TOA PROFESSIONAL SOUND SYSTEM

# STEREO-MIXER

## M-1264/M-1212E Rack Mount Stereo Mixers


M-1264


M-1212E

FEATURES

1. Matrix mixing of mono and stereo inputs to up to six separate outputs.
2. four true stereo inputs--one input knob controls both left and right channels.
3. Mic/Line inputs with a built in compressor on each to prevent input/output clipping.
4. High pass filter on mic inputs for speech applications.
5. Remote control of the Stereo and Group outputs using momentary up/down switch contacts.
6. Connectors include XLR for balanced in/outs and, RCA and 1/4” for unbalanced in and outs.
7. Back panel switch for using either stereo output as a sub-group or the Group out as additional sub input to the Stereo output.
8. Front panel headphone jack.
9. Occupies only 2 rack spaces.

TOA

## DESCRIPTION

TOA's M-1264 is a true stereo, matrix mixer only 2 rack spaces high, that is economical and simple to operate yet has a great deal of versatility. Its many unique features and functions solve some long-standing design problems in a variety of commercial systems that require mixing and matrixing a combination of mono and ever increasing number of stereo audio sources to single and multiple outputs. Sometimes stereo sources need to be summed to mono and mono sources fed to L/R outputs. These sources may need to feed separately controlled, multiple outputs, some stereo and some mono, that often require different combinations or selections of the inputs. The M-1264 can handle all of this and more. The companion M-1212E, also 2 rack spaces, is a simplified version of the M-1264, intended as an expander for the M-1264, but it can also be used as a stand alone, matrix mixer. Both are backed by TOA's long tradition of reliability and performance.

Essentially the M-1264, in its 2 rack spaces, can be easily set up to function as anything from a single mono or stereo mixer to up to FIVE independent mono mixers (with a sixth somewhat dependent mixer). For example, in a health club the M-1264 can simultaneously and separately control: stereo disco in the aerobics room, pop music in the weight room, classical in the pool and the easy listening station in the locker rooms and reception, plus selective paging to all areas, including an emergency page mic from each location back to a speaker in the reception desk.

This kind of multi-tasking capability, in a single unit, is perfect for a variety of systems including boardrooms, conference rooms, discos, health clubs, restaurants, offices, background music systems, music clubs, and hotel systems. For example it is a great mixer for multi-media portable systems or as an outboard mixer for touring systems, taking up only one input on the main console for 4 stereo sources plus six additional mic inputs. In hohel systems, it can function as an economical, manually controlled ballroom combiner for up to four rooms. It is ideal for multi-zone background music/paging systems. You can even use it to set up four zones of mix-minus-one microphone mixing, with program and selected mic inputs to all zones, plus a fifth output with a sum of all the inputs.

The M-1264 has 5 sets of outputs, each with their own level control: Stereo main, stereo Group, mono Aux, stereo Cue/ Monitor, and a Sum output (provides a mono mix of the main Stereo output). The Stereo and Group, while still providing their own output signals, can be alternately assigned to each other as a sub-group using a rear panel switch. The Cue/Monitor output can be used for monitoring the Stereo output or it can function as an independent mixer using the cue bus, or it can be used as a L/R mono Cue to pre-listen to any combination of inputs-a must for discos or live mixing.

The M-1264 has 11 sets of inputs: 6 electronically balanced, mono Mic/Line inputs, 4 unbalanced, stereo/ mono Line inputs and a stereo/mono "sub" line input that feeds the Stereo mixing bus. Each of the first 10 inputs is controlled by a single front panel knob. The Mic/Line (using a Left/Center/Right switch) and Line inputs are always assigned to either the Group or Stereo outputs and can be independently assigned to the Aux and Cue outputs. All inputs have an On/Off switch that shuts off the signal to the Stereo and Aux outputs but not the signal assigned to the Cue output. A bonus feature is that a mono source plugged into only the right channel of any stereo input is automatically fed to the left input as well.

Each Mic/Line input has a built in automatic compressor with a front panel indicator that activates about 3dB below internal clipping. This not only serves as an excessive signal indicator but can virtually eliminate input and output overloads. These inputs also feature switchable phantom power and a switchable high pass filter in microphone mode to reduce directional microphone proximity effects. Optional input transformers are available if needed for long wire runs or ground isolation.

More features of the M-1264 include up/down remote control (using momentary contact switches) of the motorized Stereo and Group output volume controls. There is even a ramped 5VDC output for a remote visual level indicator. A front panel headphone jack is also provided, fed from the Cue/Monitor output.

The companion M-1212E can be used as a stand-alone mixer or sub-mixer. Its 12 Mic/Line inputs are identical to the M-1264, with the same assignment capabilities.

It has six mix buses each feeding a line output, but without output level controls: Stereo main, stereo Group, mono Aux and mono Cue. Unlike the M-1264, there is no sub-group switching for the stereo outputs or sub input. When used as an expander, a supplied bus link cable allows linking single or multiple M-1212E's to an M-1264. When the units are linked together, all the mix buses are connected and therefore carry the same signal. In this way multiple isolated outputs for each mix bus are available-one on each of the linked units.

Both units are provided with a security cover and 19" rack mount hardware.

## SPECIFICATIONS

| Model No. | M-1264 | |
|---|---|---|
| PERFORMANCE | | |
| Total harmonic distortion (1kHz +4dBm) | Stereo Line<br>Mic/Line | Under 0.01%<br>Under 0.15% |
| Noise level below -100dB | | |
| Master at max, all others min | | Better than -98dB |
| Master and one mic in at max | | Better than -62dB |
| INPUT & OUTPUT | | |
| Nominal input level, impedance | | |
| Stereo Line | -10dB, 50k ohm (unbalanced) | |
| Stereo Sub in | +4dB, 10k ohm (unbalanced) | |
| Mic/Line (mic) | -60dB, 1k ohm (electronically, balanced) | |
| Mic/Line (line) | -10dB, 50k ohm (electronically, balanced) | |
| Nominal output level, load | | |
| Stereo, Sum | +4dB, 600 ohm (electronically, balanced) | |
| Group Aux, monitor | +4dB, 1k ohm (unbalanced) | |
| Maximum input level | | |
| Stereo Line | +6dB | |
| Mic/Line (mic) | -20dB | |
| Mic/Line (line) | +30dB | |
| Maximum output level (all) | +20dB | |
| Max voltage gain to Stereo | | |
| Stereo Line | 14dB | |
| Mic/Line (mic) | 64dB | |
| Mic/Line (line) | 14dB | |
| COMPRESSOR (Mic/Line) | | |
| Attack/release times | Dependent on signal characteristics | |
| Limiting threshold | Internally fixed at +17dB | |
| Limiting ratio | Approximately 10:1 “Soft knee” threshold | |
| STANDARD ACCESSORIES | Security cover 1<br>Transformer mounting stud 3 pair<br>Spare fuse: 1<br>Rack screws [metric] 4 | |
| PANEL FUNCTIONS | (Front Panel) | |
| Operating controls (per input channel) | Input<br>Assign<br>Aux assign<br>Cue assign<br>Chan switch | Level control<br>Group/Stereo<br>On/Off<br>On/Off<br>Chan on/off |
| Mic/Line inputs only | L/C/R | Left/center/right assign |
| Output level controls | Stereo<br>Group<br>Sum<br>Aux<br>Monitor | L/R level<br>L/R level<br>L/R Stereo sum level<br>Mono level<br>L/R Monitor or mono Cue level |
| Operating controls (common to all) | Power | On/Off |
| LED indicators (per input channel) | Chan sw (Mic/Line)<br>Chan sw (ST. Line) | Green = channel on<br>Red = signal exceeds compressor threshold<br>Yellow = channel on |
| LED indicators (common to all) | Power<br>Cue | On<br>On when any channel cue sw is on |
| PANEL FUNCTIONS | (Rear Panel) | |
| Rear panel send switch | Off<br>Stereo to Group<br>Group to Stereo<br>Pre<br>Post | No Grp/Stereo link<br>Stereo o/p to Grp bus<br><br>Grp o/p to Stereo bus<br>Grp o/p to Stereo post Stereo level |
| Ground loop break switch | Norm/Lift | |
| POWER | | |
| Power requirements | AC Mains, 50Hz/60Hz | |
| Power consumption | 25W (120V AC version)<br>28W (220/240V AC version)<br>Fuse: 1.5A 120V/T 0.315A 220/240V | |
| PHYSICAL | | |
| Finish | Black | |
| Dimensions | 482.6W x 88.4H x 311.8D mm (19W x 3.48H x 12.16D in.) | |
| Weight | 5.2kg (11.5lbs.) | |

*Specifications are subject to change without notice NOTE: 0dB=0,775V RMS

## SPECIFICATIONS

| Model No. | M-1212E | |
|---|---|---|
| PERFORMANCE | | |
| Total harmonic distortion (1kHz +4dBm) | Mic/Line | Under 0.15% |
| Noise level below -94dB | | |
| One mic in at max | Better than -62dB | |
| INPUT & OUTPUT | | |
| Nominal input level, impedance | | |
| Mic/Line (mic) | -60dB, 1k ohm (electronically, balanced) | |
| Mic/Line (line) | -10dB, 50k ohm (electronically, balanced) | |
| Nominal output level, load (all outputs) | +4dB, 1k ohm (unbalanced) | |
| Maximum input level | | |
| Mic/Line (mic) | -20dB | |
| Mic/Line (line) | +30dB | |
| Maximum output level (all) | +20dB | |
| Max voltage gain | | |
| Mic/Line (mic) | 64dB | |
| Mic/Line (line) | 14dB | |
| COMPRESSOR (Mic/Line) | | |
| Attack/release times | Dependent on signal characteristics | |
| Limiting threshold | Internally fixed at +17dB | |
| Limiting ratio | Approximately 10:1 “Soft knee” threshold | |
| STANDARD ACCESSORIES | Security cover 1<br>Transformer mounting stud 6 pair<br>Spare fuse: 1<br>Rack screws [metric] 4 | |
| PANEL FUNCTIONS | (Front Panel) | |
| Operating controls (per input channel) | Input<br>Assign<br>Aux assign<br>Cue assign<br>Chan switch<br>L/C/R | Level control<br>Group/Stereo<br>On/Off<br>On/Off<br>Chan on/off<br>Left/center/right |
| Operating controls (common to all) | Power | On/Off |
| LED indicators (per input channel) | Chan sw | Green = channel on<br>Red = signal exceeds compressor threshold |
| LED indicators (common to all) | Power | On |
| PANEL FUNCTIONS | (Rear Panel) | |
| Ground loop break switch | Norm/Lift | |
| POWER | | |
| Power requirements | AC Mains, 50Hz/60Hz | |
| Power consumption | 26W (120V AC version)<br>28W (220/240V AC version)<br>Fuse: 1.5A 120V/T 0.315A 220/240V | |
| PHYSICAL | | |
| Finish | Black | |
| Dimensions | 482.6W x 88.4H x 311.8D mm (19W x 3.48H x 12.16D in.) | |
| Weight | 5.2kg (11.5lbs) | |

‘Specifications are subject to change without notice.

NOTE:0dB=0,775V RMS

## ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

### M-1264 Stereo Mixer

The mixer shall have six mono Mic/Line inputs, four Stereo/Mono Line inputs and a stereo Sub (bus) input; Stereo Out, Stereo Group, Stereo Monitor (mono in Cue mode) outputs; mono Sum and Auxiliary outputs. The mixer shall have six mixing buses: L/R Stereo, L/R Group, Aux and Cue. It shall incorporate all solid state circuitry. Stereo and Sum power outputs shall be nominal +4dB (maximum +20dB) into a 600 ohm load, electronically balanced at less than 0.15% THD Mic/Line input, 0.01% THD Stereo/Mono Line inut at +4dB nominal output at 1kHz. Group, Monitor and Auxiliary power outputs shall be similarly rated into a 1k ohm load, unbalanced.

Nominal input sensitivity shall be: Mic/Line input 0.8mV/0.25V 1k/50k ohm input impedance, electronically balanced; Stereo/Mono Line 0.25V, 50k ohm input impedance; stereo Sub 1.23V 10k ohm input impedance, unbalanced. Gain shall be mic 64dB, line 14dB, Sub input 0dB all to Stereo Output. Hum and noise shall be at least 98dB below nominal output (master volume at maximum, all other level controls minimum) and 62dB below nominal rated output (master volume and one mono input maximum), IHF-A. Frequency response shall be +0/-1.5dB (ref. 1kHz) from 20Hz to 20kHz at any power up to rated output.

Each Mic/Line input shall provide +24V phantom power with an internal On/Off switch. Each shall also have a built in compressor circuit that activates at 3dB below maximum level with a "Soft Knee" threshold and approximately a 10:1 limiting ratio. The circuit shall protect the mixer from being driven into output clipping by excessive input levels. The Mic/Line inputs unit shall accept optional input (LT-101 10k: 10k ohms; LT-102 600:600 ohms) isolation transformers. the transformers shall mount easily and securely inside the unit with the machine screws provided. Electrical connection to the unit shall be easily accomplished by means of flexible wires with locking connectors.

The front panel shall have: POWER On/Off switch; stereo PHONES jack; ten input level controls; STEREO, GROUP, SUM, AUX and MONITOR output level controls. STEREO and GROUP controls shall be motorized and remotely controllable. Each Mic/Line input channel hall have L/C/R (Left/Center/Right), GR/ST (Group/Stereo), AUX and CUE assign switches. Each line input channel shall have GR/ST Group/Stereo), AUX and CUE assign switches. Each input shall have a combination channel On/Off switch indicator that when the channel is on lights green for the mono inputs, yellow for stereo inputs and red when the compressor circuit is activated (mono inputs only). The channel On/Off switches shall not affect the CUE signal. The CUE shall connect the selected channel's signal to the cue bus and automatically witch the monitor from the Stereo Output to the cue bus. The front panel shall also have a POWER On and CUE Activated indicator.

The rear panel shall have an input level select switch for each Mic/Line input for mic, line or mic HPF. There shall be a 4 position STEREO/ GROUP link switch for assigning: Stereo to Group, Group to Stereo Pre (pre Stereo Output level), Group to Stereo Post (post Stereo Output level) and Off. Both the Stereo and Group Outputs shall otherwise function normally in any switch position.

The rear panel shall have the following: 6 XLR-F jacks for Mic/Line puts, 4 pairs RCA type jacks for Stereo/Mono Line inputs; 1/4" TS jacks for Sub inputs; XLR-M jacks for Stereo, and Sum outputs; 1/4" TS jacks for group Aux and Monitor outputs: barrier strip type screw terminals for Stereo and Group Output remote volume control that shall use momentary switch closures for volume up/down functions; terminals for each control that output 0 to +5VDC depending on control position. A BUS LINK IN connector shall providing linking of all mixing buses, plus the cue control bus, between a TOA M-1212E Expansion Mixer and the M-1264. There shall be a fuse holder with a replaceable AC mains fuse.

AC line mains shall be 50/60Hz. Power consumption at rated output shall be 25W (28W 220/240V). The mixer shall be enclosed in a durable, painted, black, 1mm (.04 in.) steel enclosure, mechanically reinforced by a 2.0mm (0.08 in.) thick, black anodized, aluminum front panel. Overall dimensions shall be 482.6W x 88.4H x 311.8D mm (19.0W x 3.48H x 12.16D in.). Weight shall be 5.2kg (11.5lbs.). Standard E.I.A. equipment rack mounting and a smoked acryl security

### M-1212E Stereo Mixer

The mixer preamplifier shall operate as a stand alone device or as an expansion mixer frame for the TOA M-1264 Stereo Mixer. The mixer shall have twelve mono Mic/Line inputs; Stereo Out, stereo Group, mono Cue and Auxiliary outputs. The mixer shall have six mixing buses: L/R Stereo, L/R Group, Aux and Cue. It shall incorporate all solid state circuitry. Stereo, Group Aux and Cue power outputs shall be nominal +4dB (maximum +20dB) into a 1k ohm load, unbalanced at less than 0.15% THD Mic/Line input at +4dB nominal output at 1kHz.

Nominal input sensitivity shall be: Mic/Line input 0.8mV/0.25V 1k/ 50k ohm input impedance, electronically balanced. Gain shall be mic 64dB, line 14dB to any output. Hum and noise shall be at least 94dB below rated nominal output (all level controls minimum) and 62dB below nominal rated output (one mono input maximum), IHF-A. Frequency response shall be +0/-1.5dB (ref. 1kHz) from 20Hz to 20kHz at any power up to rated output.

Each Mic/Line input shall provide +24V phantom power with an internal On/Off switch. Each shall also have a built in compressor circuit that activates at 3dB below maximum level with a "Soft Knee" threshold and approximately a 10:1 limiting ratio. The circuit shall protect the mixer from being driven into output clipping by excessive input levels. The Mic/Line input unit shall accept optional input (LT-101 10k:10k ohms; LT-102 600:600 ohms) isolation transformers. The transformers shall mount easily and securely inside the unit with the machine screws provided. Electrical connection to the unit shall be easily accomplished by means of flexible wires with locking connectors.

The front panel shall have: POWER On/Off switch and twelve input level controls. Each input channel shall have L/C/R (Left/ Center/Right), GR/ST (Group/Stereo), AUX and CUE assign switches. Each input shall have a combination channel On/Off switch indicator that, when the channel is on, lights green or lights red when the compressor circuit is activated. The channel On/Off switches shall not affect the CUE signal. The front panel shall also have a POWER On indicator.

The rear panel shall have the following: an input level select switch for each Mic/Line input for MIC, LINE or MIC HPF; 12 XLR-F jacks for Mic/Line inputs; 1/4" TS jacks for Stereo, Group Aux and Cue outputs. BUS LINK IN and OUT connectors shall provide linking of all mixing buses plus the cue control bus between additional TOA M-1212E's or the TOA M-1264. There shall be a fuse holder with a replaceable AC mains fuse.

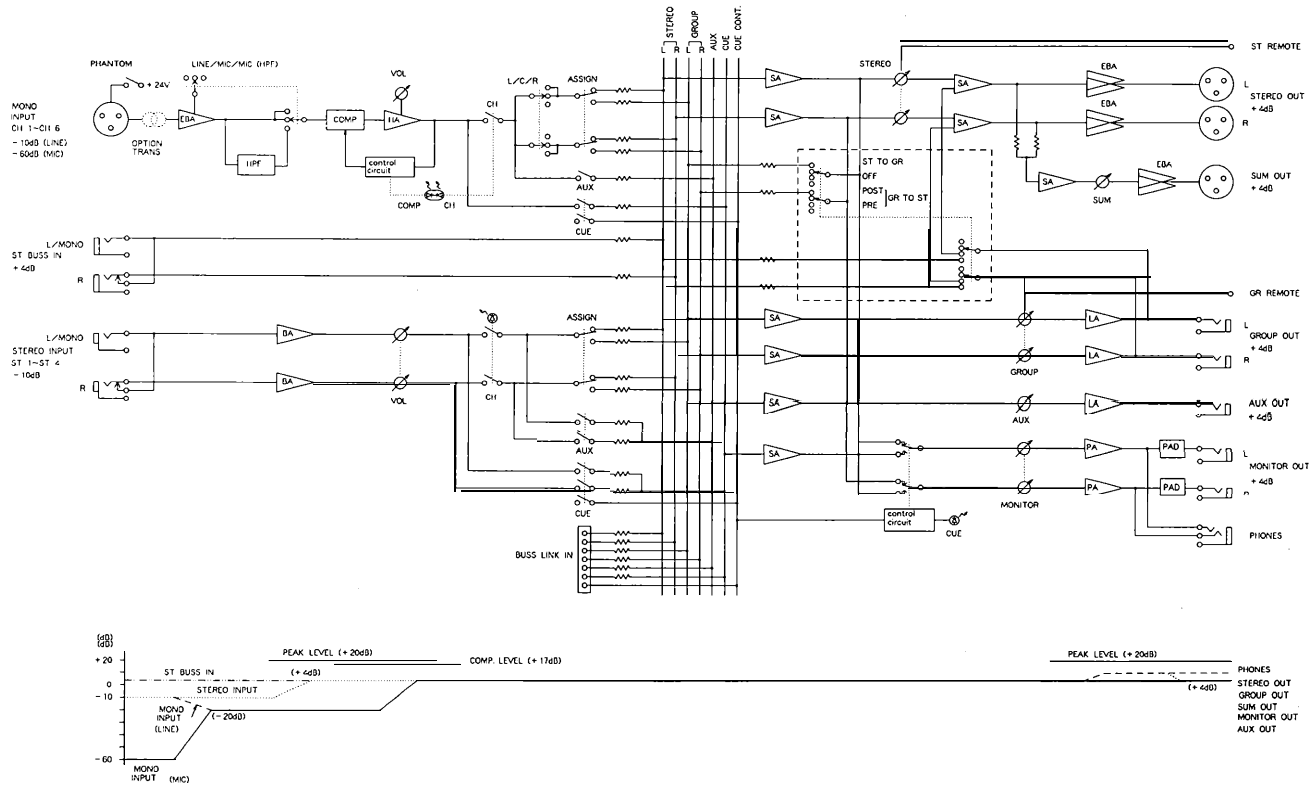
AC line mains shall be 50/60Hz. Power consumption at rated output shall be 26W (28W 220/240V). The mixer shall be enclosed in a durable, painted, black, 1mm (.04 in.) steel enclosure mechanically reinforced by a 2.0mm (0.08 in.) thick, black anodized, aluminum front panel. Overall dimensions shall be 482.6W x 88.4H x 311.8D mm (19.0W x 3.48H x 12.16D in.). Weight shall be 5.2kg (11.5lbs.). Standard E.I.A. equipment rack mounting, a 1m Bus Link Cable and a smoked acryl security cover shall be provided.

The mixer shall be the TOA model M-1212E.

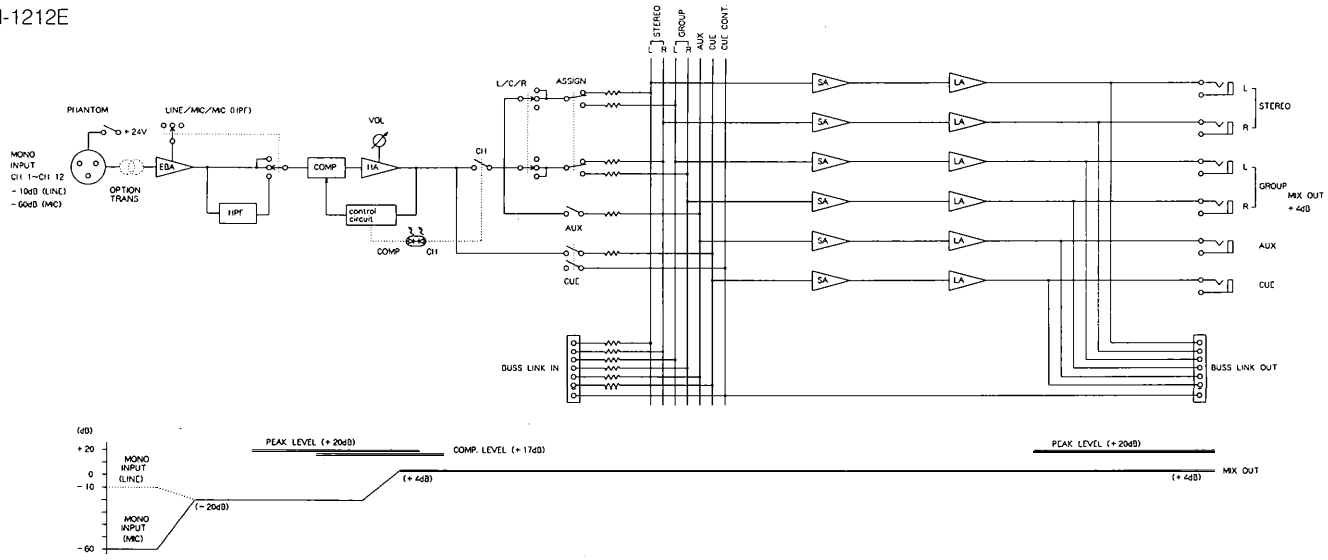
NOTE. 0dB=0.775V RMS

# BLOCK DIAGRAM & LEVEL DIAGRAM

M-1264

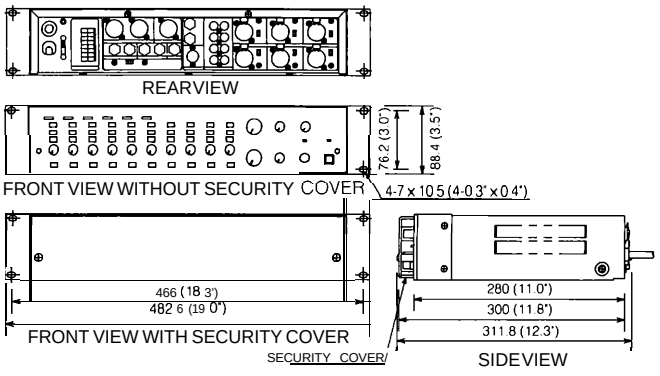



M-1212E



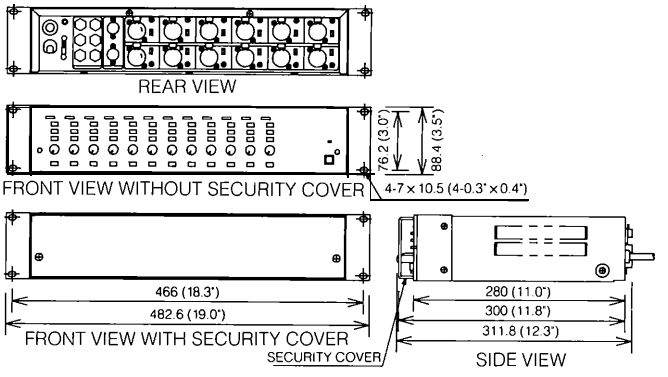

# DIMENSIONAL DIAGRAMS

M-I 264




M-1212E

Unit:mm(in.)

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