

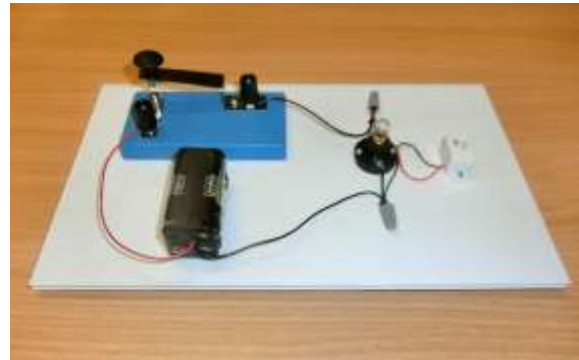


## MORSE CODE SET (Code: MORSE)

### DESCRIPTION

Morse code is a form of binary on-off code that has been used for communication since 1844. The kit provides a basic *MORSE CODE SET* – a tapping key, a buzzer, an indicator light and a battery holder. This kit is also an example of a simple circuit.

When you have two sets, by using longer lengths of hook up wire, you have the ability to “talk” (communicate) with a friend at another table or in another room.

**LEVEL:**

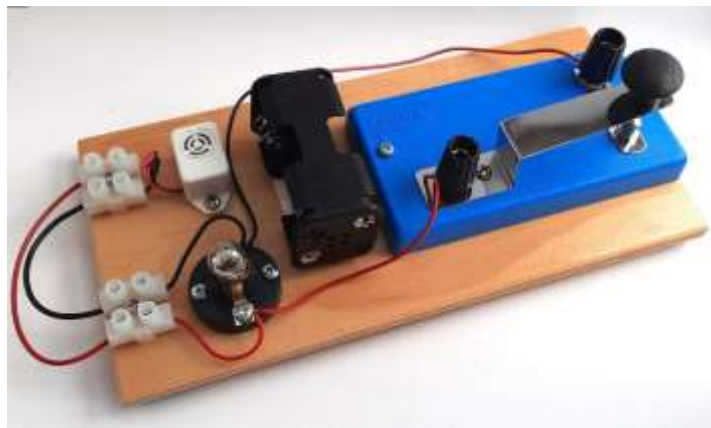
Introductory / Primary

**HOURS TO CONSTRUCT:**

1 - 2 hours

**SKILL DEVELOPMENT:**

- Planning and Design
- Assembly
- Mechanical
- Electrical
- Basic electric circuits



This photo shows a board mounted MORSE CODE kit with additional Terminal blocks (not included in the kit) at the front. The use of these terminal blocks allows two kits to be joined with longer wires.

**NOTE:** In this example, to use the unit as a “stand alone” practice set, the short pieces of hookup wire are used.



## WHAT'S IN THE KIT?

- ❑ All the mechanical and electrical components required to make the *MORSE CODE SET* work including the battery holder, bulb, buzzer and tapping key.
- ❑ A detailed teaching unit with a complete parts list, design suggestions, general assembly guidelines, testing and guide for connecting two *MORSE CODE SETS* to communicate with each other.



## WHAT ELSE IS NEEDED?

The following items are required in addition to the kit and must be supplied by the designer – some are available from Scorpio Technology, but need to be ordered separately:

ADDITIONAL REQUIREMENTS	ORDERING CODE
4 x Battery – AA	BATTAA – 4 pack <i>OR</i> BATTALK – 40 pack
Material for the base (plywood, corflute, pine etc) <i>OR</i> An enclosure / housing for storage	- <i>OR</i> JIFCASM
Methods for attaching components if required: - Double sided foam mounting tape rectangles - screws etc.	TAPEDS15X20X1 -
<i>To locate the Buzzer in a different location:</i>	
Multi strand hook-up wire - in red and black <i>OR</i> Figure 8 (speaker) wire	WIREHU10 <i>OR</i> WIREFIG8
Additional screw on connectors <i>OR</i> Terminal blocks	CONN-SC – 100 pack <i>OR</i> TERMBLK12
Cable ties – 100mm, to hold twisted wires together	CABTIE100A

## TOOLS REQUIRED

The following tools are required. Several are available from Scorpio Technology, and can be ordered separately if required:

REQUIRED TOOLS	ORDERING CODE
Assorted hand tools (depending on materials used)	-
Ruler and pen	-
A small Phillips (cross-head) screwdriver	SCREWDRPH1/80
Wire strippers	WIRESTR
Side cutters	SIDECUT <i>or</i> SIDECUTM

## ABOUT THE PROJECT

The major features of this project are the planning, design and assembly stages of a simple Morse code set. Another feature is the practical use of the Morse code.



## DESIGN PHASE

- Create your own unique *MORSE CODE SET* design based on our design. Focus on component relationships, rather than dimensions. This provides scope for students to individualise their *MORSE CODE SET* design or expand to include connect two sets and increase their engagement in the project.

During the **Design phase**, students will need to:

- Evaluate the suitability of various materials, such as PVC, acrylic, plywood, corflute or balsa wood for the mounting board
- Take into location of components and ease of operation
- Consider the practical aspects of assembly. For example, compactness of all the components for storage
- Ability to add additional features / components

## MAKING / CONSTRUCTION

Once the Design process has been completed, the students will be able to start assembling their design. They will:

- Make and assemble the *MORSE CODE SET* platform they have designed
- Mount the tapping key, battery holder, bulb holder and buzzer on to the platform
- Wire up the tapping key, battery holder, bulb holder and buzzer
- Test and adjust the *MORSE CODE SET*
- Setting up two or more *MORSE CODE SETS*
- Troubleshoot any problems!

## **DOES THE TEACHING UNIT INCLUDE ANY THEORY?**

The Teaching unit has a THEORY section that covers

- How it works
- The history of Morse Code
- Learning Morse Code

