Author’s Note

The MX-1 has a huge amount of depth beneath the hood with some killer features:

- 15 types of beat FX for incoming signals with separate sequencing for each channel
- 48 types of master FX with free running or beat synced behaviour
- Sequenceable combi FX to produce glitch style tracks
- Able to connect eight stereo instruments and a PC, or many more mono instruments
- Seamless integration with most recent Roland devices (even non-Aira ones)
- FX Send/Return loop for offboard effects
- Fully configurable 65 parameter mastering, including EQ, Expander, Enhancer, Compressor and Limiter as well as Stereo field and Dynamics settings
- Excellent PC connectivity as an 18 in 2 out sound card

Unfortunately, Roland’s stock manual is a little over simplified, leaving out a lot of quality of life features that a serious user may wish to use.

The MX-1’s sequencer means that it is not only a mixer, but an instrument in its own right. Add in drones from several synths and use a mixture of beat effect patterns as well as a combi effect and you’ll see the potential in this device for creative output.

Licence

This information is provided free and can be modified or redistributed as you wish. Please acknowledge me as a courtesy if you've found it useful.

Acknowledgements

Aside from being taken from my own experience, two main sources of information are:

- http://airainfo.org/files/mx-1_cheatsheet.pdf
- https://rolandcorp.com.au/blog/the-ultimate-guide-to-the-aira-mx-1

Inputs and outputs

NOTE: The analog inputs should be MUTED if not in use if a cable is plugged in, they can cause hiss that triggers when a USB or other analogue instrument sounds. The gate seems to cut the hiss off if nothing is playing, but it kicks in when there is sound. This can ruin a recording if you don't notice it.

- 1&2, 3&4 can be turned into stereo pairs (see System Settings)
- Keeping them unpaired allows for better control over mono synths (such as analog synths)
- When paired, only the first fader and set of pots in the group have an affect on the sound
- 5/6 is a stereo 1/8" jack, use a 2x 1/4" to 1x 1/8" jack Y cable to feed two more analog inputs into it, best for a stereo instrument as you only get one fader

Connecting to the Digital Channel

- See System Settings for setting the bit-rate and input/output for this channel
- This is a SPDIF coaxial connector, it does not accept an analog signal
- Some synths have one of these, ensure its bit-rate matches the bit rate of the MX-1
    - You may change the bit rate of the MX-1 in the settings
- You can use a cheap ADC to take a stereo set of analog TR cables into a digital signal, but be sure to set the bit rate to match the ADC or it will not work

Connecting via AIRA Link

Device Compatibility

- Ensure your MX-1 is on the latest firmware version to maximise compatibility
- Non Roland products will not work with these USB connections

- Do not attempt to use a USB hub to plug into AIRA link ports, they are not compatible

Fully compatible:

- System 1 and 8
- JDXI and JDXA
- TR-8, TR-6S and TR-8S
- AIRA FX modules (Demora, Scooper, Bitrazer and Torcido)
- MC-101 and MC-707
- MV-01 Verse Lab
- All Boutiques
- Voice Transformer VT-3 and VT-4
- Touch Bass TB-3
- Juno Gi
- Jupiter 50
- Jupiter 80
- Jupiter Xm
- FA-06
- FA-08

Semi compatible (sound but no clock/transport):

- Boss RC-202
- Boss RC-505

USB Noise

- The USB ports are known to be noisy. Reducing gain and upping individual instruments can help reduce this
- USB isolators can also help reduce the noise introduced by the power difference

Bus Power

- Bus power is only on one of the AIRA link USB ports, this is clearly marked on the back on AIRA Link USB Port 3
- The MC-101, VT-3, VT-4, TB-3 and all Boutiques can be bus powered
- You may use a separate USB powered splitter to provide more bus power to other devices such as a Maxhood male to two female cable (one is marked red for power, the other for data)

Using AIRA FX Units

- You may get up to four extra stereo inputs using the AIRA FX units Demora, Scooper, Bitrazer and Torcido
- These accept analog inputs but are also USB enabled
- They are also programmable via an iOS and Android application to perform extra duties, they can be very useful in a setup

Using Other Roland Units to get Extra Inputs

- Several units, like the TR-8, TR-8S and MC-707 allow for analog external input, this means you can double up on those channels (obviously losing individual control)

Connecting to your PC

- The large USB connector is for PCs
- The MX-1 is not USB class compliant, so you'll need to install drivers

System Settings

- Press and hold [GAIN], then turn on the MX-1
- Press START/STOP to save any changes

Parameter	Control	Values	Notes
Channel 1&2 Stereo Link	Press [Select] on channel 1 or 2	Channel 2 Lit - unlinked Channel 2 Unlit - linked	Disables Channel 2's controls as Channel 1 acts as the controls
Channel 3&4 Stereo Link	Press [Select] on channel 3 or 4	Channel 4 Lit - unlinked Channel 4 Unlit - linked	Disables Channel 4's controls as Channel 3 acts as the controls
Digital Channel I/O	Press [Select] on the Digital channel	Digital Channel Lit - Input Digital Channel Unlit - Output	Allows to use the Digital channel as an input or an output
USB Audio Rate	[BFX] button + Value knob	44.1 48 96	Audio sampling rate in Khz, must match your Digital input if you're using it
MIDI Channel	[SHUFFLE] (hold) +	OFF C1 - C16 (Default 15)	When a specific channel is set, this will be both

	value knob	ONn (OMNI)	Receive and Transmit channel When OMNI is set, the Receive channel is ALL, the Transmit channel is 15
Fader Level Catch Mode	Pad 1	Lit (catch) Unlit (immediate)	Applies on scene memory recall When set to PASS THROUGH, value is ignored until the fader is moved passed the value When set to JUMP, moving a fader causes the value to jump to the fader position
AUX Send Routing	Pad 2	Lit (Post-Fader) Unlit (Pre-Fader)	Post Fader means the fader will still affect the volume being sent via the AUX sends. Pre Fader means the fader does not affect the volume of the channel being sent to the AUX sends. If you turn the fader down, it acts almost like a wet/dry control in this case.
AUX Return Routing	Pad 3	Lit (On) Unlit (Off)	On - The MFX are applied to the returned signal Off - The MFX are bypassed
Midi Thru	Pad 4	Lit (On) Unlit (Off)	When on, MIDI data received at MIDI in is retransmitted via MIDI out
Mixer Mode	[TONE] + Value Knob	NIH - Mixer Mode SUR - Control Surface Mode EXT - External Mixer Mode	Surface and External mixer modes are not (yet) covered in this manual
Screen Saver	[PAN] + Value knob	OFF, 1-30	Time in minutes of no interaction until the MX-1 goes into “Vegas Mode”
LED Mode	[AUX] + Value knob	1-6	1 is default, 2 is a dimmer version of default
System Version	[Gain]		Shows the current firmware version

Syncing Instruments with the MX-1

I prefer to use the MX-1 as my master clock, it’s reliable and it allows for .1 BPM fine-tuning.

Press the [Tempo] button to select mode:

- Auto - Auto-detects MIDI clock, in order, from the following:
    - USB (the big USB that goes to a PC)
    - MIDI IN
    - USB HOST 1 (AIRA link USB)
    - USB HOST 2
    - USB HOST 3
    - USB HOST 4
- Int - MX-1 is clock master
- Midi MX-1 uses clock received at MIDI IN
- USB 1-4 MX-1 uses clock received at USB Host ports
- PC MX-1 uses clock received from connected PC

- [FINE] toggles .1 bpm adjustments is MX-1 using Internal Clock
- [TAP] set tempo to your taps if MX-1 using Internal Clock

Cueing on the MX-1

The Select/Mix knob sends the Cue (which are the selected track(s)) or the Mix (output) to the headphones. If the knob is in the middle, you hear the sum of both. Muted tracks can be listened to via cue, so you can do your beat matching before unmuting them.

Channel Selection

- Press [Select] on a channel to select an individual channel. This also puts it into the Cue output
- Hold [Select] on a channel and press subsequent [Select] buttons to select more than one channel, also sent to Cue
- When you select a channel, the [BFX], [PAN], [GAIN] and [AUX] buttons refer to the selected channel[s]

Channel Selection Shortcuts

- Select all - [GAIN] + [Select], [Mute], [BFX] or [MFX]. Or press buttons 1-16 to select ALL
- Select none - [PAN] + [Select], [Mute], [BFX] or [MFX]. Or press buttons 1-16 to deselect ALL
- Select “solo” - [TONE] + [Select], [Mute], [BFX] or [MFX]. Or press buttons 1-16 to solo ALL
- Select all but one - [AUX] + [Select], [Mute], [BFX] or [MFX]. Or press buttons 1-16 to select all but one for ALL
- Invert selection - [FADER] + [Select], [Mute], [BFX] or [MFX]. Or press buttons 1-16 to invert ALL

Editing Selected Channel(s)

Select one or more channels and:

- Press the [Pan] button and turn the channel value knob to alter the pan L - C - or R (with various values on L and R, higher values being panned further)
- Press the [Gain] button to alter the gain from 0-25 using the value knob
- Press the [Aux] button and turn the value knob to change the value. Zero will mean it is excluded from the external FX Send/Return loop
- Press the [Fader] button and turn the value knob to set the fader response to:
    - CU1 - a curve just below linear
    - CU2 - linear
    - CU3 - an exponential curve
    - SIN - a sine-wave shaped curve
    - SU - hard cut on off
    - REV - a reverse of CU1
- Press the [Tone] button and turn the value knob to change the type of tone modifier to use. For the two “hidden” filters, hold the [Tone] button while turning the dial to beyond the regular settings (see table below)

Number	Value
1	Low/High Pass 1
2	Low/High Pass 2 - Some resonance
3	Tone 1 [Low/High frequencies]
4	Tone 2 [Low frequencies]
5	EQ Low 1
6	EQ Low 2
7	EQ High 1
8	EQ High 2
9	Isolator 1 [Low and High]
10	Isolator 2 [Low, Med and High]
11 [TONE]	Filter 3 - Very resonant
12 [TONE]	Filter 4 - Very resonant, warning, speaker bothering

Scenes

- You have 64 scenes (your fader, pot, FX settings etc. are all stored in a scene) you can store on the box, 16 of which are available via the main sequencer buttons

- [Store] (blinks) + Pad 1-16 + [Store] to store
- [Recall] (blinks) + Pad 1-16 + [Recall] to recall
- [Recall] (blinks) + turn Value knob + [Recall] - same as above, but allows for further scenes
- [Tap] hold + Pad 1-16, or value knob to clear the scene

Effects Send/Return

Please note that the FX loop is not 100% wet and you can't adjust this, so you get a roughly 50/50 wet/dry mix. If you want 100% wet, then either chain your FX unit on the outputs or between the instrument and the inputs

- Use the AUX [Send] level knob to set the level of the send level on your MX1
- Use the AUX [Return] level knob to set the level of the return on your MX1

Beat FX

- Press the [BFX] button to enable for a channel

- Press the [BFX] button on the left of the mixer to edit the pattern for the channel's BFX. Each channel has its own pattern, allowing for interesting variations per instrument
- Only one BFX per channel may be used

- Hold the [BFX] button on the left and turn the [Channel Setting] rotary to change the depth/duration of the individual BFX for the selected channel
- Hold the [Filter], [Slicer], or [Sidechain] button and then turn the [Channel Setting] knob to change the type of each BFX. Different channels may have different types of each BFX
- Hold [BFX] + press [Pad number] to set the last step of the sequence (e.g. for triplets)

Sidechain	**Filter**	**Slicer**
Sidechain 1 - Regular ducking	Filter 1 - Low Pass (squelchy, but low resonance)	Slicer 1 - Regular
Sidechain 2 - Harder ducking	Filter 2 - Low Pass, more resonance	Slicer 2 - Slight transient resonance with Low Pass
Sidechain 3 - Very hard ducking	Filter 3 - Formant Low Pass (oww shaped)	Slicer 3 - High Pass
Sidechain 4 - Some kind of transient	Filter 4 - High Pass	Slicer 4 - ???
Sidechain 5 - ???	Filter 5 - High Pass Formant	Slicer 5 - Resonant filter tail

Master FX

- NOTE: There is a bug/feature, meaning if you add GAIN to a channel, it drops while using some of the MFX (Scatter is a notable case), so if you don't want a drop in volume, lower the gain and increase the output volume on your instrument
- Press the [MFX] button for a channel to enable the MFX
- Each of the Master FX has eight variations, hold the [Effect button] in question and turn the tempo knob to set the current one
- NOTE: The Low/High next to the dial is misleading as the centre position is off
- Apply the effect with the central pot, which is centre detented (off). For the most part, turning it right is a more "manual" effect, whereas turning it left applies modulation to the effect
- The effects become more extreme the more you turn to the left/right
- Many effects seem to be a "multi" effect, with additional filters applied etc. but these are not specified anywhere, you'll have to experiment

Delay/Reverb	**Filter/Isolator**	**Scatter**

Stereo Delay	Filter 6db	Scatter 1
Panning Delay	Filter 12db	Scatter 2
Cross Delay	Cross Filter 24db	Scatter 3
Stereo Panning Delay	Isolator High-Low	Scatter 4
Spiral Delay	Isolator Low	Scatter 5
Room Reverb	Isolator High-Mid	Scatter 6
Hall Reverb	Oscillator	Scatter 7
Modulated Reverb	Noise	Scatter 8
Flanger/Phaser/RingMod	**Bit Crusher /Distortion/Stretcher/Pitch Shifter**	**Roll/Tape Stop**
Flanger 1	Bit Crusher 1	Roll
Flanger 2	Bit Crusher 2	Roll tri
Manual Flanger	Distortion 1	Roll Time
Phaser 1	Distortion 2	Roll Time wet/dry
Phaser 2	Stretcher 1	Tape Stop roll
Phaser Manual	Stretcher 2	Tape Stop 1/4
Ring Mod 1	Pitch Shifter 1	Tape Stop Time
Ring Mod 2	Pitch Shifter 2	Tape Stop Long

Effect Notes

- Delay feeds the signal back, optionally panning the feedback (for a pan delay)
- Reverb creates a room style reverberation, which is good as a “final in chain” effect. I prefer to use an off-board reverb rather than the one on the MX-2
- Filter effects are similar to the channel filters, only with more animation
- Isolator allows for certain frequency bands to be brought out into the mix
- Oscillator and noise add extra synth style sounds into the mix
- Scatter samples and rearranges the input sounds to create breakbeat like effects (this is a lot more useful for drum fills than the TR-8 scatter IMO). This effect seems to suffer badly from “tone suck” if you have gain turned up high on instruments.
- Flanger is a tape style flanging doppler effect, a Phaser is similar but with a more pronounced vibrato style effect
- Ring Modulation is a kind of “sum and difference” effect, creating a metallic tone
- Bit Crushers either reduce the bit depth or bit rate to “crush” the sound, giving it a lo-fi appeal
- Distortion distorts the signal, similar to a guitar distortion effect

- The Pitch Shifter shifts the pitch up or down
- Roll grabs a small sample of the input and repeats it for a certain interval before resampling and repeating
- Tape stop is similar to a vinyl break, simulating the music slowing down to a stop for an instant

Effect Settings

Press the [Time] button and turn the tempo knob to change the timing/settings for each effect (only some effects have this feature):

Effect	Value
Delay	Delay time (beat synced) - 3.128, 1/32, 1/24, 3/64, 1/16, 1/12, 3/32, 1/8, 1/6, 3/16, 1/4, 1/3, 3/8, 1/2, 2/3, 3/4, 1
Filter	Resonance - 1 - 100
Scatter	Resonance - 1 - 100 - At high frequencies, this makes the Scatter pretty unpleasant to listen to, I turn this down to just use the breakbeat nature of Scatter
Flanger	Sine wave LFO modulating the depth, time (beat synced) - 3.128, 1/32, 1/24, 3/64, 1/16, 1/12, 3/32 1/8, 1/6, 3/16, 1/4,1/3, 3/8, 1/2, 2/3, 3/4, 1 4/3, 3/2, 2, 8/3, 3, 4, 16/3, 6, 8
Bit Crusher	Type - 1-4 (1 - Normal, 2 - Distorted, 3 - lots of tone suck, 4 - just seems to kill the signal?)
Roll	Beat repeat frequency (beat synced) - 1.128, 1/64, 1/32, 1/16, 1/8, 1/4, 1/2, 1

Combi FX

- Press [Combi] to enable/disable combi mode
- Hold an effect type button and then press a step button to put that effect on a step
- Only one effect per step may be used in Combi mode
- Holding the effect button and then turning the tempo knob will change the type for each effect
- You may have different types of the same effect on different steps for variation

- Hold [Combi] + turning the [Tempo] knob will change the various preset Combi patterns 1-20
- Hold [Pan] + [Combi] to clear the Combi sequence
- Hold [Pan] + [Effect type] + [Step button] will clear the effect for that step
- Effects are time synced, to change this to be un synced, hold [Time] + [Delay] + turn [Value] to turn syncing on or off
- With syncing off, hold [Time] + turn [Tempo] to set a timing in milliseconds
- [COMBI] + [SHUFFLE] for a random combi pattern

- Hold [TAP] + [COMBI] for one-shot combi effect, you can hit Pads 1-16 for length of the one-shot

Mastering

The [Mastering] button switches on/off the current mastering mode. Hold [Mastering] and turn [Tempo] to change the Mastering preset 1-10.

Mode	Type
1	EQ -> Low Cut -> Enhancer -> 3 Band Compressor -> Stereo Imager -> Limiter
2	Low Cut -> Enhancer -> 3 Band Compressor -> Stereo Imager -> Limiter
3	EQ -> Low Cut -> Enhancer -> 3 Band Compressor -> Stereo Imager -> Limiter
4	EQ -> Low Cut -> 3 Band Compressor -> Stereo Imager -> Limiter
5	EQ -> Enhancer -> 3 Band Compressor -> Stereo Imager -> Limiter
6	EQ -> Enhancer -> 3 Band Compressor -> Stereo Imager -> Limiter
7	EQ -> Low Cut -> Enhancer -> 3 Band Compressor -> Stereo Imager -> Limiter
8	Low Cut -> 3 Band Compressor -> Stereo Imager -> Limiter
9	EQ -> Low Cut -> Enhancer -> 3 Band Compressor -> Stereo Imager -> Limiter
10	Low Cut -> Limiter

Advanced Mastering

1: Hold Mastering + turn [Value] to access advanced Parameters
2: Turn the [Tempo] knob to change the parameters

WARNING, this can lead to very weird outputs (unusably so), note down the defaults so you can undo changes. A factory reset will erase them if you've really messed up.

Number	Value	Number	Value	Number	Value
N1	EQ [On/Off]	N23	Enhancer Mix [-24 - +12]db	N45	Compressor Lo Release [50-5000]ms
N2	EQ Input Gain [-24 to + 12]db	N24	Dynamics Input Gain [-24 - +12]db	N46	Compressor Mid Threshold [-24 - 0]db
N3	EQ1 Shelve/Peak	N25	Dynamics Time [0-10]ms look ahead	N47	Compressor Mid Ratio [1-16, Inf]
N4	EQ1 Gain [-12 - + 12]db	N26	Dynamics Lo [16 - 22k]hz	N48	Compressor Mid Attack [0-100]ms
N5	EQ1 Freq	N27	Dynamics Hi	N49	Compressor Mid Release

	[16-22k]hz		[16- 22k]hz		[50-5000]ms
N6	EQ1 Q [0-32]	N28	Expander [On/Off]	N50	Compressor Hi Threshold [-24 - 0]db
N7	EQ2 Gain [-12 - +12]db	N29	Expander Lo Threshold [-80 - 0]db	N51	Compressor Hi Ratio [1-16, Inf]
N8	EQ2 Freq [16-22k]hz	N30	Expander Lo Ratio [1 - Inf]	N52	Compressor Hi Attack [0-100]ms
N9	EQ2 Q [0-32]	N31	Expander Lo Attack [0-100]ms	N53	Compressor Hi Release [50-5000]ms
N10	EQ3 Gain [-12 - + 12]db	N32	Expander Lo Release [50 - 5000]ms	N54	Mix/Stereo Lo Level [-80 - +6]db
N11	EQ3 Freq [16-22k]hz	N33	Expander Mid Threshold [-80 - 0]db	N55	Mix/Stereo Mid Level [-80 - +6]db
N12	EQ3 Q [0-32]	N34	Expander Mix Ratio [1 - Inf]	N56	Mix/Stereo Hi level [-80 - +6]db
N13	EQ4 [Shelve/Peak]	N35	Expander Mix Attack [0-100]ms	N57	Mix/Stereo Mids Adjust [-24 - +12]db
N14	EQ4 Gain [-12 - + 12]db	N36	Expander Mix Release [50 - 5000]ms	N58	Mix/Stereo Sides Adjust [-24 - +12]db
N15	EQ4 Freq [16-22k]	N37	Expander Hi Threshold [-80 - 0]db	N59	Limiter [On/Off]
N16	EQ4 Q [0-32]	N38	Expander Hi Ratio [1 - Inf]	N60	Limiter Threshold [-21 - 0]db
N17	Low Output Gain [-24 - +12]db	N39	Expander Hi Attack [0-100]ms	N61	Limiter Attack [0-100]ms
N18	Low Cut [On/Off]	N40	Expander Hi Release [50 - 5000]ms	N62	Limiter Release [50 - 5000]ms
N19	Low Freq [16-22k]hz	N41	Compressor [On/Off]	N63	Limiter Output Gain [-80 - +6]db
N20	Enhancer [On/Off]	N42	Compressor Lo Threshold [-24 - 0]db	N64	Soft Clip [On/Off]
N21	Enhancer Sens [0-100]	N43	Compressor Lo Ratio [1-16, Inf]	N65	Dithering [Off,24-8]
N22	Enhancer Q [0-64]	N44	Compressor Lo Attack [0-100]ms		