

MU 2810E5

DATA SHEET (Europe)

Macro Technology Ltd.

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⇒ DESCRIPTION

MU2810E5 is an universal remote control transmitter with CMOS Technology which is designed for general purpose of infrared application. The device consists an 8-bit MCU with MACRO-SURC core. It can support up to maximum 64 function keys and 100 different types of system waveforms. It provides a cost effective **URC solution for 9 systems in a single chip.**

⇒ FEATURES

- ✚ CMOS Technology With Low Power Consumption
- ✚ 3 Volt Operation Voltage.
- ✚ Build in MACRO-SURC core
- ✚ Support up to maximum 64 function keys
- ✚ Support up to 100 different system waveforms
- ✚ Store up to 14 devices
- ✚ Cover more than 11000 different models for TV, TXT, LCD TV, VCR, SAT, CABLE TV, DVD and AUX.
- ✚ Manual code select
- ✚ Quick and **Auto** Power Search Mode
- ✚ **Two keys setup method (Only for TV)**

⇒ APPLICATION

Universal Remote Controller is for TV, Teletext, LCD TV, VCR, Satellite, Cable TV and DVD in Europe Market.

⇒ KEYS AND FUNCTIONS**A. Button Functions**

1. LED indicator Light: LED blinks to show that the remote control is working.
2. SET Key: Use SET for all programming sequences.
3. Device Keys: Press TV1/2/3/4, VCR/2, SAT/2, CATV, AUDIO/2 or DVD/2 once to select a home entertainment component to control.
4. TV/AV Key: Select TV or AV (VCR)
5. Mute Key: Turn sound off or on.
6. Power: Switch Device ON and OFF.
7. Keypad: Use the keypads (0-9, 11, and 12) to directly enter in channels. The keypad is also used for all programming sequences, such as entering in your programming codes.
8. CH*P/C: Channel/Program (LCR)
9. Pr ◀▶: Program
10. →•: Search Mode
11. →•←: Standard / Normal Mode
12. Menu: Access the menu of your chosen component.
13. PROG+/-: Select Next / Previous Channel.
14. VOL+/-: Control the volume of the Device.
15. A/B/C/D/E/F/G/H/Red/Yellow/Blue/Green: Fasttext function
16. Contrast +/-: Increase/decrease Picture Contrast
17. Brighten +/-: Brighten/Darken the Picture
18. Color +/-: Increase/decrease Color Intensity
19. UP/DOWN/LEFT/RIGHT: Move the Cursor in the program guide and menu screens.
20. ◀◻ / ◻▶ : Slow Backward / Forward
21. ◀◻◻ / ◻◻▶ : Fast Backward/ Forward
22. ▶ / ◻◻: Play / Pause
23. ◻ / ●: Stop / Record
24. Return: Return to the previous menu
25. 3 ▶:
26. Teletext Function Keys:

A. Button Functions (continued)

SYBOML	FUNCTIONS (TXT)
1. [ENLARGE]	Enlargement (TXT); Position, Favorite (SAT)
2. [≡]	Switch to Teletext or TV (TXT); Lock, Store (SAT)
3. [HOLD]	Page Hold (TXT); Bandwidth (SAT)
4. [PREV]	Previous Channel (TXT); West, LNB (SAT)
5. [NEXT]	Next Channel (TXT); East, H/V (SAT)
6. [≡?]	Reveal (TXT); Polarity (SAT)
7. [⊕TP]	Sleep: to activate and change the sleep timer
8. [≡i], [100i]	Index or Information
9. [≡⊕]	Clear Text
10. [TV/SAT]	Switch to TV or SAT

A. GENERAL FUNCTION

LED Flash

1. After power on, LED will be flashed one time.
2. When key is pressed, LED flash means that it has data transition. If LED does not flash, it means that it is no data transition.
3. If the key is a function key, such as Device Key, LED will flash.
4. In Quick Power Searching Mode, LED will flash by 1 Hz.
5. In Auto Power Searching Mode, LED will flash by 2 Hz.

Code Stored

1. For the **Manual Setup Mode**, all brand code can be stored in any Device (E.g. TV1, VCR, DVD, etc.)
2. For the **Quick Power Search Mode**, it can search their device's code range only. (E.g. TV, search range is from 000 to 230).

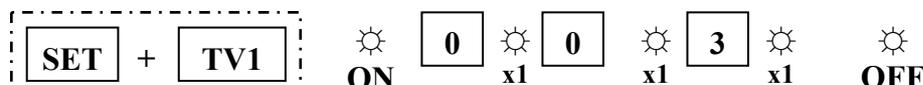
Others

1. For any Device, it can control the VOL+/-, Mute, TV/AV of the last TV code setup.

B. MANUAL SETUP

1. Look up the three-digit code for your brand and type of equipment in the Code Tables on the following pages. (E.g. Philips TV, code is 003)
2. Press the **SET Key and Device Key** which you want to control at the same time, then the indicator lights will turn on.
3. Press the **three digit** code for your equipment. Each time LED blinks one time.
4. If the LED turns off, it indicates that the code is accepted.
5. If the LED still on, it indicates that the code is wrong. You need exit the setting mode and restart the process.

Example: Philips TV, Code 003

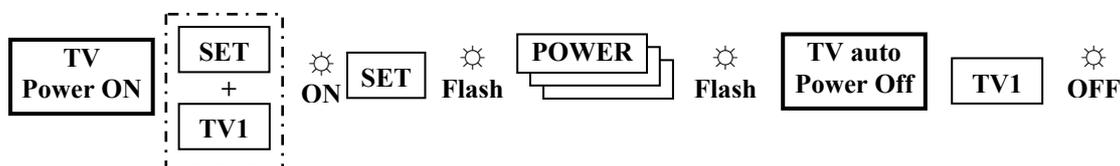


Note:

1. If no key on your remote is pressed for 10 seconds, the programming process will stop automatically, and you will have to start over.
2. Exit the setting mode: Press any device key in the setting process. LED turn off.

C. QUICK/AUTO POWER SEARCH SETTING

1. Turn on the equipment you want the remote to control, and point the remote toward it.
2. Press the **SET Key and Device Key** which you want to control at the same time, then the indicator lights will turn on.
3. Press and release the [SET] Key. LED will flash once. It stands for entering the Power Search Mode.
4. For **Quick Power Search Mode**: Each time you press the [POWER] Key, a new code number will be transmitted. Keep trying until your Device operates by receiving the transmitted signal. (You can power on the device again by hand and test the CH+ function works, playback starts, etc.) Be patient as you do this; it may take about more than 100 tries until the correct code number is located.
5. For **Auto Power Search Mode**: Hold the [POWER] key over 3 second in step 4. LED will turn on and then flash by 2 Hz. You can release the [Power] key. Code will be transmitted one by one automatically. If you find that the equipment is Power OFF, you can press any key to stop the Auto Power Searching.
6. If you want to change the direction of the searching mode, you can press and release the [SET] key. (Only for Quick Power Search Mode).
7. When the correct code is found, press and release any DEVICE Key to store the code number. LED will turn off.
8. Example: Television (TV1)

**Note:**

- If no key on your remote is pressed for 30 seconds, the programming process will stop automatically, and you will have to start over.
- If the LED indicator is off on the setting mode, it stands for stop the setting mode.
- If the code is not match with your equipment, then repeat step 1 to 8.
- If the code searching is going to the end or the first code, it will stop and exit the setting mode automatically.

D. Two Keys' Set up Method: (Power Quick Search)

1. Turn on the TV and point the remote toward it.
2. Press **CH+ & VOL-** buttons simultaneously for about 2 second until it has “beep, beep” sound and LED flash. It stands for entering the **Quick Search Mode**.
3. Slowly press the **POWER** key repeatedly until the TV turns off. When this happens a correct code may have been found. Turn your TV on again and test functions **CH+**, **CH-**, **VOL+**, **VOL-**. If these functions do not work correctly it is necessary to find another code from the available library until all the functions work.
4. When all the functions work, it can exit the setup function by pressing the keys **CH+ & VOL-** simultaneously fro about 2 second until it has “beep, beep” sound and LED off. This will save the code for your TV.

Note:

1. Each time you press the **POWER** key, it will skip to the next code and transmit a Power signal to turn off your TV.
2. If you fail to stop pressing the **POWER** key when your TV has switched off, switch your TV on again manually and press the “**MUTE**” 2 times and press **Power**. It can send one previous code data. Repeat to press Mute x2 & Power until the TV off again. Then, press CH+ & VOL- to lock in the code.
3. If no key on your remote is pressed for 30 seconds, the programming process will stop automatically, and you will have to start over.
4. For the quick search function, it will stop after searching one cycle from stored code.
5. Auto Power Search Mode doesn't function on this Mode.

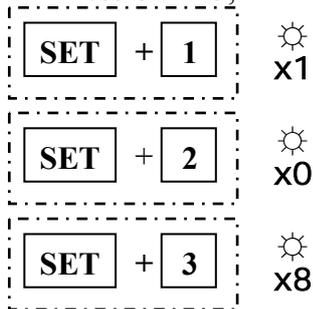


READING THE PROGRAMMED CODE

1. Select the Device Key, e.g. TV1
2. Press and hold the **SET** key, and press Key 1, 2 or 3. Release all key.
3. LED flashing time stands for Code Number.
4. If LED doesn't flash, it stands for number 0.

Example: TV Code=108

- Press **SET+1**, LED flash 1 times; (☀: **LED Flash**)
- Press **SET+2**, LED doesn't flash;
- Press **SET+3**, LED flash 8 times.



LED INDICATE

1. When key is pressed, LED flash means that it has data transition.
2. If LED does not flash, it means that it is no data transition.

⇒ DEVICE CODE RANGE

After resetting or battery installation, the device code range is as follows:

- | | |
|--------------|---|
| 1. TV (4): | 000-230 (TV1: 000, TV2: 000, TV3: 114, TV4:168) |
| 2. SAT (3): | 231-347/619-637 (SAT1: 231, SAT2: 303) |
| 3. VCR (2): | 348-433 (VCR1: 381, VCR2: 409, VCR3: *384) |
| 4. CATV (1): | 434-478 (CATV1: 434) |
| 5. AUX (2): | 479-555 (AUX1: 479, AUX2: 471) |
| 6. DVD (2): | 556-618/638-738 (DVD1: 556, DVD2: 597) |

1. For the **Manual Setup Mode**, all brand code can be stored in any Device (E.g. TV1, VCR, DVD, etc.)
2. For the **Quick/AUTO Power Search Mode**, it can search their device's code range only. (E.g. TV, search range is from 000 to 230)



⇒ **INITIAL RESET**

1. After resetting or battery re-installed, LED will flash one time within 3 second.
2. If you re-install the new battery within 5-10 minutes and LED doesn't flash, it means that it can keep the data which you setup before.
3. The time of the data kept is depended on the value of the E-Capacitor on the PCB (C5).

⇒ **Version History**

DATE	VERSION	DESCRIPTION	REMARK
12-2006	V1.0	ORIGIN	

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