

UT22VP10 Universal RADPAL™

JEDEC File Re-mapping Software (REMAP.EXE version 1.9)- User Guide

Programming Algorithm Installation

December 2006

Introduction:

The following reviews the installation and use of re-map software for the UT22VP10 Universal RADPAL. To program the UT22VP10 with an industry standard JEDEC file, the user first re-maps the file to fit the UT22VP10 fuse map. Aeroflex supplies software to re-map JEDEC files for programming the UT22VP10 RADPAL.

This re-mapping software:

- Optimizes the fuse map configuration for the UT22VP10 by modifying unused product terms, while maintaining identical functionality
- Checks for unused output-enable product term
- Checks for unused preset or reset product terms
- Modifies the fuse map for the output macro-cell of the UT22VP10
- Updates the fuse map checksum and transmission checksum

Obtaining REMAP.EXE Software:

The executable re-map code (REMAP.EXE, version 1.9) is available at Aeroflex's WebSite (<http://www.aeroflex.com/RadHard under Logic>). There are three files that you can download from the Remap Software web page:

- REMAP Software (The executable re-map program)
- REMAP Software Guide

To access the Remap Software download page from Aeroflex's home page, click on the following links:

1. www.aeroflex.com/RadHard
2. **RadHard Logic**
3. **Software**
4. **RADPAL Remap software** (Links you to the Aeroflex Remap Software download web page)

Once you have accessed the Aeroflex Programmable Logic web page, you can follow the links to obtain application notes, product advisories, re-map software, and data sheets for the UT22VP10 RADPAL.

Using Software

To use the software:

1. Rename the JEDEC file to a filename with a .jed extension.
2. Type:

```
remap.exe -p <package> <filename>.jed
```

where <package> is DIP24, FP24, or QFP28
 <filename> is the name of the .jed file you want to modify

The software will create a file named <filename>.mjd. Use this.mjd file as the JEDEC input file for the programmer. However, you must setup the programmer properly before you can burn the .mjd file onto the UT22VP10 RADPAL. Follow the steps outlined in the “LOADING PROGRAMMING ALGORITHM,” and “SETTING THE SECURITY OPTION” sections of this users guide to learn how to set up the DATA I/O software environments to program the UT22VP10 RADPAL.

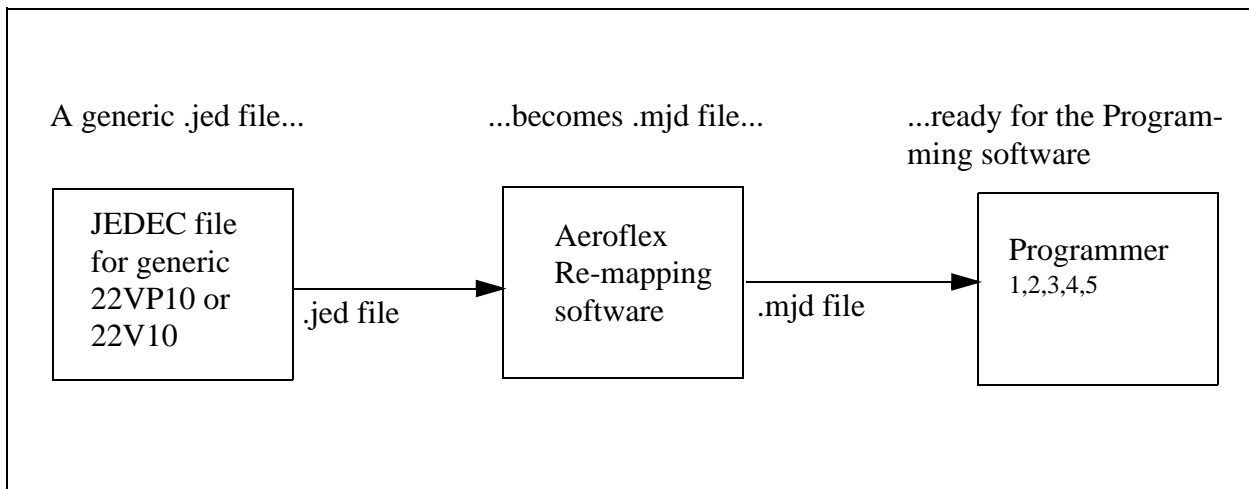


Figure 1. Diagram of the JEDEC File Re-mapping Process

Notes:

Before processing or programming the UT22VP10:

1. Configure the PROMlink/TASKlink/HiTerm security option to blow the security fuse. (See the Setting the Security Option section of this guide for details)
2. Due to technology limits, a programmed fuse can not be unprogrammed. If a fuse does not program the first time, you can make another attempt to program the fuse as long as the Security fuse has not been blown. You **must** blow the security fuse to guarantee proper functionality of the UT22VP10 RADPAL.
3. Programming the security fuse eliminates the ability to verify the fuse map and read checksum. After the security fuse is programmed, you can still perform functional verification. The UT22VP10 RADPAL **will not** function properly unless the security fuse is blown
4. The programming, make sure that the continuity check is on and that fuse verify and functional test are on. Failure to have these parameters properly set could result in an improperly programmed device that appears as a “PASS” after programming. Setting up the programmer to perform continuity check and functional verification under HiTerm, PROMLink, and TASKLink is described below:

In HighTerm:

From the Main Menu:

1. Choose: More Commands (This will bring up a list of command menu)
2. Choose: Configure System (This will bring up a list of system configuration options)
3. Choose: Edit (This will bring up the option to set up the programming configuration)
4. Choose: Programming (This will bring up the programming configuration options)
5. From the Edit Programming Parameters page:
 - Set Logic Verification to “A”
 - Set Continuity Check to “Y”

In TaskLink/PROMLink:

From the Main Menu Bar:

1. Choose: Setup
2. From the Setup menu choose: General Parameters (This will show general programmer configuration settings)
3. Set the following options in the General Parameters menu:
 - Set Verify Passes to “TWO VCC LOW/HIGH”
 - Click on the Check Box next to Continuity Checking (The box should have an “X” when enabled)

Now return to the Setup menu, and perform the following:

1. From the Setup menu choose: Logic Parameters:
2. Configure the following option from the Logic Parameter menu:
 - Set Verify Options to ‘FUSE VERIFY AND FUNCTIONAL TEST’.

5. If the part fails continuity when attempting to program, try again with the part reseated in the socket. If that fails, make sure the part is correctly oriented in the Data I/O parameter. DIPs must be oriented as per the diagram on the programmer base. Flatpack and quad-flatpack parts must be oriented in their carriers correctly (see attached carrier orientation diagrams). The checksum for an unprogrammed device of 2DA32.

6. The programming algorithms for the UT22VP10 RADPal are available on the Data I/O programming algorithm diskettes.

7. Programmer Pin Interface (PPI) boards are available from Data I/O (See Table 1).

Loading Programming Algorithm

Setting up the programming algorithm depends on the DATA I/O software environment. The following discusses how to setup the HiTerm and PROMlink/TASKlink software environments.

“HiTerm Software”:

- 1) Insert diskette with appropriate algorithm into DATA I/O floppy drive.

From the Main Menu:

- 2) Choose: *Select Device* (This will bring up the Manufacturer List)
- 3) Choose: *Aeroflex* (This will bring up the part menu for Aeroflex)
- 4) From the Part Menu select:
 - UT22VP10-FP
 - UT22VP10-QFP
 - UTMC22VP10

“PROMlink or TASKLink Software”:

- 1) Insert diskette with appropriate algorithm into DATA I/O floppy drive.
- 2) Choose *Setup* from the menu bar
- 3) From the *Setup* menu choose: *Select Device* (This will bring up a Manufacturer List)
- 4) From the *Manufacturer List* choose: *Aeroflex* (This will bring up a Aeroflex device menu)
- 5) Select one of the following device types from the *Aeroflex Device Menu*:
 - UT22VP10-FP
 - UT22VP10-QFP
 - UTMC22VP10

Setting the Security Option

Setting the security option depends on the DATA I/O software environment. The following discusses how to setup the HiTerm and PROMlink/TASKlink software environments to blow the security fuse:

“HiTerm Software”:

From Main Menu

- 1) Choose: *Program Device*
- 2) Set Security Fuse Data: “1”
- 3) Program Security Fuse : “Yes”

Note: You must set both, the Security Fuse Data to “1”, and the Program Security Fuse to “Yes.”

- 4) [ENTER] to Begin Programming the UT22VP10 (Be sure you have already loaded your .mjd file before hitting [ENTER])

“PROMlink or TASKlink Software”:

- 1) Choose *Setup* from the menu bar.
- 2) From the *Setup* menu choose: *General Parameters*
- 3) Under *General Parameters* set the Security Option to: 3
- 4) [Enter] to return to the main programming environment

UT22VP10 RADPAL™ Alignment Within Carrier

The 2 following diagrams show the alignment of the RADPAL™ within its carrier. It is very important that the UT22VP10 is properly aligned in the carrier during programming. If you attempt to program the UT22VP10 when it is not properly aligned the Data I/O programmer will fail continuity check. If continuity check is disabled then the programmer will fail Blank Check, and return a checksum of 03CC. The proper checksum for a blank, properly aligned, UT22VP10 is DA32. If the checksum returned is anything other than DA32, then you have not inserted the PAL into the programmer correctly, or the UT22VP10 is, in fact, programmed.

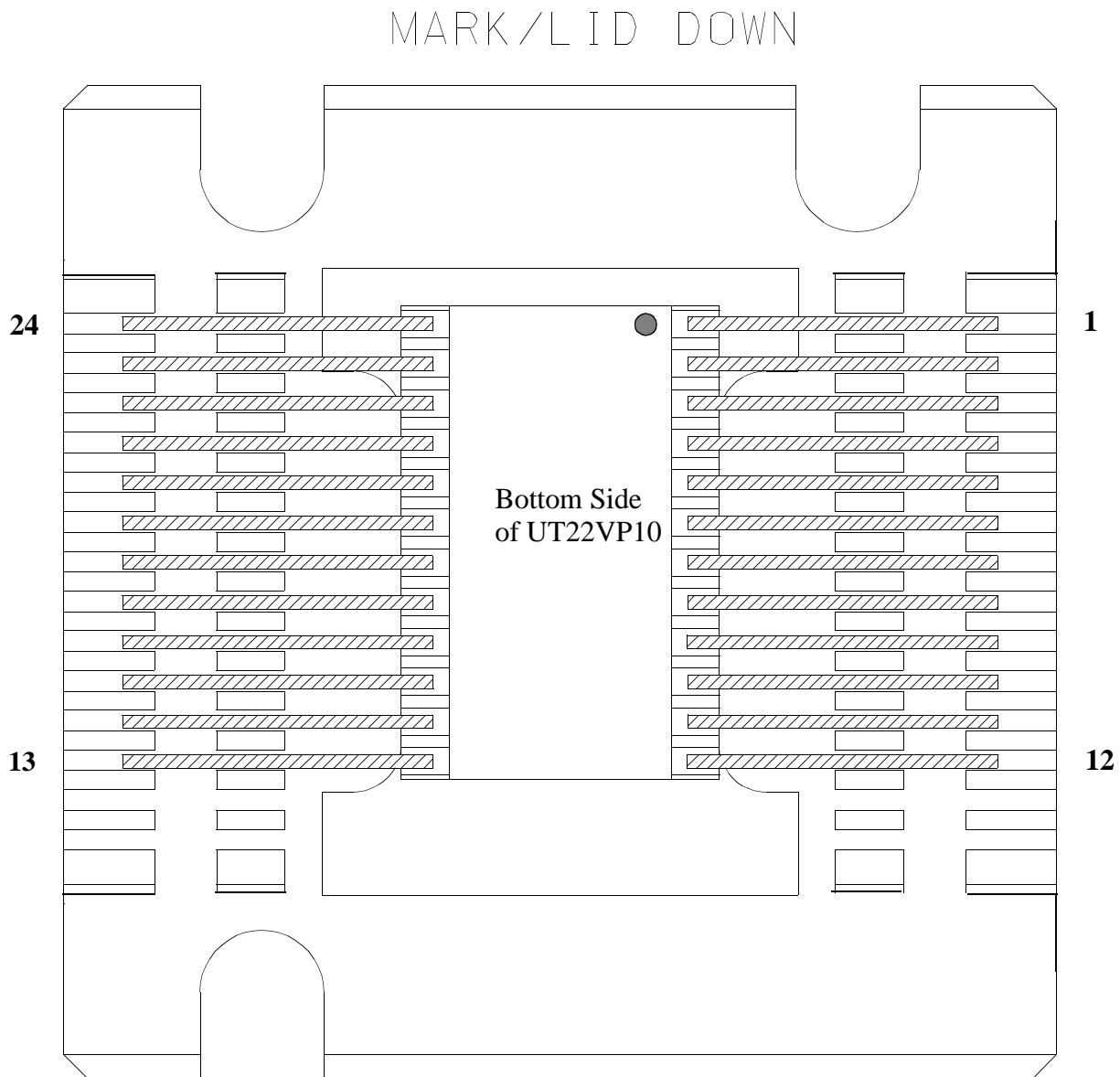


Figure 2. Diagram of the UT22VP10 24 Pin Flat Pack in Carrier

MARK/LID DOWN

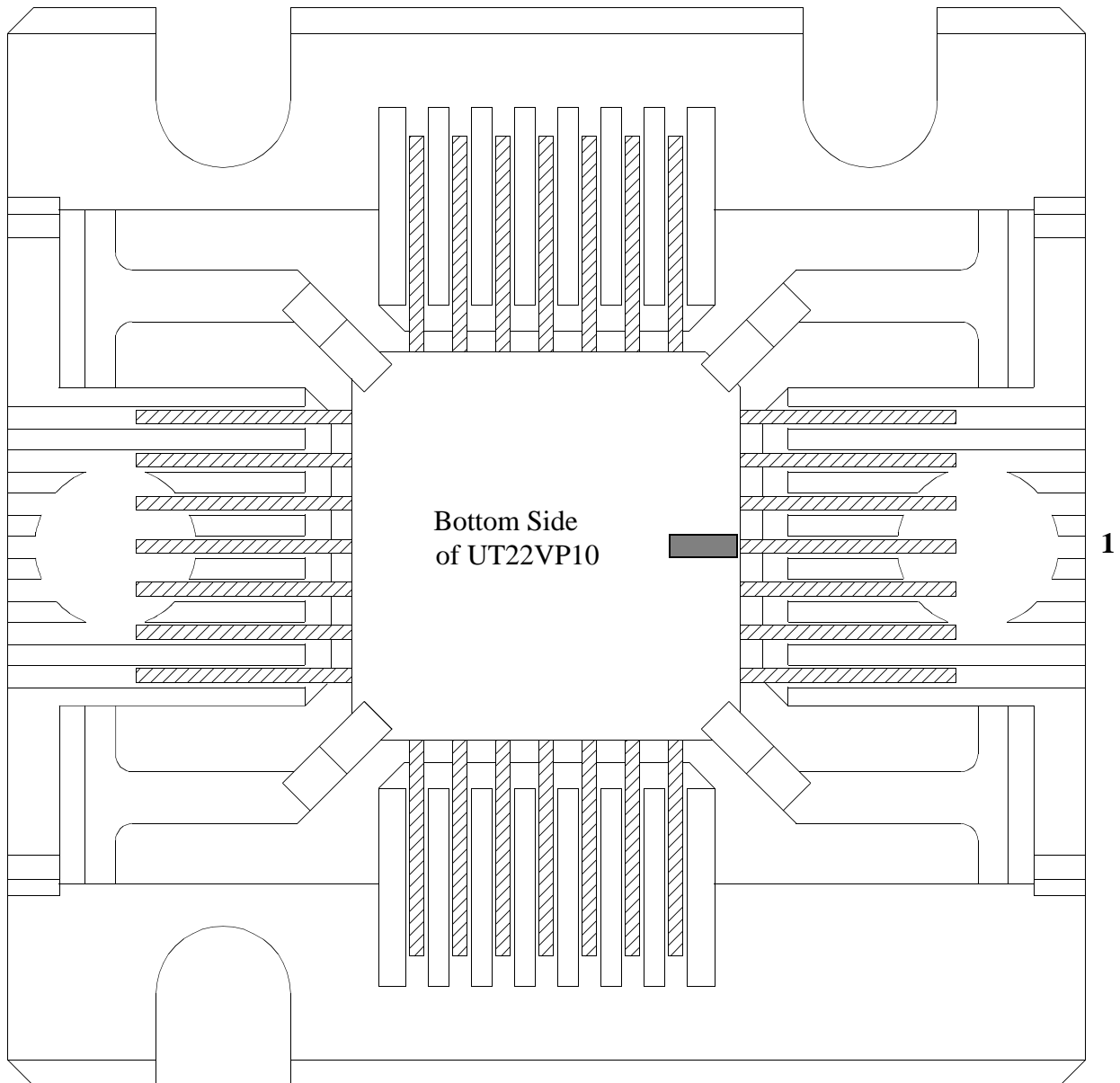


Figure 3. Diagram of the UT22VP10 28 Pin Quad-Flat Pack in Carrier

Programmer Options

Data I/O supports RADPAL on the following programmers:

Unisite
3900
2900

Table 1: DATA I/O Platforms for PROM and RADPAL

Product Type	DATA I/O 2900	DATA I/O 3900
RADPAL	Yes DIP BASE 29BASE-0102 PPI BASE 29BASE 9901 PPI-1006 (FP) PPI-0562 (QFP)	Yes DIP BASE 39BASE-0101 PPI BASE 39BASE 9901 PPI-1003 (FP) PPI-0562 (QFP)

Table 2: Software Versions

Product Type	DATA I/O 2900	DATA I/O 3900
RADPAL	5.2*	5.2*

* Data I/O software version 5.2 or greater hold the UT22VP10 RADPAL programming algorithms

Aeroflex Colorado Springs - Datasheet Definition

Advanced Datasheet - Product In Development

Preliminary Datasheet - Shipping Prototype

Datasheet - Shipping QML & Reduced Hi-Rel

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WEST COAST

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Fax: 949-362-2266

CENTRAL

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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused