also have to make some changes to the Extension Numbering Plan in the Voicemail System. Remember, if you choose to use a mailbox number of 300 or above, you will have to make some major changes in the Phone System's Numbering

Q: Do I have to do anything special when I am connecting a KX-TD308 to TVS Voicemail System?

A: The first action you should take is to set your TVS system for two digit Extensions. From the Main Menu Screen, go into "System / Reset" to do this. In the TVS, you should also check the "Extension Numbering Plan", under "Program / System Parameters / Others". Make sure it is set for "1X". Then go to "Program / Hardware settings / PBX Parameters / Dialing Parameters". For the System

? WHAT ARE ?
BURGER BUCKS™
• ANSWER ON PAGE 2 •

Oops!... Here are some misprints that we have recently found. Please notify us of any others that you find in our documentation:

On the 3.21 Version of the KX-TD Maintenance tool, under "System - Timers", the "MW Interval Time" is in Seconds and should be in Minutes.

On Page 3-164 of the KX-TD308 Installation Manual, it reads.... "the incoming call will be handled by the UCD Timetable." Well, were sorry, but there is no UCD Timetable available in the KX-TD308 System.

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