SWITCHMAN-3

USER MANUAL V3.0

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1. Product Brief

The SwitchMan-3 system is a switching control center. The complete system consists of the Main Unit and a wired Remote. All user controls and displays are on the Remote. The Remote draws power from the Main Unit. The following list summarizes features of this product:

- 4 sets of 6-channel inputs:
    - 2 balanced/unbalanced inputs with XLR connectors
    - one balanced/unbalanced input with XLR *and* RCA connectors
    - one unbalanced input, RCA only
- 6-channel output with two connector sets: balanced (XLR) and unbalanced (RCA)
- Proprietary, fully electronic volume control system
- Individual level trim and mute functions on all channels, all inputs
- Templates store the system set-up data
- 115/230V 50/60Hz operating voltage

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The signal path is made of six electrically identical channels. The gain and noise characteristics are:

- Maximum gain (balanced IN to balanced OUT)   9 dB
- Gain control range   better than 62 dB
- Max. output level   26 dBu
- Max. input level   22 dBu
- S/N (U_{out} = 2V RMS, A-weighted)   > 110 dB
- THD (U_{out} = 2V RMS)   < 0.01%
- Crosstalk   better than −80 dB

SWM3

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CH 6 CH 5 CH 4 CH 3 CH 2 CH 1

SYS A SYS B SYS C SYS D

REMOTE

O U T P U T

CH 6 CH 5 CH 4 CH 3 CH 2 CH 1

45 VA 50 /60 Hz

115V

INTERNALLY SET FUSE

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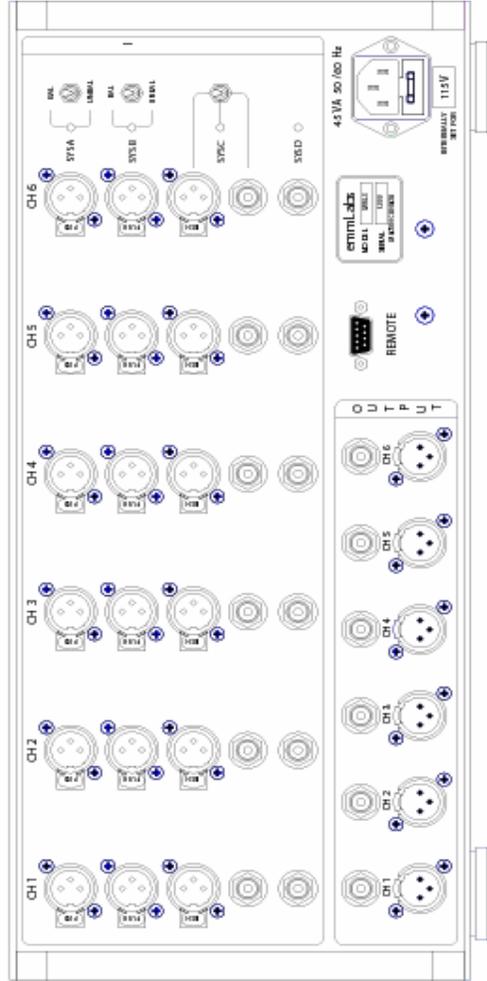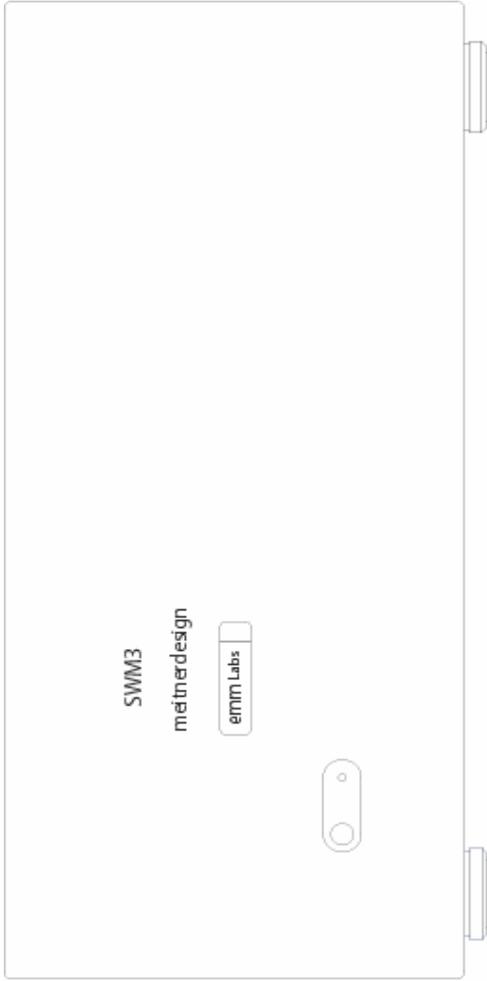
2. Getting Started

Caution	Before turning this unit on, you MUST verify that the system is set for the correct AC Mains voltage in your area. The factory set voltage is indicated on the back of the unit.

1.1 Quick Set-up

Main Unit has one port dedicated to the connection with the Remote. Look for DB-9 modular connectors on the back panels of both units. The Remote is powered from the Main Unit.
Typical set-up procedure will consist of the following steps:

- connect the Remote to the Main Unit using the cable provided, secure the connectors in place
- connect audio systems to the Main Unit
- power up SwitchMan Main Unit.

The Remote-to-Main cable is terminated with DB-9 plugs: male connector on the Main Unit side and female connector on the Remote side. Please note that DB-9 terminated cables are commonly used to connect RS-232 peripheral devices to personal computers. On a personal computer, those DB-9 connectors are marked as COM ports. SwitchMan's Remote Unit is NOT an RS-232 compatible device, thus

never connect SwitchMan Remotes to COM ports on personal computers,
never connect SwitchMan Main Units to COM ports on personal computers.

After first-time power-up, the Remote should present the following information:

- Master Volume setting of `20` on the numerical display
- input system indicator LED (green) should be lit at System `A`
- all other LED indicators should be turned off.

The system `A` selector (green LED) on the Main Unit's front panel should be lit as well. At this point, the SwitchMan-3 is ready for operation. Turning the main knob at the center of the Remote adjusts the Master Volume. The volume setting is displayed as a step number ranging from `0` ("zero", full attenuation) to `110` (max. volume). The initial configuration of the system is as follows:

- Input System A is selected
- Master Volume level is step no. 20 (all Input Systems)
- Channel Trim value is 0 (all channels, all Input Systems)

- none of the channels is mute (all Input Systems)

SwitchMan-3 uses a nonvolatile memory (NVRAM) to store Template files. A template is a data file that saves system settings. The NVRAM contains six templates. In a new system, <u>all</u> templates are initialized to default values, as listed above.

1.2 Operation

From a user standpoint, the SwitchMan-3 system operates in three fundamental modes:
- Volume Control Mode
- Channel Trim Mode
- Template Load/Save Mode.

After power-up, the system always switches to the Volume Control Mode. This is the fundamental operational mode.
SwitchMan Quartet is operated from a Remote Unit. The top panel of the Remote has 14 buttons, 1 rotary knob, 14 LED indicators, and a numerical display. In addition, there are two buttons on the back: **SHIFT** (black) and Remote **RESET** (red.)

1.2.1 Volume Control Mode

The system offers several functions in the Volume Control Mode:

- Master Volume Adjustment using the rotary knob at the center of the Remote
- Input Selection using buttons `A`, `B`, `C`, and `D`, on the left side of the Remote
- System Mute (all channels) using **MUTE** button
- channel setting inspection, using channel buttons `1`, `2`, `3`, `4`, `5`, and `6` on the right side of the Remote
- switching to the Channel Trim Mode using **TRIM** button
- Template Load or Template Save using **LOAD**/**SAVE** buttons.

The volume setting is displayed as a step number ranging from `0` ("zero", full attenuation) to `110` (max. volume.)
Fast-blinking **MUTE** LED indicator (red) confirms that Mute function is engaged i.e. all channels are at full attenuation. The main knob remains active, however, and the display is being updated. Upon disengaging the Mute, the system returns to volume setting as shown on the display.

Green LED indicator confirms Input System selection.
Yellow LED indicator confirms the Channel selection. The Channel Settings are presented as follows:
- Level Trim value is shown on the numerical display
- channel mute status is indicated by red **MUTE** LED.

Channel Level Trim is displayed as a step number ranging from `−40` to `+40`. Trim step equates to `0.25` dB. Trim settings are always displayed with a plus or minus sign; the trim value of **zero** is displayed with a plus.

In Volume Control Mode no changes can be made to channel settings - when a channel button is pressed, the settings are viewed only. If no other buttons are pressed at this time, the system will wait 4 seconds, then restore the main display (Master Volume step shown again) and turn off the channel LED indicator.

To modify a channel setting, please switch to the Trim Mode first.

1.2.2 Channel Trim Mode

The Trim Mode enables modifications to channel Level Trim and channel Mute status. Pressing **TRIM** button switches to Channel Trim Mode. To go back to Volume Control Mode, press the **TRIM** button again.

In this mode, one channel is always selected; thus, one of the channel LEDs (yellow) is lit. To operate on another channel, press the proper channel button on right side of the Remote.

Adjust the Channel Level Trim using the rotary knob at the center of the Remote. Channel mute status is toggled with the **MUTE** button.

Maximum range of channel Volume Trim is **−40** to **+40** steps. Trim step equates to **0.25** dB. The display always shows Trim settings with a leading sign. The trim value of **zero** is displayed with a plus.

Please note that the system may limit the range of a trim adjustment on the plus side. This happens if a relatively high Master Volume setting is combined with the positive trim value. The resulting channel gain setting may be outside the system's range. The SwitchMan system always tracks trim values on all channels.

The "Special Features" chapter contains more information on this topic.

1.2.3 Template Load Mode

Template Load mode allows for selection of a one of six templates stored in the NVRAM. When a template is loaded, all the settings saved in it are applied immediately. A Template holds the following information:

- an Input System that was selected (**A**, **B**, **C**, or **D**)
- all the settings for each Input System:

    - Master Volume setting
    - Level Trim value for each channel (1 to 6)
    - Mute Status for each channel (1 to 6)

In addition, the system "remembers" which template was loaded or saved last time. Upon power-up, the system settings are restored because that template loads automatically.

Press **TMPL** button to switch to Template Mode – a yellow LED indicator above the button should be lit. At this point you can return to Volume Control Mode (press **TMPL** again) or select a template using buttons **1** to **6** on the right side of the Remote. Channel buttons double as template selectors. The System will wait for a template selection for approx. 4 seconds. If a selector key is not pressed during that time, the SwitchMan will return to Volume Control mode.

At this point, one of the LED indicators (1 to 6) is blinking to remind you of the most recently loaded template. Once a new template is selected, the corresponding LED indicator will light up. The LEDs will stay on for approx. 2 seconds and the system returns to Volume Control Mode automatically.

New template settings are effective immediately; the Input System selector LED and master volume display are updated.

The main rotary knob and **TRIM** button are inactive during template load operations.

1.2.4   Template Save Mode

Current system settings can be saved in a template. A template contains separate data records for each Input System.

Press **SAVE** button to switch to Template Save Mode. Alternatively, press **TMPL** and then **SAVE** keys to go to Template Save Mode.

Yellow LED indicators above **TMPL** and **SAVE** buttons should be lit. At this point you can return to Volume Control Mode (press **SAVE** again) or select a template using buttons **1** to **6** on the right side of the Remote. The System will wait for a template selection for approx. 4 seconds. If a selector key is not pressed during that time, the SwitchMan will return to Volume Control mode.

One of the LED indicators (1 to 6) blinks to remind of the most recently accessed template.

When a template selector key is pressed, the corresponding LED indicator will light up and the **SAVE** indicator will blink briefly to confirm the template save operation. At this point, the current settings are already saved in the selected template in NVRAM. Then SwitchMan system automatically returns to the Volume Control Mode.

The main rotary knob and **TRIM** button are inactive during template save operations.

3. Special Features

3.1   Channel Solo

Channel Solo, when engaged, temporarily mutes all but one selected channel.

The Channel Solo is being engaged from Volume Control Mode. Press the SHIFT key on the back of the Remote, and then one of the channel buttons **1** to **6**.
The LED indicator for the selected channel will blink. This channel stays on.

Press another channel button (without the SHIFT) to move the SOLO to the other channel. In order to return to Volume Control Mode, press the SOLOed channel button again. Pressing any of the input selector buttons also returns the system to Volume Control Mode.

SOLO does not affect main knob functions – the master volume is still adjustable.

If a channel were muted, it would not be soloed - it would remain muted. The MUTE LED shall light up to indicate mute status.
The Solo feature allows for an immediate transfer to Channel Trim Mode (press the **TRIM** button now) where mute status of the channel can be changed.

3.4 Template Erase

Caution: *This procedure will erase data of ALL six templates in NVRAM.*
        Erased template data cannot be recovered.
        All templates will be reset to factory settings.

To erase Templates, follow this procedure:

- press **TMPL** button, the TMPL LED indicator will light up
- press SHIFT-**MUTE** button; at this point, the NVRAM is being erased; all template LED indicators (1 to 6) blink fast.

After approx. 3 seconds, the system goes through complete hardware reset (both Main and Remote units.) During a reset phase, all templates are re-initialized with factory settings – check default values listed in **1.1**.

In practice, the Template Erase feature can be useful when the SwitchMan system is moved to different application area. It might be more convenient to start with known and neutral system settings rather than go through many check/modify operations.

4. Hints and Tips

- Selecting another input (**A** to **D**), or reselecting the current input again, immediately puts the system into Volume Control Mode, thus escaping any other mode the system is currently in.

- When inspecting settings of a given channel, you may choose to adjust that channel right away. Press the **TRIM** button at this point - the channel selection stays the same, but now the system is in Channel Trim Mode.

- The **RESET** button on the back of the Remote Unit restarts the Remote <u>only</u>; however, the system returns to Volume Control mode at this point.

- The Remote Unit can be unplugged and plugged-in at any time. You may use this as a sure-fire variant of System Lock feature.

  Set up and adjust your system, then disconnect and hide away the Remote. When the Remote is re-connected again, the display and LED indicators shall update immediately. Pressing the **RESET** button on the back of the Remote ensures that both units are synchronized.

- If you save the current settings (in a template of your choice,) your system set-up survives power-down/power-up events.