

## FEATURE



Figure 1 : CDI IMAX 2 SERIES

## INTRODUCTION

IMAX 2 is a digital CDI that is controlled using a microcomputer that works to set the engine combustion timing (Ignition Curve).

IMAX 2 is the development of the previous generation, where the engine combustion is more stable and precise so that the energy produced is greater and more efficient than the previous generation.

IMAX 2 comes with a function to record (Data Logger) several machine parameters in units of time.

IMAX 2 can be integrated with the Air Fuel Ratio Module (Comparison of air with fuel) or DATA BOX for AFR readings.

IMAX 2 designed to used with remote so it is more practical and easy to use for setting the ignition.



Figure 2 : Universal Remote Programmer

## DESCRIPTION

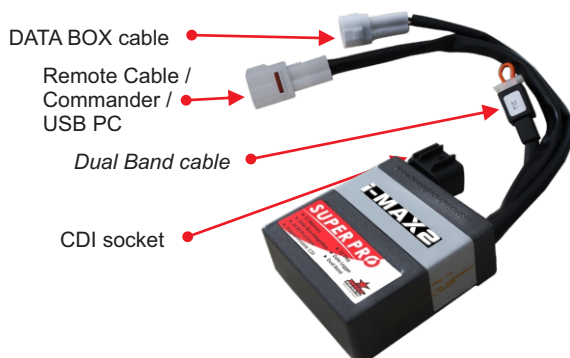


Figure 3 : CDI IMAX 2 SERIES

## SPECIFICATION

### 1. MECHANICAL

- a. Casing : ABS Color Printing
- b. Connector : PBT
- c. Adhesive : Epoxy soft type
- d. Wiring : AV 0.5

### 2. ELECTRICAL

- a. MCU : STM32 32 Bit, 48 MHz
- b. PCB : 4 Layer FR4
- c. Voltage : 10 s/d 14.5 Vdc
- d. Current : 0.1 s/d 0.7 Ampere

## CDI IMAX 2 FEATURE

CDI IMAX 2 Series Feature :

- Programmable CDI with universal remote
- Programmable CDI with AFR Meter Application
- Live Parameter Display with universal remote
- Live Parameter Display with AFR Meter Application
- Internal Data Logger
- Integration with DATA BOX
- Quick Shifter
- Shift Light (RPM VALUE INDICATOR)
- Blue Eyes Indicator

## PRODUCT LINE UP

Model	Step	Memori	Data Logger	AFR Integration	Quick Shifter	Shift Light	Smart Click	Dual Band
IMAX 2	26 (Program mable)	2 (Program mable)	✓	✓	0	0	X	✓
IMAX 2 SUPER	52	17 (Program mable)	✓	✓	0	0	✓	✓
IMAX 2 SUPER PRO	52	51 (Program mable)	✓	✓	0	0	X	✓

## REMOTE FEATURE

Function with CDI :

- 51 Memori 4 Stroke (52 Step)
- 51 Memori 2 Stroke (52 Step)
- 51 Memori 4 Stroke (26 Step)
- 51 Memori 2 Stroke (26 Step)
- Live Display Parameter
- Live Ignition Edit

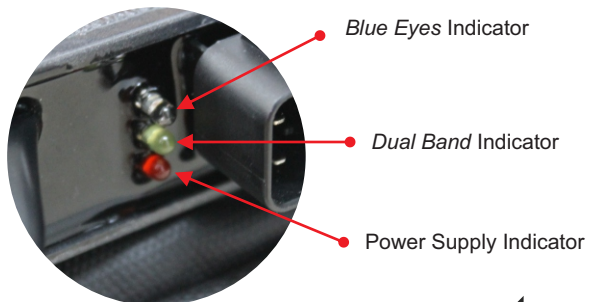
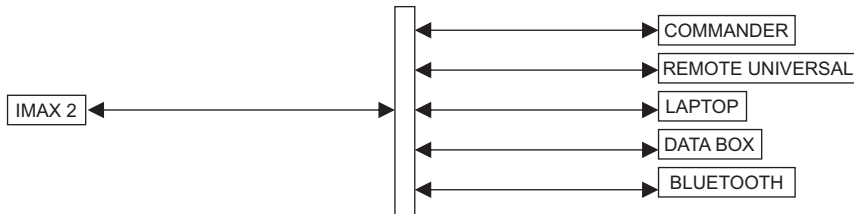


Figure 4 : Connector and Indicator

## REMOTE FUNCTION

### IMAX 2 APPLICATION



### REMOTE PROGRAMMER



Figure 5 : Remote key function scheme.

NO	BUTTON	FUNCTION DESCRIPTION
①	FUEL/SET	> <b>FUEL</b> , Function just for ECU JUKEN.  > <b>SET</b> , to correct parameter value : - <i>Set value</i> : set the desired value. - <i>Add value</i> : add the required value.
②	TIMING	> To change the value of the Ignition Timing parameter (Degree of ignition).
③	LIMIT / EXIT	> <b>LIMIT</b> , to change and set the value of engine spin restrictions ( <i>Rev. Limiter</i> ). > <b>EXIT</b> , to perform a cancellation action or exit from menu.
④	MAPS	> To select which MAP to edit or activate.
⑤	EDIT	> To change the specified value.
⑧	SAVE	> To store parameter values after a change.
⑨	ENTER	> To execute a command.
⑩	▲ ▼	> To increase or decrease parameter values. > To move forward or backward during operation.
⊙ ⊙	LIMIT + FUEL	> To enter the MAIN MENU.
⊙ ⊙	FUEL + TIMING	> Function just for ECU JUKEN.
⊙ ⊙	▲ + ▼	
⑥	TPS	
⑦	DIAG	

## REMOTE FUNCTION



Figure 6 : Universal Remote Programmer

The function of remote button is divided into 2, as follows :

1. Single Button

To enable common function with press one button only.

2. Combination Button

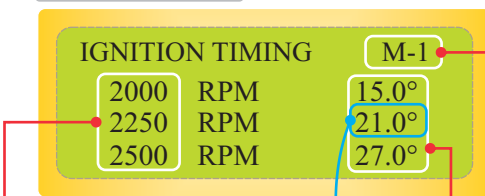
To enable custom menu function by pressing two buttons at the same time.

### 1. TIMING BUTTON



>> To change the Ignition Timing parameter value (IGN)

View on REMOTE



>> RPM Parameter Value

Figure 7 : Change the ignition timing parameter

Information :

M-1 : 1st CDI Memory

>> You are changing memory 1 on the CDI.

>> Ignition Timing Value at each specified RPM.

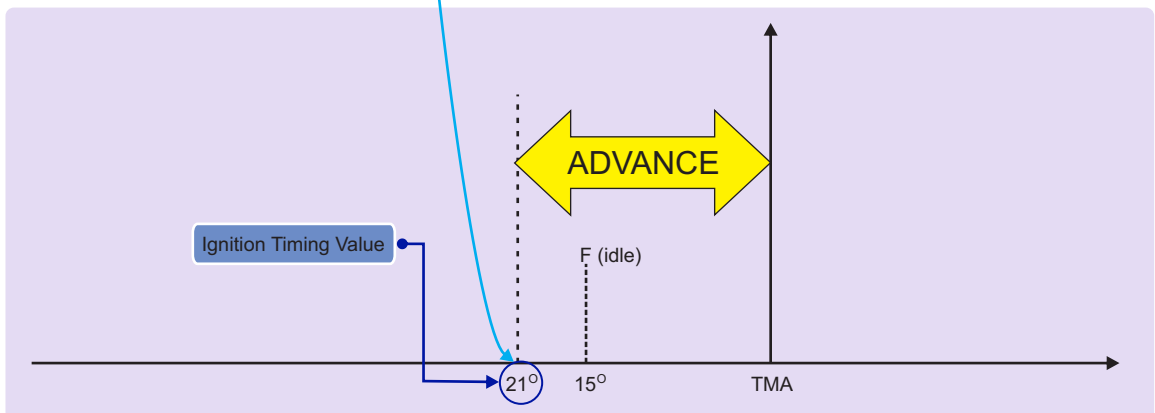


Figure 8 : Illustration of ignition timing

**KEYWORDS :**

>> In the carburetor system, the initial reference value of the ignition timing is 15° on 4-stroke motor, and 8° on 2-stroke motor.

>> Advance value on CDI remote is calculated from TMA.

## REMOTE FUNCTION

**PRESS**



>> To make quick correction with correction function

### CORRECTION FUNCTION

>>> SET VALUE  
>>> ADD VALUE

**KEYWORD :**

>> The Correction Function can be used when changing the Ignition Timing parameter.

### 2. FUEL/SET BUTTON



>> To set parameter values with special instructions press 1 time.  
>> To add parameter values with special instructions press 2 times.

1X

View on REMOTE

IGNITION TIMING		M-1
2000 RPM		15.0°
SET VALUE	:	15.0°
2500 RPM		27.0°



View on REMOTE

IGNITION TIMING		M-1
2000 RPM		15.0°
FROM (RPM)	:	2250
UNTIL (RPM)	:	12000

**KEYWORD :**

>> **SET VALUE**, to set parameter value starting at RPM(cursor position), up to target RPM.  
>> Use SUPPORT BUTTON , to change, save and move the cursor.

**SUPPORT BUTTON**



Figure 9 : Set Value Method

2X

View on REMOTE

IGNITION TIMING		M-1
2000 RPM		15.0°
ADD VALUE	:	15.0°
2500 RPM		27.0°



View on REMOTE

IGNITION TIMING		M-1
2000 RPM		15.0°
FROM (RPM)	:	2250
UNTIL (RPM)	:	12000

**KEYWORD :**

>> **ADD VALUE**, to add parameter value starting at RPM(cursor position), up to target RPM.  
>> Use SUPPORT BUTTON , to change, save and move the cursor.

**SUPPORT BUTTON**



Figure 10 : Add Value Method

## REMOTE FUNCTION

### 3. LIMIT / EXIT BUTTON

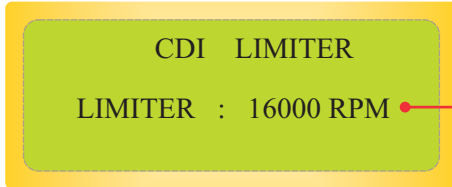
**EXIT** >> To exit from the selected menu and back to MAIN MENU.



**LIMIT** >> To limit the engine speed (Limiter).



View on REMOTE



>> The value of engine speed limit

#### KEYNOTE :

- >> The minimum value of the limiter is 5000 RPM.
- >> The maximum value of the limiter is 20000 RPM.
- >> If the limiter is on, then the ignition signal is disconnected.
- >> The Limiter value that appears is the limiter value of the currently active map.
- >> Each MAP has its own limiter value (independent).



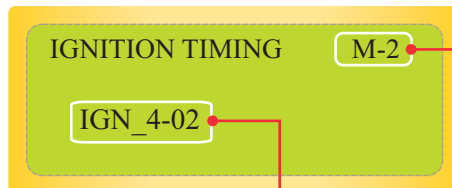
Figure 11 : Change the Limiter parameter

### 4. MAPS BUTTON



>> To select memory to be EDIT or activated, when opening TIMING function

View on REMOTE



>> You are selecting memory 2 on CDI

>> Name of the selected Ignition Map

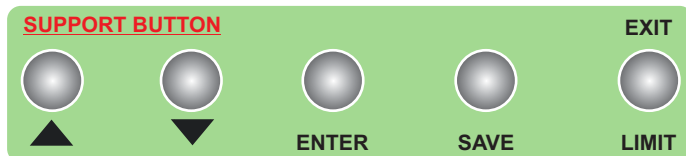


Figure 12 : Changing the Ignition Timing MAP

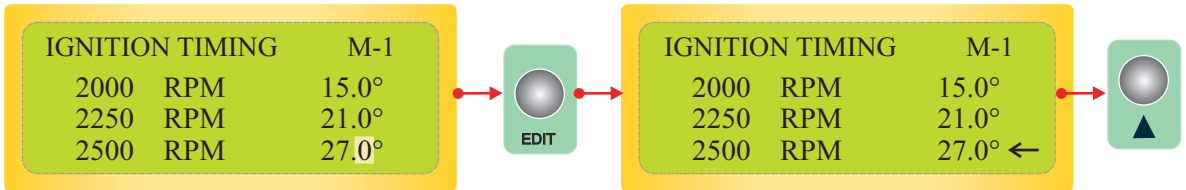
## REMOTE FUNCTION

### 5. EDIT BUTTON



>> To move the cursor and change the value in the current cursor position

#### ILLUSTRATION EXAMPLES



**Figure 13 :** Illustration of EDIT button usage

#### KEYWORD :

>> EDIT button is a help button.

>> This button does not work alone, must enter on certain function as a help button.

### 6. SAVE BUTTON



>> Function to save data that has been changed.

### 7. ENTER BUTTON



>> Function to EXECUTE change command.

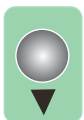
>> Function to move the cursor to a specific function.

### 8. UP BUTTON



>> ▲ Function to ADD the parameter value that being set (setting).

### 9. DOWN BUTTON



>> ▼ Function to REDUCE the parameter value that being set (setting).

#### KEYWORD :

>> SINGLE BUTTON Function is a button that can work alone without any other key combination.

>> COMBINATION BUTTON Function is button that can't work alone without any other key combination.

## SPECIAL MENU

### COMBINATION BUTTON

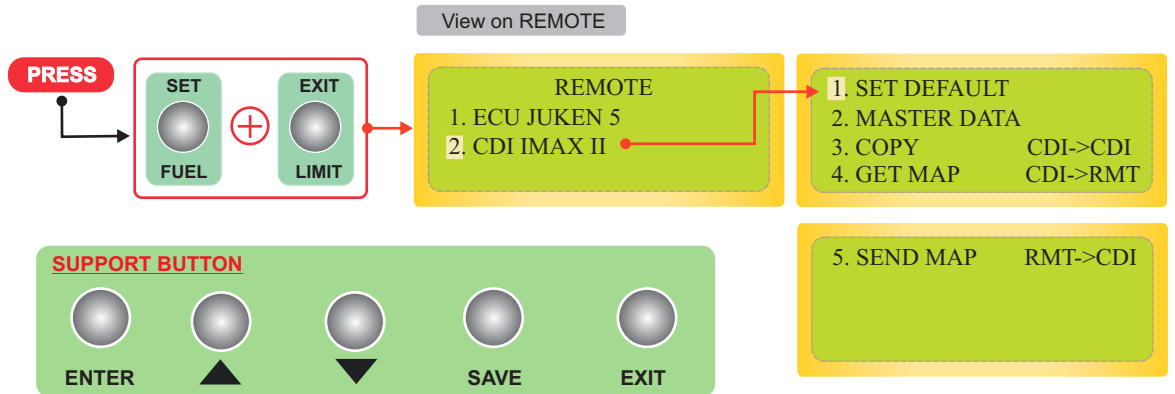
- >> Button to enable SPECIAL MENU function.
- >> Must press 2 button to activate the special function.

### SPECIAL FUNCTION

- >> The special function is the core function of IMAX, whose content is as follows.

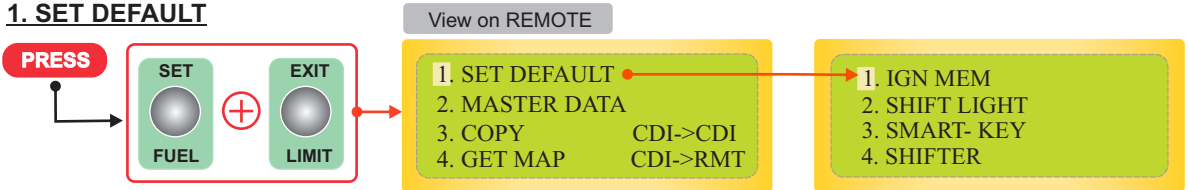
### 1. SPECIAL MENU

- >> The special menu consists of a special functional function.

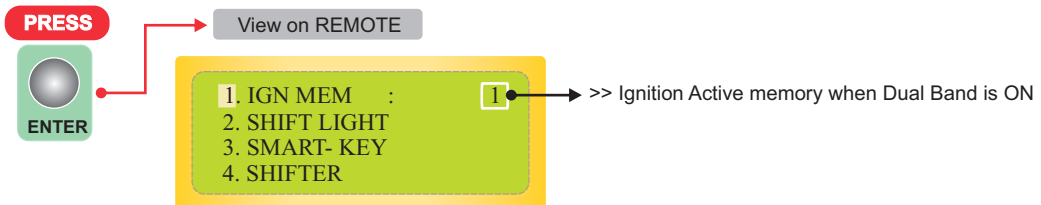


## SPECIAL MENU

### 1. SET DEFAULT



#### 1.1. SET IGN MEMORY



- >> Dual Band enables Application

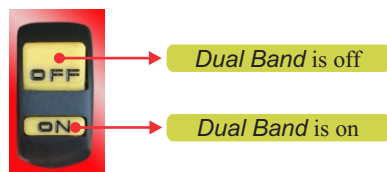


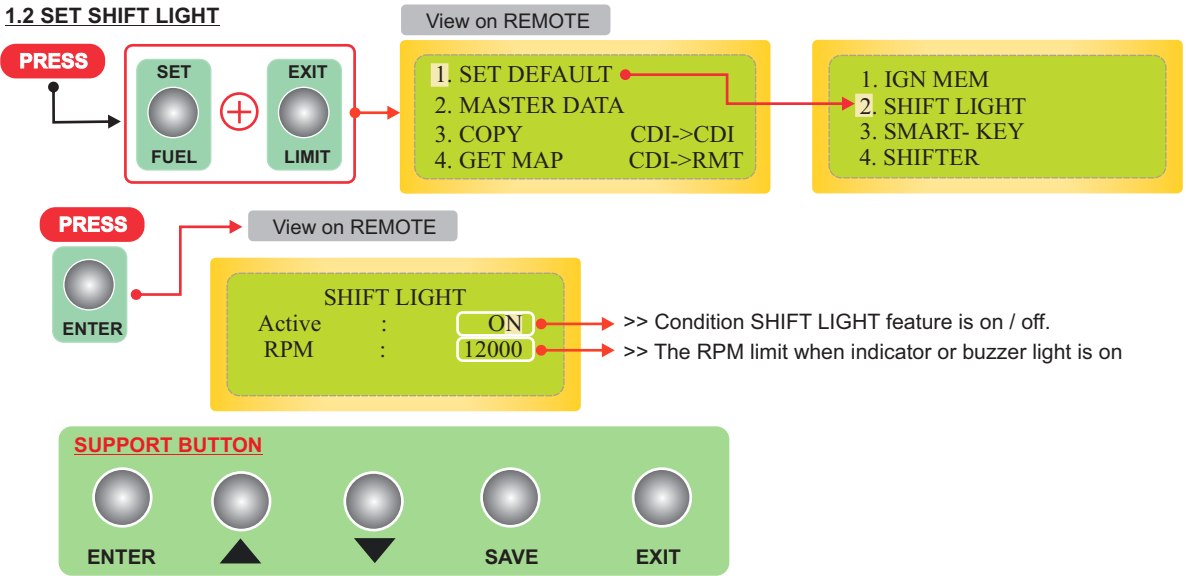
Figure 14 : Dual Band Function

#### NOTE :

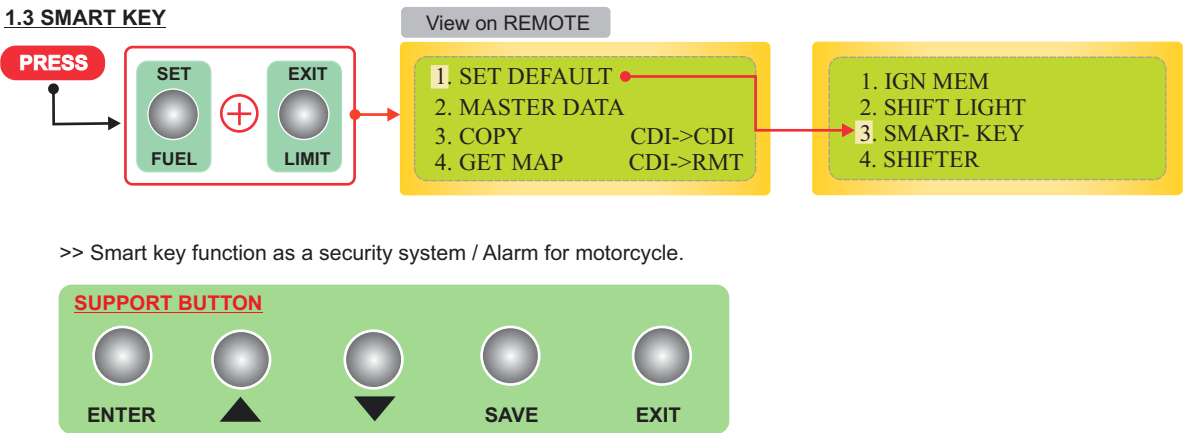
- >> MEMORY CDI 1 is always selected when Dual Band condition is off.

## SPECIAL MENU

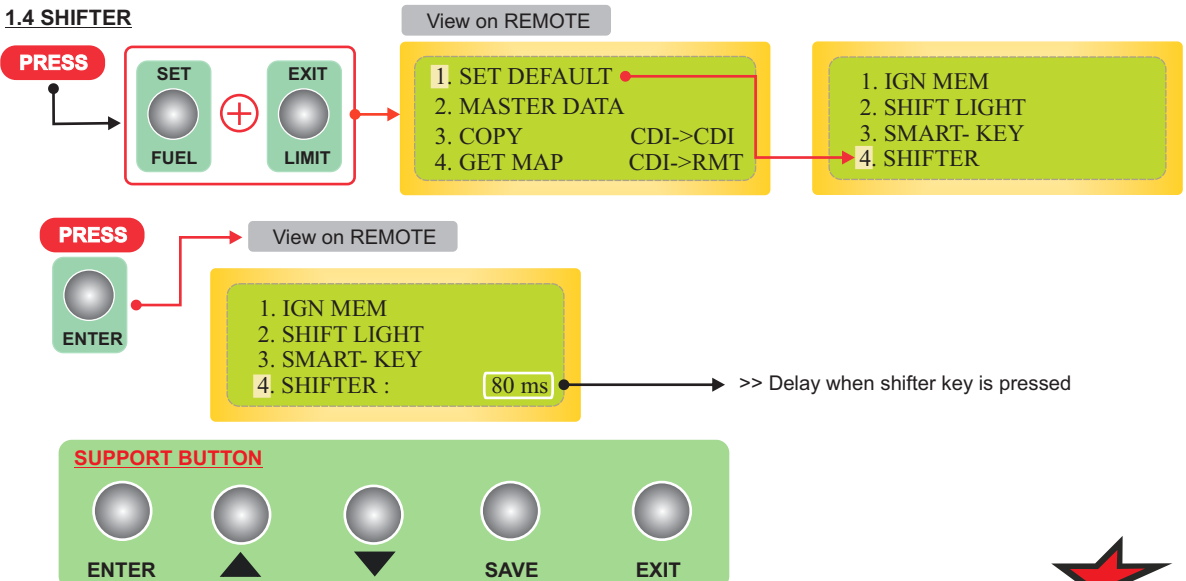
### 1.2 SET SHIFT LIGHT



### 1.3 SMART KEY

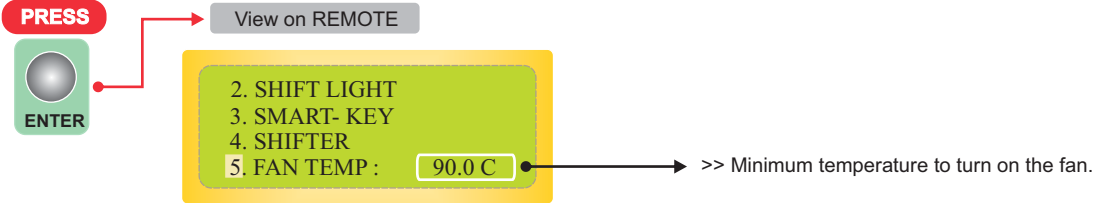
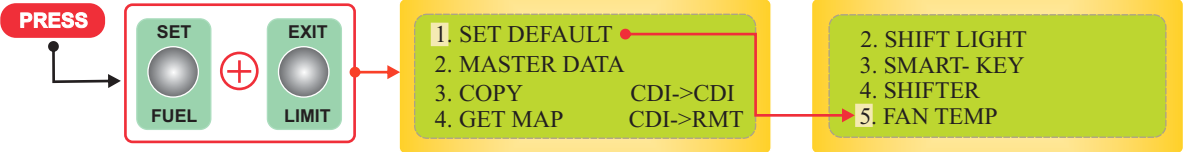


### 1.4 SHIFTER

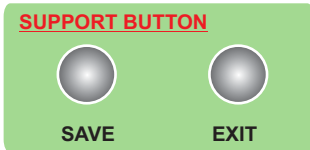
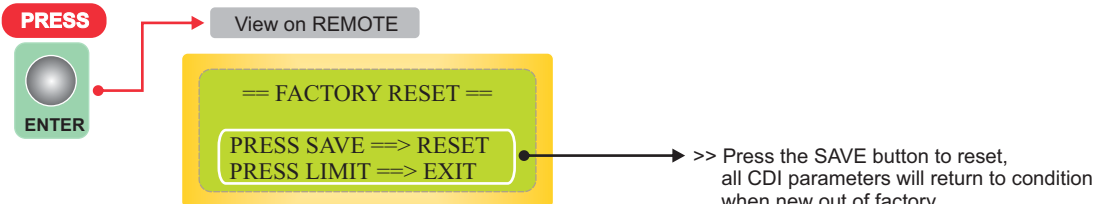
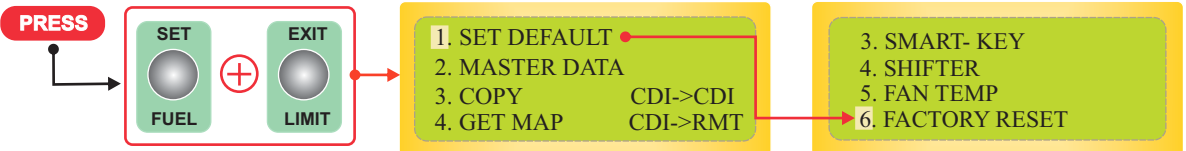


## SPECIAL MENU

### 2.5 FAN TEMP



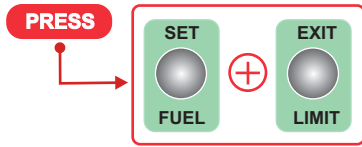
### 2.6 FACTORY RESET





## SPECIAL MENU

### 3. COPY (CDI --> CDI)

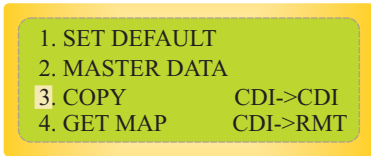


#### KEYWORD :

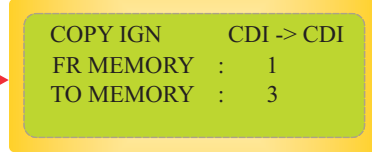
>> COPY CDI-->CDI, is a function to copy existing data in memory to other memory on CDI.

>> Parameters that can be copied are :  
- Ignition Timing

View on REMOTE

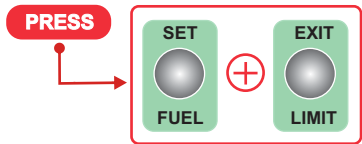


View on REMOTE



>> copy memory 1 IGNITION to memory 3

### 4. GET MAP (CDI -->RMT)

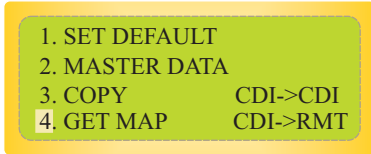


#### KEYWORD :

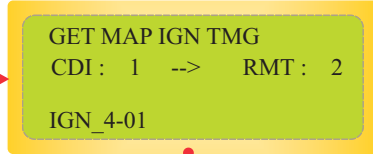
>> GET MAP (CDI-->RMT), to copy data from CDI to REMOTE.

>> Parameters that can be copied are :  
- Ignition Timing

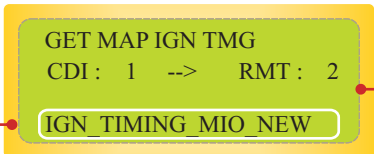
View on REMOTE



View on REMOTE



View on REMOTE

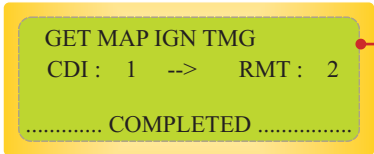


#### TIPS AND TRICK :

>> To rename a file, can use EDIT button  
>> ▲▼ Button to change letters.



View on REMOTE

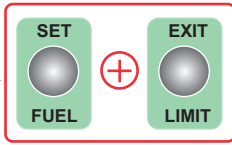


>> Copy memory 1 IGNITION TIMING from CDI to REMOTE memory 2.

## SPECIAL MENU

### 5. SEND MAP (RMT --> CDI)

PRESS



View on REMOTE

2. MASTER DATA  
3. COPY CDI->CDI  
4. GET MAP CDI->RMT  
5. SEND MAP RMT->CDI

PRESS



View on REMOTE

SEND MAP IGN TMG  
RMT : 1 --> CDI : 2  
IGN\_4-01

#### TIPS AND TRICK :

>> ▲ ▼ Button to select memory.

PRESS



View on REMOTE

SEND MAP IGN TMG  
RMT : 1 --> CDI : 2  
..... COMPLETED .....

>> copy memory 1 IGNITION TIMING from REMOTE to CDI in memory 2.

#### KEYWORD :

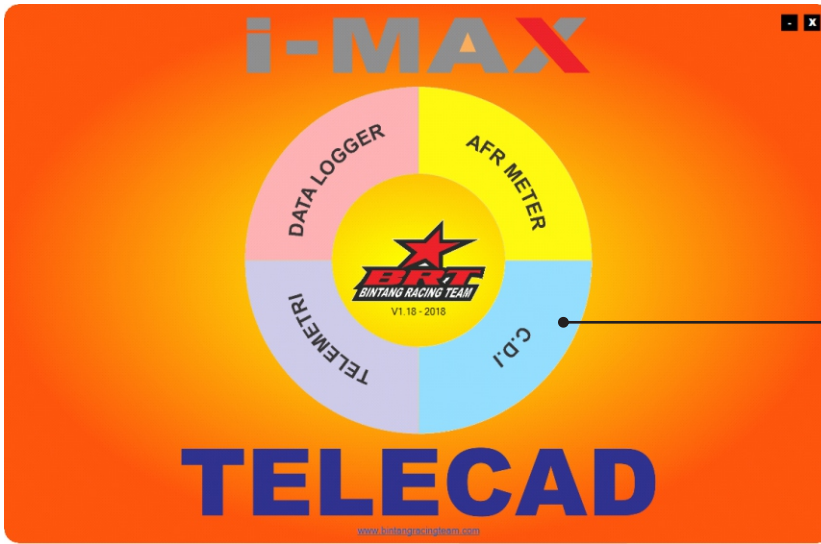
>> SEND MAP (RMT-->CDI), is a function to copy data from REMOTE to CDI

>> Parameters that can be copied are :

- Ignition Timing

## CDI APPLICATIONS ON COMPUTER

### CDI Application on AFR Meter software



#### TIPS AND TRICK :

>> Click to enter CDI MENU

Figure 16: AFR Meter software

#### KEYWORD :

Before opening the app, make sure that :

- Motor in ON contact condition
- USB driver already installed
- USB Cable and CDI connected

### 1. Choosing Serial COM Port

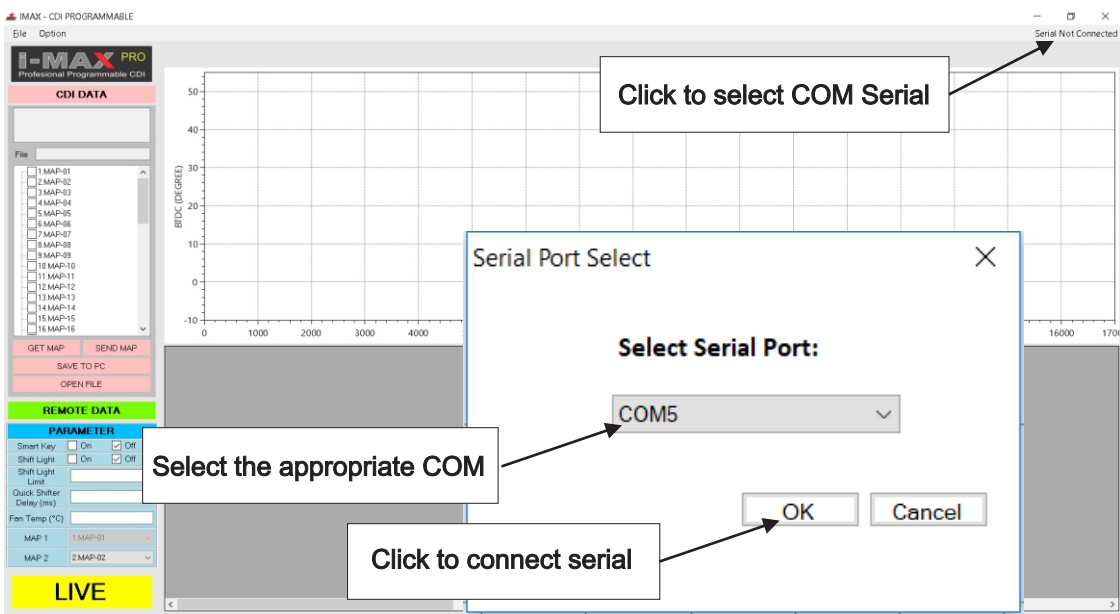


Figure 17: Choosing Serial COM Port





# CDI APPLICATIONS ON COMPUTER

## 2. SEND MAP CDI

Once the map is edited in application, press the SEND MAP button to save the map to CDI

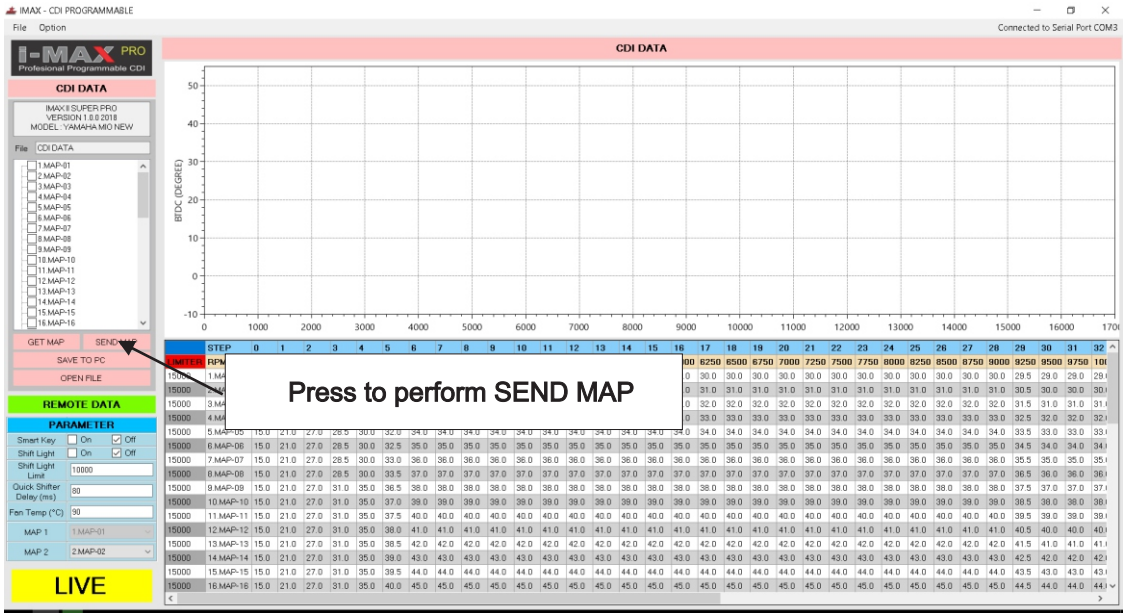


Figure 21: SEND MAP CDI

## 3. GET MAP / SEND MAP REMOTE DATA

When finish editing on the computer, the map can be sent to the remote by pressing SEND MAP

When the AFR Meter application is connected to Universal Remote, data stored on the remote can be retrieved to be edited on the computer by pressing GET MAP.

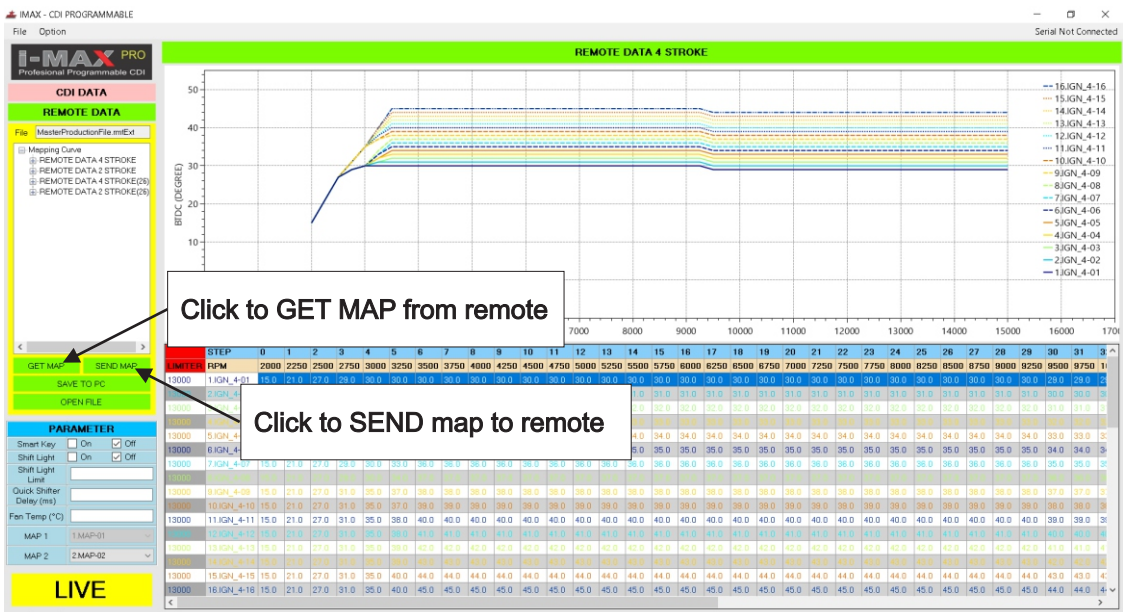


Figure 22: SEND / GET MAP with REMOTE

## CDI APPLICATIONS ON COMPUTER

### 4. FACTORY RESET

To perform factory reset function, select menu Option -> Factory Reset.  
The following message box will appear :

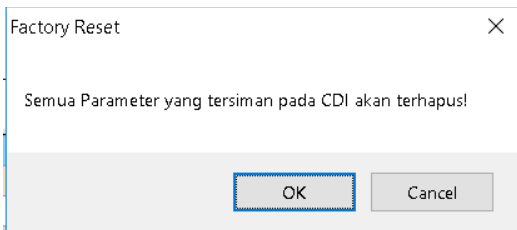


Figure 23: FACTORY RESET CDI

#### KEYWORD :

Press OK to perform factory reset.  
(ATTENTION!! all parameters and map on CDI will be erased and returned to factory default)

### 5. CDI DATA LOGGER

To enter get data logger menu, click Option -> Data Logger

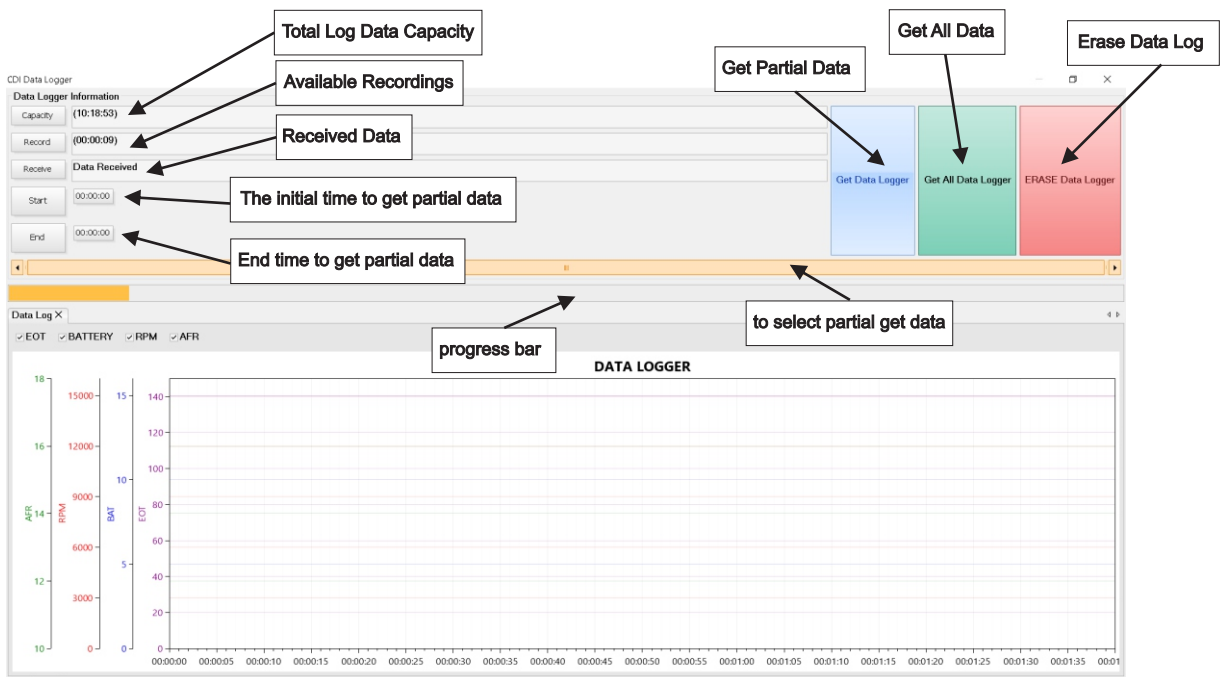


Figure 24: CDI Data Logger

#### KEYWORD :

1. Press get all data logger or get data logger.
2. Select the location and filename to save the data logger results.
3. Wait until complete get data log message appears.



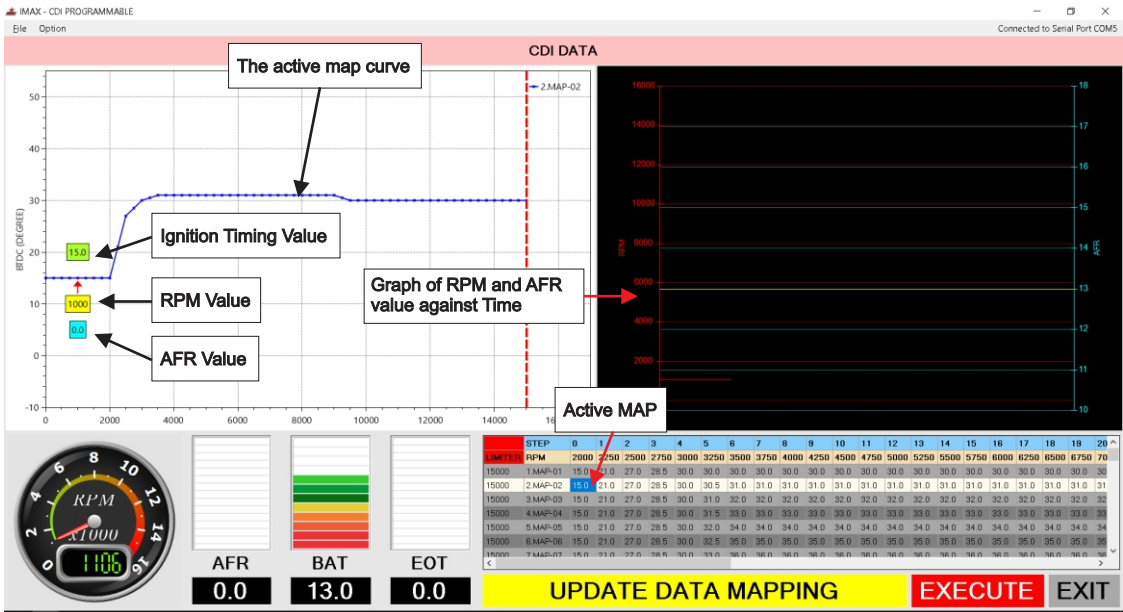


Figure 27: Live Menu View

### Color Indicator Info

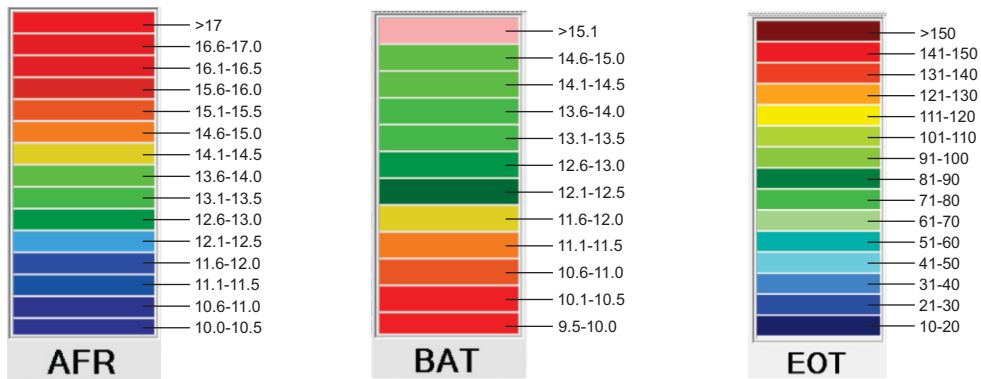


Figure 28: Info range of color indicators

#### KEYWORD :

- >> Press UPDATE DATA MAPPING to change MAP on CDI without saving permanently.
- >> Press EXECUTE button if the changed map wants to be permanently stored. Then wait until execute success message box appears.
- >> Press EXIT then turn the machine off to remove update data mapping, then do GET MAP.
- >> Double click to move the active map (Dual Band must be ON).

