MU2840
DATA SHEET
(URC with LEARNING)

Macro Technology Ltd.
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MU2840_V2.0

⇨ **DESCRIPTION**

↓ MU2840 is an universal remote control transmitter with CMOS Technology which is designed for general purpose of infrared application. The device consist an 8-bit MCU with MACRO-SURC core. It can support up to maximum 64 function keys and 180 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 180 different system waveforms
- **Store up to 6 Device keys**
- Cover more than 8000 different models for TV, Teletext, VCR, Satellite, CABLE TV, Receiver Amplifier, DVD & AUX.
- Manual Setup Mode
- Quick and **Auto** Power Search Mode
- Learning Function

⇨ **APPLICATION**

MU2840 is Universal Remote Controller for TV, Teletext, VCR, Satellite, Cable TV, Receiver Amplifier, DVD Player in Global Market.

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Preliminary

⇨ OPERATION MANUAL

A. GENERAL FUNCTION

✦ LED Flash

1. After power on, LED will be flashed two times.
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 be fast flashing.
5. In Auto Power Searching Mode, LED will be slow flashing.
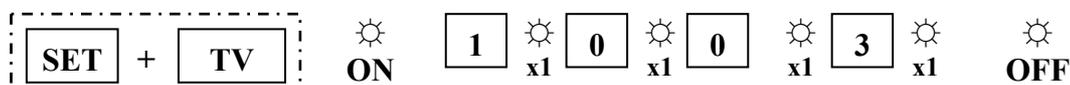
✦ Code Stored

1. For the **Manual Setup Mode**, all brand code can be stored in any Device (E.g. TV, 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 TV code's library.

✦ Others

1. For the any device: If [VOL+], [VOL-], [MUTING] and [RECALL] keys are no DATA, it will be replaced by the last TV device key's function.

B. MAUAL SETUP

1. Look up the four-digit code for your brand and type of equipment in the Code Tables on the following pages.
2. Press and hold the **[SET] Key and Device Key** (e.g. TV, VCR, SAT, etc) until the indicator lights turn on.
3. Press the **four-digit** code for your equipment. Each time you press, LED flashes once.
4. If the LED turns off, it indicates that the code is accepted.
5. If the LED flashes two times and then on, it indicates that the code is wrong. You need to repeat the step "3" again.
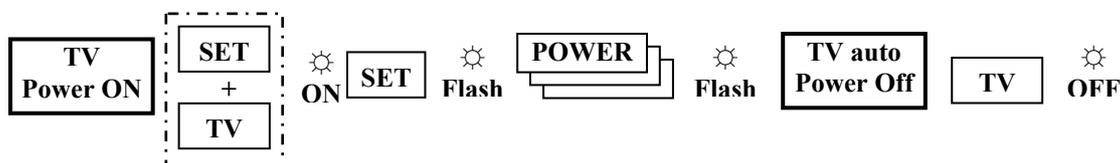6. Example: TV, Code 1003

| SET | + | TV | ☼ ON | 1 | ☼ x1 | 0 | ☼ x1 | 0 | ☼ x1 | 3 | ☼ x1 | ☼ OFF |

Note:

➢ If no key on your remote is pressed for 10 seconds, the programming process will stop automatically.   You will have to start over.

➢ Exit the setting mode: Press any device key in the setting process. LED turn off.

C. POWER SEARCH SETTING (QUICK and AUTO)

1. Turn on the equipment you want the remote to control, and point the remote toward it.
2. Press and hold the **[SET] Key and Device Key** (e.g. TV, VCR, SAT, etc) until the indicator lights turn on.
3. Press and release the [SET] Key. LED will flash. It stands for entering the Power Search Mode.
4. **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. **Auto Power Search Mode:** Hold the [POWER] key over 3 second in step 4. LED will turn on and then flash fast. 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 (TV)

| TV Power ON | SET + TV | ☼ ON | SET | ☼ Flash | POWER | ☼ Flash | TV auto Power Off | TV | ☼ OFF |

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. LED will turn OFF.

D. LEARNING SETTING

1. Press and hold the **[SET] Key and Device Key** (e.g. TV, VCR, SAT, etc) until the indicator lights turn on.
2. Press the **LEARN Key**, LED flashes once. Then LED will turn ON.
3. Point the target device's remote control at our learning eye. (2-5cm)
4. Press the learning function key on our remote. LED will flashes once and ON.
5. Press the corresponding key of the target device's remote control.
6. If the LED flashed 2 times and then ON, it indicates that the code was successfully learned and saved. Or LED is ON only, it stands for the code was not learned.
7. Repeat step 4-6.
8. Press the any Device Key (e.g. TV) for exiting the setting mode.
9. **After learning setting, please check the learned key. If the learned key does not work properly, please re-try the learning setting**

Note:

1. All Device Keys, [SET] or [LEARN] key, it cannot be learned in this mode.
2. If no key on your remote is pressed for 30 seconds, the programming process will stop. LED will flashes 3 times and then OFF
3. If the learned key is repeated to learn, the previous code will be replaced.
4. If the learned key's device which is re-entry the new code, the learn key will be replaced by new code.
5. **Before learning function, please use NEW battery for both remotes.**

⇨ DEVICE CODE RANGE

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

Device	Range (Searching)	Default	Remark
1. TV	1000-1350	1000	EU, CHI, US
2. VCR	3000-3196	3000	Global
3. SAT	4000-4184	4000	Global
4. CATV	5000-5100	5000	Global
5. DVD	6000-6178	6000	Global
6. RCVR (AUX1)	7000-7063	7000	Global

⇨ INITIAL RESET

1. After resetting or battery re-installed, LED will flash once within 3 second.
2. After Power on or RESET, it will be defaulted at "TV", 1000.

⇨ Version History

DATE	VERSION	DESCRIPTION	REMARK
17-03-2005	V1.0	ORIGIN	
30-06-2005	V1.1	No TV2	
28-09-2005	V2.0	Updated the Learning function	

⇨ Macro Technology Sales Network

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