TM8100 Mobile – 3DK Hardware Developer's Kit

Introduction

The TM8100 series has been designed with ultimate flexibility for system integration – with an expansive internal options area this radio is one of the most flexible mobile radios on the market.

Tait has designed the 3DK Hardware Developer's Kit to provide dealers and system integrators with an additional resource to develop their own custom solutions.

The support documentation will greatly assist you with either external or internal interface requirements.
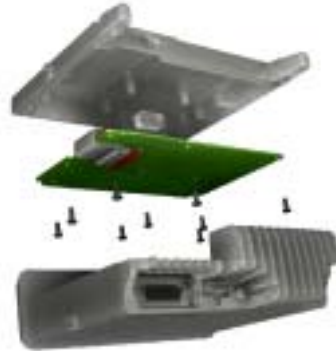
The support documentation will also assist with creating custom hardware solutions to be housed within the large options area or blank control head.

TM8100 3DK Hardware Developer's Kit

TMAA30-00 Hardware Developer's Kit includes:

- TMAA30-01 3DK Resource CD
- TMAA30-06 Internal Options Kit
- TMAA01-01 Line Interface Board
- TMAA01-05 Options Extender Board
- TMAA20-00 Programming Kit

Resource CD

The support CD consists of the following tools:

3DK Resource Section

- 3DK Hardware Developer's Kit Application Manual
- CCDI Protocol Manual

Product Support Section

- Programming software
- Calibration software
- User's Guide
- Operator's Manual
- Accessories Manual
- Service Manual
- PCB Information Packs

3DK Hardware Developer's Kit Application Manual

This manual provides a description of the radio interfaces and information on how to integrate third-party products and create internal options boards for TM8105 and TM8115 radios.

This manual provides you with the information required to:

- interface to the radio and configure the programmable I/O lines
- create your own options boards
- interface third party devices
- connect an external alert to the radio
- configure the radio for different power supply configurations
- replace a T2000 radio and a T2000-A81 general purpose interface board with a TM8100 radio
- choose other correct programmable tap in/ tap out audio points board on the frequency response graphs

CCDI Protocol Manual

This manual contains reference information about the TM8100 Computer Controlled Data Interface (CCDI) protocol. This protocol is embedded in the TM8100 and is used for communicating with the TM8100 via asynchronous serial ports. This protocol allows the user to perform common functions for example, changing channel and sending Selcall via the serial port. It is also used for access to the modems on the TM8100.

Calibration software

This software application is used to adjust parameters such as transmit power, transmit frequency, and front end tuning and others.

User's Guide

This user's guide provides information about both the TM8105 and TM8115 mobile radios and is divided into two parts.

- Part A explains how the TM8115 radio operates. The TM8105 radio has a control head without user controls, so no TM8105 operating information is needed.

- Part B outlines the installation procedure for both TM8105 and TM8115 radios, and gives the interface specifications for the TM8105 remote connector.

Operator's Manual

This manual provides a detailed explanation of the radio's operation. It is designed to be used by a System Integrator to customise their own operating instructions.

Accessories Manual

This manual contains information on installing, operating and servicing accessory products for TM8100 radios including;
- Options Extender board
- Line Interface board

Service Manual

This manual provides information on the architecture and functions of the radio. The manual also provides information to service technicians for carrying out level-1 repairs of TM8100 mobile radios. Level-1 repairs entail the replacement of faulty parts and circuit boards.

PCB Information Packs

This includes component port lists, circuit diagrams, and component overlays.

Internal Options Kit

The internal options kit includes:
- High density 15 way D-range socket - For PCB mounting on your accessory board to provide signals to the outside world.
- 15 way D-range seal and screws - To put over the accessory connector when not in use.
- 15 way high density D-range plug and cover - This enables you to plug your external equipment into the 15-way socket that is mounted on your options board.
- Foam seal - Inserted between the D-Range and the radio Chassis to provide a degree of sealing.
- Loom - Fitted with Micro-match connectors. This loom will connect the internal options connector of the radio to your option board.

- 18 way Micro-match socket, PCB mount - This socket is mounted on your PCB and enables connection to the loom, providing access to the internal options connector of the radio.

Line Interface Board

The Line Interface Board provides a 600-ohm, 2 or 4 wire interface for remote control of the radio.

Options Extender Board

The Options Extender Board provides external access to most of the signal lines provided by the radio's internal options connector. This board also provides an optional 5v supply and a RS232 compliant interface.

Programming Kit

The Programming Kit consists of the following:

- T2000-A19 Programming lead (mobile)
- TMAA20-02 RJ45 to DB9
- TMAA20-03 Power lead banana plugs
- TMAA20-04 RJ12 to RJ45 adaptor

- An additional TMAA30-03 RJ45 to DB15 lead has been provided to allow programming from the rear of the radio.

Can we purchase the 3DK components individually?

Yes, the individual components within the TM8100 3DK Hardware Developer's Kit can be purchased using the product codes listed on page one.

Please refer to your dealer price book for details. Please also note that purchasing the individual components is more expensive than buying a complete kit.

How can we purchase the 3DK?

The TM8100 3DK kit, Support CD or individual components can be purchased through your normal purchasing channel.

In purchasing either the TMAA30-00 Kit or TMAA30-01 Support CD, you will have the opportunity to be registered as a TM8100 Systems Integrator (SI). You will be sent a username and password that will provide access to the Taitworld SI Support Site.

How do we gain support?

Support for the 3DK Hardware Developer's Kit will be provided through our normal support channels.

- All support requests need to go to your local Tait Support Centre.
- After receiving access to the Taitworld SI Support Site, you will be able to download software and documentation updates.

Where can we find a condensed version of the TM8100 3DK documentation?

A cut down version of the TM8100 3DK documentation is available from your local Tait office.