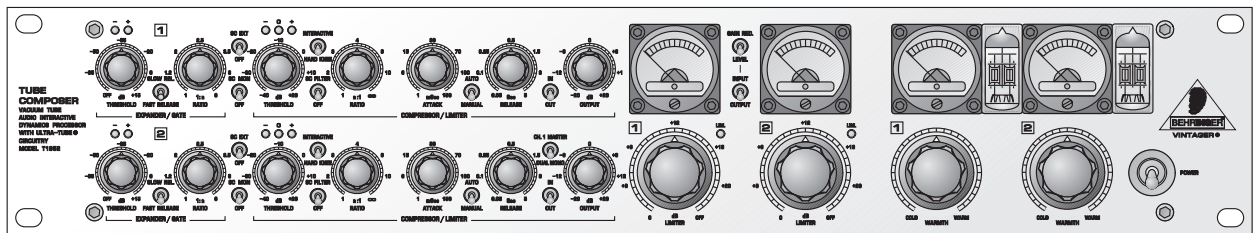




# TUBE COMPOSER®

Interactive Tube Dynamic Processor



- ▲ Interactive tube-based dynamic processor with selected 12AX7 tubes
- ▲ Five dynamic processing functions: compressor/limiter, gate/expander and peak limiter
- ▲ “Warmth” control allows precise dosage of desired tube effect
- ▲ IKA (Interactive Knee Adaptation) program-adaptive compression circuitry
- ▲ Selectable “Interactive Knee” or “Hard Knee” compression modes
- ▲ Switchable AUTO function for automatic attack and release time adjustment
- ▲ IRC (Interactive Ratio Control) expander/gate circuitry for extremely smooth noise reduction
- ▲ IGC (Interactive Gain Control) peak limiter combines the clipper and the program limiter approach to provide a “zero” attack limiting for setting maximum allowable level with minimal distortion
- ▲ Switchable side chain input, monitor and high-pass filter
- ▲ Highly accurate metering for input level, output level and gain reduction
- ▲ True RMS stereo link selectable
- ▲ High-performance VCA’s and ultra low-noise 4580 audio operational amplifiers
- ▲ Servo-balanced inputs/outputs with XLR and 1/4" TRS connectors
- ▲ Relay-controlled hard bypass with auto bypass function in case of power failure
- ▲ High-quality detented potentiometers and switches with vintage-style knobs
- ▲ Huge back-lit analog VU Meters and stylish “retro” design
- ▲ BEHRINGER’s high-performance OT-1 output transformer retrofitable
- ▲ Manufactured under ISO9000 certified management system

# SPECIFICATIONS

## Audio input

Connectors	XLR and 1/4" TRS
Type	RF filtered, servo-balanced input
Impedance	50 kOhm balanced, 25 kOhm unbalanced
Nominal operating level	+4 dBu/-10 dBV switchable
Max. input level	+21 dBu balanced and unbalanced
CMRR	typ. 40 dB, >55 dB @ 1 kHz

## Audio output

Connectors	XLR and 1/4" TRS
Type	electronically servo-balanced output stage (optional transformer-balanced)
Impedance	60 Ohms balanced, 30 Ohm unbalanced
Max. output level	+21 dBu, +20 dBm balanced and unbalanced

## SC input

Connector	1/4" TRS
Type	RF filtered, DC de-coupled, unbalanced input
Impedance	>10 kOhm
Max. input level	+21 dBu

## SC output

Connector	1/4" TRS
Type	RF filtered, DC de-coupled, unbalanced output
Impedance	2 kOhm
Max. output level	+21 dBu

## System specifications

Bandwidth	18 Hz to 30 kHz, +/- 3 dB
Signal-to-noise ratio	>100 dB, unweighted, 22 Hz to 22 kHz
THD	0.008 % typ. @ +4 dBu, 1 kHz, Gain 1 0.04 % typ. @ +20 dBu, 1 kHz, Gain 1
IMD	0.01 % typ. SMPTE
Crosstalk	<-100 dB, 22 Hz to 22 kHz
Stereo coupling	true RMS detection

## Expander/gate section

Type	IRC (Interactive Ratio Control) expander
Threshold	variable (OFF to +15 dB)
Ratio	variable (1:1 to 1:8)
Attack	<1 ms / 50 dB, program dependent
Release	variable (SLOW: 100 ms / 1 dB, FAST: 100 ms / 100 dB)

## Compressor section

Type	IKA (Interactive Knee Adaption) compressor
Threshold	variable (-40 dB to +20 dB)
Ratio	variable (1:1 to oo:1)
Threshold characteristics	variable (Interactive or Hard Knee)
Auto characteristics	wave adaptive compressor
Manual attack time	variable (0.5 ms / 20 dB to 100 ms / 20 dB)
Manual release time	variable (0.05 ms / 20 dB to 5 s / 20 dB)
Auto attack time	typ. 15 ms at 10 dB, 5 ms at 20 dB, 3 ms at 30 dB
Auto release time	program dependent, typ. 125 dB/s
Output	variable (-20 to +20 dB)

## Peak Limiter section

Type	IGC (Interactive Gain Control) peak limiter
Threshold	variable (+4 dB to OFF (+22 dBu))
Ratio	∞:1
Stage 1 limiter type	Clipper
Attack	“zero”
Release	“zero”
Stage 2 limiter type	program limiter
Attack	program dependent, typ. < 5 ms
Release	program dependent, typ. 20 dB/s

## Function switches

SC extern	switches the detector section to the external SC input
SC mon	monitoring the external SC input, disengaging the normal audio
Interactive	enables the “Interactive Knee Adaptation” characteristics
Auto	enables the automatic and program dependent setting of the attack-/release times, disengaging the manual attack-/release controls
I/O Meter	switches between input and output for the level meter
In/Out	relay-controlled hard-bypass
Operating level	changes the internal reference level from +4 dBu to -10 dBV
CH 1 master	linking both channels for stereo operation. Channel 1 becomes master
Warmth	variable (+10 dB to +60 dB)

## Indicators

Expander/gate threshold	2 LED for under “+” and above “-”
Compressor threshold	3 LEDs for under “+”, Interactive “0” and above “+”
Peak Limiter threshold	1 LED for indication of limiter function
Function switch	LED indicator for each
Warmth	analog meter for the UTC circuitry

## Options

Output Transformer	BEHRINGER transformer OT-1 retrofitable
--------------------	---

## Power supply

Mains Voltages	USA/Canada	120 V ~, 60 Hz
	U.K./Australia	240 V ~, 50 Hz
	Europe	230 V ~, 50 Hz
	General Export Model	100 - 120 V ~, 200 - 240 V ~, 50 - 60 Hz
Fuse	100 - 120 V ~:	<b>T 1 A H</b>
	200 - 240 V ~:	<b>T 500 mA H</b>
Power Consumption	30 Watts max.	
Mains Connection	standard IEC receptacle	

## Physical

Dimensions (H x W x D)	3 1/2" (88.9 mm) x 19" (482.6 mm) x 8 1/2" (217 mm)
Net Weight	approx. 8 kg
Shipping Weight	approx. 10 kg

BEHRINGER is constantly striving to maintain the highest professional standards. As a result of these efforts, modifications may be made from time to time to existing products without prior notice. Specifications and appearance may differ from those listed or shown.

---

The information contained in this manual is subject to change without notice. No part of this manual may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording of any kind, for any purpose, without the express written permission of BEHRINGER Spezielle Studiotechnik GmbH.

BEHRINGER, COMPOSER, MULTICOM, VINTAGER and UTRA-TUBE are registered trademarks. ALL RIGHTS RESERVED.

© 2001 BEHRINGER Spezielle Studiotechnik GmbH.

BEHRINGER Spezielle Studiotechnik GmbH, Hanns-Martin-Schleyer-Str. 36-38, 47877 Willich-Münchheide II, Germany

Tel. +49 (0) 21 54 / 92 06-0, Fax +49 (0) 21 54 / 92 06-30

---