

**TECHNICAL SOLUTIONS AUSTRALIA PTY LTD**

# TSPhone Controller Manual

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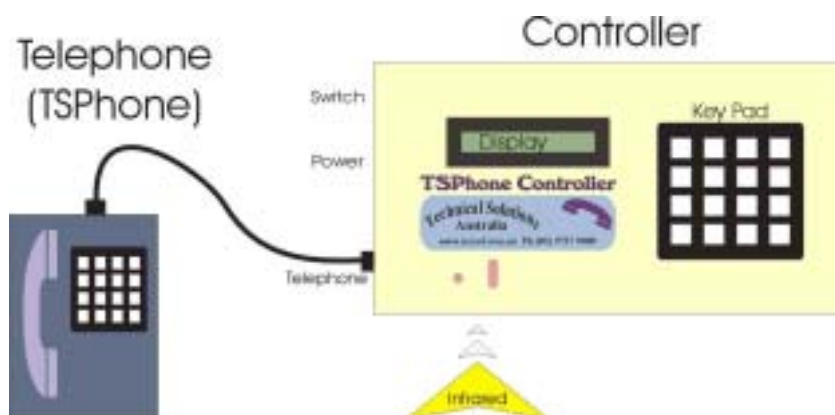
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## Introduction

The TSPhone Controller is a purpose designed interface for the TSPhone, Technical Solutions' unique disability access telephone. The TSPhone controller contains a small computer, and works as an infra red remote control and personal phone book.

Infra red signals are received from environmental control equipment (ECU's) such as the Gewa Prog by the TSPhone controller, and these commands are then used to operate the phone.



## Setting Up

Getting the system up and running consists of two stages - connecting the controller to the TSPhone and power, and then teaching your ECU how to communicate with the TSPhone controller.

### Connecting the units

Prior to connecting the units, consider the location for the setup. Like any hands free phone, the TSPhone must be located as close as possible to the user to give the best sound quality. The TSPhone controller should be placed where the user can see the display, and in line of sight from the user's ECU.

The ECU transmits infra red light, using the same system as a television remote. The signals will reflect off light or shiny surfaces, however the most reliable results will be achieved by pointing the ECU at the TSPhone controller.

Infra red remote controls can be confused by other light sources - avoid placing the TSPhone controller in direct sunlight or near light sources, especially compact fluorescent or standard fluorescent lights.

### Plugging the TSPhone controller in

Two plugs need to be connected:

The short flat cable that runs between the TSPhone and the TSPhone controller. This cable can be used either way around, and simply pushes into the socket at the back of the phone, and the socket on the side of the controller.

The Power Supply connects into the socket next to the phone cable on the controller. When the power adapter is plugged into a power point and turned on, the controller will start working.

### **Support Bracket**

*A bracket is provided which fits into two slots at the back of the controller and allows the unit to be stood up.*



## **Compact Fluorescent Light Globe Warning !!**

Do not position the TSPhone controller near lights that have been fitted with "Energy Saver" or other compact fluorescent globes. These globes interfere with the infrared receiver and make the TSPhone Controller function very slowly.

# Training your ECU

Your ECU must send the correct infra red signals to operate the TSPhone controller. Before this can be done, the ECU must "learn" the signals it is to send. This is done by putting the ECU into a recording mode, and then transmitting signal samples from the controller. Detailed instructions are given later for the Gewa Prog. Most other ECU systems use a similar procedure, which should be described in the operating manual for the particular device. The remote control signals correspond to the buttons on the TSPhone controller keypad. It is a good idea to become familiar with its operation before training the ECU.

Key	Function
0 - 9	Numeric keys. Used to dial numbers and select phone book entries
*	When dialling, this introduces a short pause (see details below) When on a call, this sends the * signal
#	When on a call, this sends the # signal
A	Control Button A: Answers incoming calls or initiates dialling
B	Control Button B: Used to store or look at numbers in the phone book
C	Control Button C: Always hangs up and returns to the "ready" mode.
D	Control Button D: Accesses the infra red training mode and control menus such as speaker volume. This is the only button that cannot be used via an ECU.



## TSPhone Controller Functions

### Answering a call

Operating any button while the controller display shows **INCOMING CALL** will answer the phone.

### Hanging Up

Pressing "C" at any time will hang up and return the controller to "ready" mode.

### Making a call - There are five ways of making a call:

- 1 Direct dialling** - From the ready mode, press A. The display will show **OFF HOOK**. When you hear the dial tone, use any of the dialling keys (0 - 9, \* #). Press C to finish. **People using switch scanning access to the ECU may not be able to make selections fast enough for the telephone exchange and should therefore use one of the next four options.**
- 2 Delayed dialling** - From the ready mode, enter the number you are going to call, using the number keys. Watch the display or listen for the beep to verify each number has been accepted. When you have completed the number, press A. The controller will take the phone off hook and dial the number for you.
- 3 Dialling from the phone book** - From the ready mode, enter a number from 1 to 20, and then press A. The number previously stored in the phone book location will be retrieved and dialled.
- 4 One touch dialling from the phone book** - From the ready mode, send the infra red code for one of the phone book entries. The number will be automatically retrieved and dialled. This system is especially useful for people using ECU systems with limited capabilities.
- 5 Last number redial** - From the ready mode, enter 0, and then press A. The last number dialled will be retrieved and dialled.

Remember, pressing "C" at any time will return the controller to "ready" mode.

## Using the Phone Book - (Speed Dial)

A built in phone book has the capacity to store up to 20 numbers. These numbers can be quickly retrieved and called, and changed as often as desired. The numbers can be programmed from the built in keypad or via an ECU.

### To store a number

From the ready mode, enter your number and then press the B key. The controller will show **STORE AT**. Next enter the location you want the number stored at (the range available is 1 to 20). The controller will show **PRESS B TO STORE**. Press B and the controller will store the number in permanent memory. The phone book will be retained even if the controller is removed from the power supply. Note: Location 0 is automatically overwritten each time you make a call, and is used as a last number redial feature.

### To view a number

From the ready mode, enter the location you want to see, (between 0 and 20) and then press the B key. The controller will display the phone number stored at the location. At this point you can either press A to dial the displayed number, C to return to the ready mode, or press B to copy the number to another location. If no number has been stored at a location, the controller will say **NOTHING IS STORED AT XX**.

## Training Infra Red

Once you are familiar with the functions of the buttons on the controller, you can assign any of the buttons except D to an ECU signal. This is done by getting the ECU to record an infra red sample from the TSPhone controller.

Please read the instructions for your particular ECU in conjunction with these ones.

To train an ECU you must first align the receiving area of the ECU with the infra red emitter on the side of the controller. You may need to sit the ECU on a small book to get both devices at the right height. (See illustrations)

**TRAINING FULL KEYPAD:** From the ready mode, press D and then 0, then 1 to put the controller into IR training mode. In this mode, pressing any key except D will transmit an infra red signal that corresponds to that key press. Pressing D will end the training mode.



*Aligning the ECU and controller*



Set up your ECU to receive a particular signal, and then hold down the key on the controller while the ECU learns the code.

**TRAINING SPEED DIAL MEMORIES:** from the ready mode press D, 0, 0, 1. You can then use the following buttons: A = step up through locations, B = step down through locations, C = transmit the IR code to the ECU, D = finish training.

**NOTE for Prog users:** The Gewa Prog factory default codes on level 6 will access the full keypad of the TSPhone Controller while levels 7 & 8 will access speed dial memories 1-10 & 11-20 respectively. See pages 6 to 8.

## Special Functions

The TSPhone Controller has a memory area that controls special functions. This area is accessed in a similar way to the phone book, except that the numbers you store affect the way the controller operates.

Location No.	Function
90	Pre-dial number - any single number, which will be automatically dialled prior to numbers from the phone book
91	Enable pre-dial number. Store 1 to turn feature on, or 0 to turn off
93	Dialing speed. Ranges from 1 (slow) to 9 (fast). Used to slow down dialling on poor phone lines.
97	Volume setting for feedback tones. Ranges from 0 (low) to 32 (loud)



### **Pre-dial number**

If your phone is connected to a private exchange, such as in a hospital or nursing home, you may need to dial a number to get an outside line (Usually 0 or 9). The TSPhone Controller can automatically insert this number in front of the entries in the phone book. This feature makes it easy to move the controller between home and hospital or respite facilities.

Setting up the pre-dial number involves two steps:

#### **1. Enter the pre-dial number**

From the ready mode, enter # then the pre-dial number, followed by B. The controller will display **CNTRL VALUE STORE AT** . Enter 90.

#### **2. Turn the feature on**

From the ready mode, enter #1 to turn the pre-dial number feature on, or #0 to turn it off, followed by B. The controller will display **CNTRL VALUE STORE AT**. Enter 91.

### **Speaker Volume Setting**

A built in speaker gives auditory feedback when some keys are pressed, numbers are dialled, and when infra red controls are received. To change the volume setting follow this procedure:

From the ready mode, enter # and a number between 0 and 32, (32 is loudest) then press B. The controller will display **CNTRL VALUE STORE AT** . Enter 97.

The volume can also be changed from the controller keypad by pressing D, 1 and then stepping the volume up by pressing 1 or down by pressing 0. Pressing C returns to ready mode.

### **Dialing Speed Adjustment**

If a phone line is noisy, it may help dialling reliability by setting the controller to a slower dialling speed. From the ready mode, enter # and a number between 0 and 9, (9 is fastest) then press B. The controller will display **CNTRL VALUE STORE AT** . Enter 93. The default setting is 8.

#### **My TSPhone Controller Will Not Dial!**

If you can dial out successfully from the phone keypad but not from the Controller keypad, the batteries in the TSPhone may need replacing.

Note that the TSPhone has 2 compartments with a **total of 4 batteries**.

# PROG User's Cheat Sheet - Using built in PROG codes

The GEWA PROG has built in codes which will work with the TSPhone Controller without needing any infra red training. The following PROG levels are automatically supported:



**Level 6** - This level can be used for full manual control of the TSPhone.

**Level 7** - The buttons 0-9 on level 7 access speed dial locations 1 to 10.

**Level 8** - The buttons 0-9 on level 8 access speed dial locations 11 to 20.

(See *Using the Phone Book* page 4. to store phone numbers for speed dialling.)

## Resetting the Prog to built in codes

If you have previously recorded any infra red codes into Levels 6,7 or 8 - and want to use these levels for the TSPhone, you will have to restore the built in codes. This will erase any training you may have done on these levels. You may want to use the Prog's "COPY CODES" function to move the codes to another level before doing the reset.

To reset a level, first select the level to be reset in the normal way. Then press and hold the program button and simultaneously press 3. Release the program button. Then press the following keys in order: Level key, 1,2,3, Level key. All lights will flash in turn, and then the indicator lamp will flash green to show the operation was completed.

Repeat the above, selecting each of the levels to be reset in turn.

The table below shows the Gewa Link or Prog Codes that will operate each button on the TSPhone Controller. This table can be used to set up custom scanning systems, as well as ECU equipment from any manufacturer that supports the Gewa Code definition. For ECU systems that need to "learn" an infra red code, move on to the next pages...

<i>Gewa Link Codes for TSPhone Controller</i>					
	<b>LEVEL 6</b> Manual Operation	<b>LEVEL 7</b> Quick dial 1-10		<b>LEVEL 8</b> Quick dial 11-20	
KEY	Prog Code	Prog Code	TSPhone Memory	Prog Code	TSPhone Memory
1	80	96	1	112	11
2	81	97	2	113	12
3	82	98	3	114	13
4	83	99	4	115	14
5	84	100	5	116	15
6	85	101	6	117	16
7	86	102	7	118	17
8	87	103	8	119	18
9	88	104	9	120	19
0	89	105	10	121	20
*	90				
#	91				
A	92	108	A	124	A
B	93	109	B	125	B
C	94	110	C	126	C
D	95				

## PROG User's Cheat Sheet - Manually programming codes

This description is a quick summary of the procedure used to manually program the Gewa Prog with codes for the TSPhone Controller. Use in conjunction with the PROG Manual

**In this step by step example, we are going to set up the full TSPhone keyboard on level 4 of the Prog.**

1. Lay the controller flat on its back, and set the PROG up with the *back end facing*, and about 50mm to 100mm away from the controller's IR emitter. (See pictures on page 3) Sit the PROG on some books so the tops of both units are equal in height.
2. Set the controller into IR training mode by pressing D, 0, 1.
3. Check that level 6 on the PROG is unlocked and open: Press the program button and the level [...] key. Press the level key repeatedly until the level 6 light (the 1st green one) is lit. Press 1 to open the level. Press the level key repeatedly to return back to the level 6 light, and then press 4 to unlock the level. Press and hold the level [...] key for about two seconds to exit the mode.
4. Make sure that level 6 is selected, and then put the PROG into training mode by pressing the program button and 1. The level 6 light and key 1 lights will both flash fast. Put the PROG down on the books as described above.

Press any button except D on the controller - a green light on the level [...] key on the PROG should flicker in response to the infra red from the TSPhone controller. If the light does not respond, move the PROG around while holding the button down on the controller, to find a location where the response is consistent.

*Note: The Prog will time out and reset itself after about 15 seconds with no activity. If this happens, repeat step 4.*

Once a reliable position has been established, with the Prog in training mode;

- a. Press button 1 on the PROG. The [...] light will show a steady orange.
- b. Press and hold button 1 on the controller until the PROG beeps and the [...] light turns green.
- c. Release the button on the controller, and the [...] light will turn orange again.
- d. Once again, press and hold the button 1 on the controller until the PROG [...] light flashes green. **NB. If [...] light flashes red, training has failed** (Check that the level is unlocked)
- e. Release the button on the controller, and the PROG will return to training mode with the level 4 and 1 lights flashing.

You have successfully programmed button 1! Repeat steps (a) to (e) for all the other keys except D. ( ie. Buttons 2 to 9, \*, 0 and # then A, B and C )

When you have programmed all the keys:

Press D on the controller to exit the training mode.

Then press [...] on the PROG to exit the training mode - the [...] light flashes green.

### **HINT - EASIER PHONE ANSWERING:**

If you copy **A** (answer) to the **!** key on the PROG it will be much easier to answer incoming phone calls without having to change levels - as the PROG **!** key is the same no matter which level you are on.

- 1 Choose PROG level 6 and press the A key
- 2 Press **P** & **8** at the same time
- 3 Press the **!** key

Note that you can also copy the **C** (hang up) to the **C** key on *each* PROG level that you use so as to hang up more easily.

For more detailed instructions, see: **"Copying Codes" in the PROG Manual.**

# PROG User's Cheat Sheet - Manually programming codes

## Single Button Speed Dial Setup

NOTE: First, set up your own electronic phone book in the controller's memory. Up to 20 different 'most often called' phone numbers can be stored for quick access. (See page 4)

In this step by step example, we are going to set up single button speed dialing for the first 10 of your stored phone numbers on level 7 of the Prog. (To have single button access to stored phone numbers 11 to 20, program level 8 of the Prog in the same manner)

- 1 Set the controller into IR training mode by pressing D, 0, 1.
- 2 Check that level 7 on the PROG is unlocked and open: Press the program button and the level [...] key. Press the level [...] key repeatedly until the level 7 light (the 2nd green one) is lit. Press 1 to open the level. Press the level key repeatedly to return back to the level 7 light, and then press 4 to unlock the level. Press and hold the level [...] key for about two seconds to exit the mode.
- 3 Make sure that level 7 is selected, and then put the PROG into training mode by pressing the program button and 1. The level 7 light and key 1 lights will both flash fast. Put the PROG down on the books as described previously.

Position the PROG & controller for consistent training - see notes 1 & 4 on page 5.

*Note: The Prog will time out and reset itself after about 15 seconds with no activity. If this happens, repeat step 4.*

Once a reliable position has been established and with the Prog in training mode;

- 4 Program buttons A and C as per instructions (a) to (e) on page 5. Then press D on the controller. Note that button A is required for answering incoming calls and button C is required for hanging up at the completion of each call.

**Now train Prog keys 1 to 0 to activate the phone numbers at stored memory locations 1 to 10;**

- 5 On the controller, press D, 0, 0, 1. You can then use the following buttons: A = step up through locations of stored phone numbers, B = step down through locations.  
Step to location 01.
- 6 Set the PROG into training mode - see point 3 above.
- 7 Press button 1 on the PROG. The level light [...] will show a steady orange.
- 8 Press and hold button C on the controller until the PROG beeps and the level light turns green. Repeat as per steps c. d. e. on page 5.
- 9 Press A on the controller to step on to location 02 and press 2 on the PROG.
- 10 Now repeat step 8
- 11 Repeat for each memory location (01 to 10) that you have used to store your phone numbers. If you have stored more than 10 phone numbers, program level 8 of the PROG can be programmed to access numbers 11 to 20.
- 12 Finally, on the controller, press D on the controller to finish training. And press [...] on the PROG to exit the training mode - the [...] light flashes green.