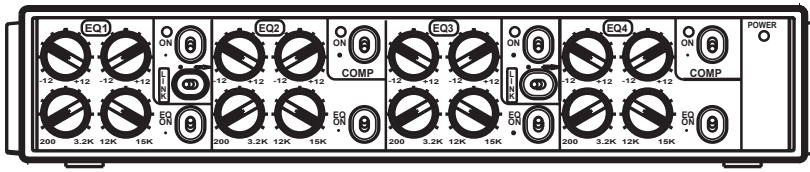
KameSan

KS-6002

EQ / Compressor

Operating manual



Thank you for your purchase of the Kamesan KS-6002 integrated 4-channel EQ unit and compressor, which integrates with Kamesan mixer units such as the KS-342 and extends their capabilities.

The key features of this unit include switchable 2-band EQ on each channel, as well as switchable compression on each channel, which can be linked between adjacent channels for stereo operations.

No external power supply is needed for the unit—power is drawn through the integrated connector when it is mounted on the Kamesan mixer.

NOTE

This unit cannot be used in standalone operations. It is only suitable for use with other Kamesan products, such as the KS-342 or KS-6001 mixers. Use or attempted use with any other unit will invalidate the warranty.

Notes and warnings

Follow the common-sense precautions below:

Do not allow liquids to come into contact with the unit or be spilled inside. Should this occur, fire, damage or malfunction may result.

Make sure that no metal objects or easily inflammable substances inadvertently get inside the unit through holes or slots. Should this occur, fire, the unit may become damaged or start to behave erratically.

Do not attempt to disassemble the unit, as damage or malfunction may result.

Notes on the Operating Environment

Avoid using this unit in places with high heat or high humidity as damage or malfunction may result. When using in an exceptionally cold environment, battery service life may be shortened, and there may be a drop in performance. If at all possible, use this unit in the temperature range as indicated in the specifications.

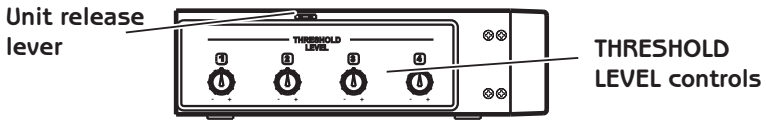
When connecting this unit to external devices, be sure to read all related operation manuals and connect the devices correctly to each other. If there are mistakes in the connections, it is pos-

sible that either the KS-6002 or the other unit(s) will be damaged.

In the event that smoke or odors come from the unit, turn off the power and remove all batteries and external power supply sources at once. Contact your dealer or service representative.

In the event of damage or injury caused by accidents, improper operation or functioning, the proper course of action shall be determined according to our service regulations. Please note that we cannot be responsible in any way for any loss of pre-recorded material.

Side view



The KS-6002 unit has the following features when viewed from the left side:

Unit release lever: There is a corresponding lever on the right side of the unit. Slide these levers to the **RELE**. position when attaching and detaching the KS-6002 to and from another unit mounted above the KS-6002 (e.g. a KS-6001 sub-mixer). Leave this lever in the **LOCK** position when the KS-6002 is attached to the KS-6001 or the other unit.

When using the KS-6002 with the KS-342 or another unit attached below the KS-6002 using the bottom connectors, use the unit release levers of the other unit, not those of the KS-6002, to attach and detach the KS-6002.

NOTE

The KS-6002 always should be placed above at least one other Kamesan unit when fitted in a stack of such units. Although some such units have retractable connectors, the KS-6002 lower connector cannot retract, and there is therefore a danger of damage if it is left protruding below the unit. You should also note that there is also a plate on the top surface of the KS-6002 which can be removed and used to connect the KS-6002 to other

equipment (in which case, the KS-6002 becomes the "jam in the sandwich" between the KS-342 and another unit such as the KS-6001 sub-mixer).

THRESHOLD LEVEL: Use these controls to set the individual threshold levels of the four compressor units for each channel of the mixer connected to the KS-6002.
Since optimum setting levels will vary according to the nature of the material, there is no standard setting of the threshold level. Accordingly, you should find the optimum setting point while auditioning the signal you will be recording or broadcasting).

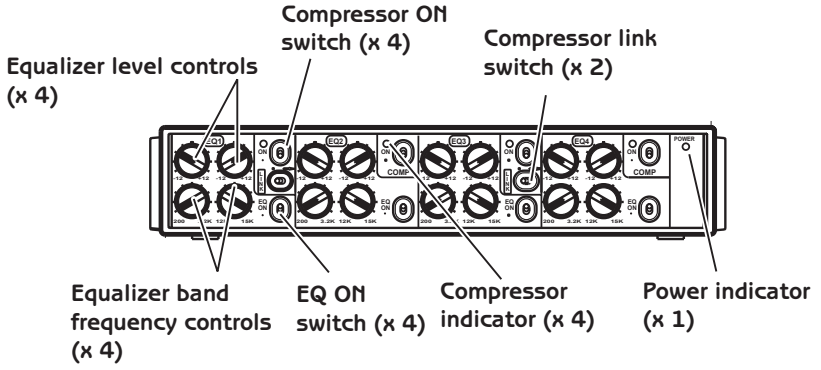
Note that the compression takes place post-EQ, so you should probably make the EQ settings before adjusting the threshold of the compressors.

Basically, you should make the setting when a slightly higher than normal level is encountered, and when the compression indicator of the channel (on the front panel) starts to turn orange. When the knob is in the 12 o'clock position, the threshold level is 8 dB higher than the standard 0 dB level.

The threshold can be set between 0 dB and +12 dB. The attack time is fixed at 3 ms, and the release time at 300 ms. Neither of these values can be altered.

Front Panel Features

The front panel is where most of the action on the KS-6002 takes place.



Equalizer level controls (per channel) Each channel has two equalizer level controls, which allow signals in the selected fre-

quencies to be cut or boosted by up to 12 dB. These controls are center-detented, with a "click", so that it is easy for you to tell, even without looking, when a band is flattened.

Equalizer band frequency select controls (per channel) Each channel has two controls allowing you to set the center frequency of each band. The low center frequency can be set between 200 Hz and 3.2 kHz. The high center frequency can be set between 1.2 kHz and 15 kHz.

EQ ON switch (per channel) Each channel's EQ circuit can be switched into (switch is up) and out of (switch is down) the signal path using this switch.

Compressor ON switch (per channel) Each channel's compressor can be switched into (switch is up) or out of (switch is down) of the signal path using this switch.

Compressor indicator (per channel) These indicators light when the compressor is switched into the signal path and the input signal exceed the threshold (that is, the compressor is in operation).

Compressor LINK switch (per channel pair) Links odd- and even-numbered channels' compressors (1-2, and 3-4), so that when a signal is received at either channel of the pair that goes above the threshold for that channel, both channels' compressors are triggered together.

Power indicator (only one) Shows that the equipment powering the KS-6002 is switched on and supplying power to the KS-6002.

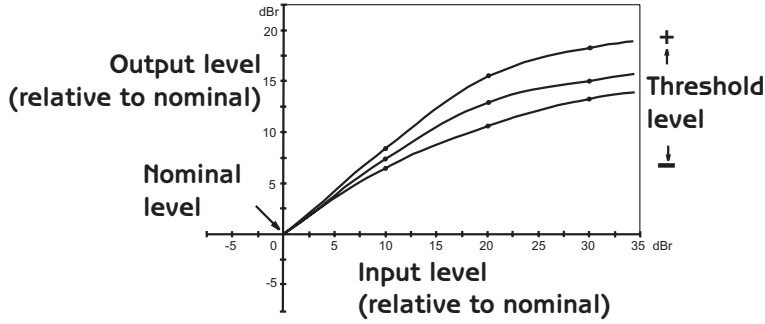
> Note that the KS-6002 does not have its own power switch. Power is supplied only through the connector linking the KS-6002 to the other unit.

Also note that when a signal is passed through the KS-6002 with both EQ and compression active, battery consumption on the "host" unit is about 1.5 times that when no signal is being passed through. Equalization does not use battery power to a significant degree, but if you wish to extend the battery life of the "host" unit, turn the compression off for all channels where it is not needed.

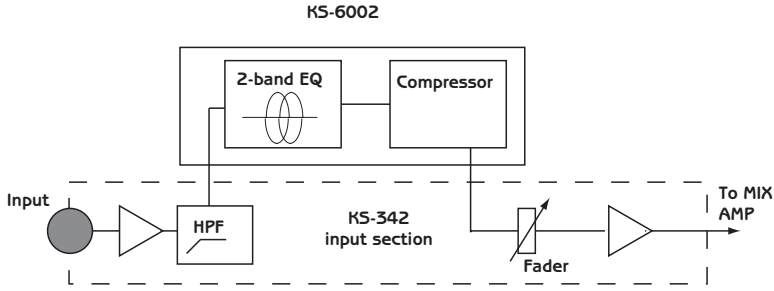
Specifications, etc.

Compression performance

The graph below shows the output level relative to various input levels with the compressor enabled, and the threshold set to different values.



Signal flow within a channel with the KS-342



Specifications

Equalizer

Equalizer type	2-band, peaking type, sweepable frequency
Center frequency ranges	**LOW** 200 Hz to 3.2 kHz, **HIGH** 1.2 kHz to 15 kHz
Cut and boost	±12 dB

Compressor

Threshold level	Settable from 0 dB through +12 dB
Attack time (fixed)	3 ms
Release time (fixed)	300 ms
Ratio (fixed)	2:1

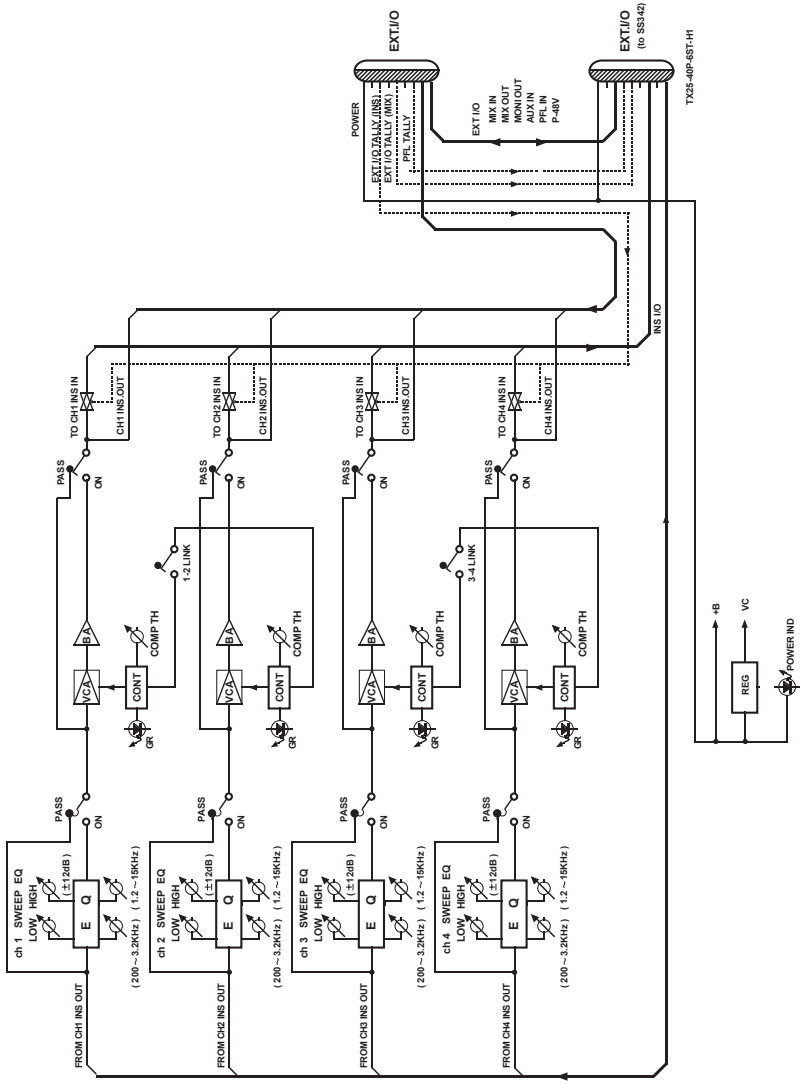
Audio performance figures (when used with KS-342)

Frequency response		50 Hz to 15 kHz (< ±1.0 dB)
Signal-to-noise ratio (equalizer and compressor both ON)		**MIC** –70 > 55 dB (30 kHz LPF/RMS)
		LINE +4 > 66 dB (30 kHz LPF/RMS)
Total Harmonic Distortion	**LINE**	< 0.5% (50 Hz to 15 kHz, nominal level, compressor off)
	MONI	< 0.5% (50 Hz to 15 kHz, nominal level)

Physical, etc. specifications (when used with KS-342)

Power consumption	140 mA (with EQ and compressor both ON)
Battery life when used with KS-342	> 2 hours (manganese)
	> 3 hours (alkaline)
	> 6 hours (with NP-1 pack)
Dimensions (w x d x h)	215 x 170 x 40 (mm) 8.5 x 6.7 x 1.6 (in)
Weight	800 g (1.8 lbs)

Block diagram



About Kamesan

Sigma Systems Engineering was started in 1972 to develop and design professional mixers for studio and remote broadcast applications.

Today, following the "slow and steady" principle of the tortoise, we have built up our sales and our reputation to the extent that we now enjoy 95% of the Japanese portable mixer market.

We have concentrated on two or three main areas in our design philosophy: compactness, in an industry which was traditionally dominated by large, heavy equipment; ease of use, since time is always of the essence in the environments where our products are used; and quality, to match the needs that today's broadcasters require.

Our head office is in Shinjuku, Tokyo, and as a small company, we are happy to listen to the ideas for product improvement suggested by you, the customers and users of our equipment.

Making steady progress (like a tortoise, but maybe a little faster!), we hope to meet your requirements, now and in the future.

Visit both of our Web sites at http://www.kamesan.co.jp and http://www.kamesan.info in order to find out more about what we're doing, and to let us know what you are doing with Kamesan products.

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