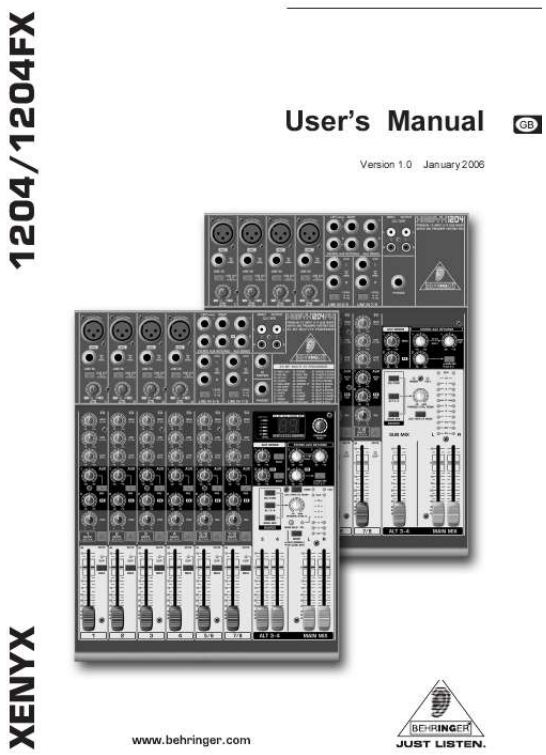

Manual abstract:

3) Heed all warnings. 4) Follow all instructions. @@@@5) Do not use this apparatus near water. 6) Clean only with dry cloth. 7) Do not block any ventilation openings. Install in accordance with the manufacturers instructions. @@The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus. 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other.

A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet. @@11) Only use attachments/accessories specified by the manufacturer. @@@@@@14) Refer all servicing to qualified service personnel.

Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped. 15) CAUTION - These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions unless you are qualified to do so. 2 TABLE OF CONTENTS XENYX 1204/1204FX 1. INTRODUCTION .

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.... 13 3 XENYX 1204/1204FX FOREWORD Dear Customer, Im sure youre one of those people who have devoted themselves body and soul to your chosen area and no doubt this has made you an expert in your field. Well, for over 30 years, my passion has been music and electronics. This not only led me to establish BEHRINGER, but also enabled me to share my enthusiasm with our employees. During all the years Ive been involved with studio technology and end users, I have developed a feel for the things that really count, such as sound quality, reliability and ease of use. What is more, I have always had the desire to test the boundaries of what is technically feasible. It was precisely this motivation that prompted me to start work on a new series of mixing consoles. Since our XENYXs had already set new standards world-wide, I knew the development objectives behind the next generation of mixing consoles had to be

especially ambitious. Thus, the concept and design of the new XENYX mixing consoles bear my signature. The design work, the entire circuit diagram and PCB development, and even the mechanical concepts are my own work. I carefully selected each individual component with the aim of pushing the mixing consoles combining analog and digital technologies to their limits. My vision was to enable you, the user, to give free rein to your true potential and creativity.

The result is mixing consoles that combine incredible performance with intuitive operability. They cannot fail to impress with their extremely flexible routing possibilities plus a fantastic wealth of functions. Innovative technologies, such as the completely new XENYX Mic Preamps and the British EQs, guarantee optimum sound quality. And extraordinarily high-quality components provide unrivalled reliability, even under extreme loads. Thanks to the quality and ease of use of your new XENYX mixing console youll soon come to appreciate that I, both personally and in my capacity as musician and sound engineer, put you, the end user, first and that these products were only possible because of the passion and the attention to detail that went into them.

Thank you for the confidence you have placed in us by purchasing the XENYX mixing console. I should also like to thank all those who, with their personal commitment and passion, have helped me create this impressive series of mixing consoles. 1. INTRODUCTION Congratulations! In purchasing the BEHRINGER XENYX you have acquired a mixer whose small size belies its incredible versatility and audio performance. The XENYX Series represents a milestone in the development of mixing console technology. With the new XENYX microphone preamps including phantom power as an option, balanced line inputs and a powerful effects section, the mixing consoles in the XENYX Series are optimally equipped for live and studio applications. Owing to state-of-the-art circuitry your XENYX console produces a warm analog sound that is unrivalled. With the addition of the latest digital technology these best-in-class consoles combine the advantages of both analog and digital technology. The microphone channels feature high-end XENYX Mic Preamps that compare well with costly outboard preamps in terms of sound quality and dynamics and boast the following features: s s s 130 dB dynamic range for an incredible amount of headroom A bandwidth ranging from below 10 Hz to over 200 kHz for crystal-clear reproduction of even the finest nuances The extremely low-noise and distortion-free circuitry guarantees absolutely natural and transparent signal reproduction They are perfectly matched to every conceivable microphone with up to 60 dB gain and +48 volt phantom power supply They enable you to use the greatly extended dynamic range of your 24-bit/192 kHz HD recorder to the full, thereby maintaining optimal audio quality s s British EQ The equalizers used for the XENYX Series are based on the legendary circuitry of top-notch consoles made in Britain, which are renowned throughout the world for their incredibly warm and musical sound character. Even with extreme gain settings these equalizers ensure outstanding audio properties.

Multi-effects processor Additionally, your XENYX mixing console has an effects processor with 24-bit A/D and D/A converters included, which gives you 100 presets producing first-class reverb, delay and modulation effects plus numerous multi-effects in excellent audio quality.

The XENYX mixing consoles are equipped with a state-of-theart switched-mode power supply (SMPS). Unlike conventional circuitry an SMPS provides an optimum supply current regardless of the input voltage. And thanks to its considerably higher efficiency a switched-mode powerthe microphone input to the aux send 1 connector. Dont be put off by the huge range of possibilities; its easier than you think! If you look at the overview of the controls at the same time, youll be able to quickly familiarize yourself with your mixing console and youll soon be making the most of all its many possibilities. 2.1 Mono channels 2.1.1 Microphone and line inputs 1.3 Before you get started 1.

3.1 Shipment Your mixing conrequencies of the upper and lower band are 12 kHz and 80 Hz respectively. The mid band is configured as a peak filter with a center frequency of 2.5 kHz. 2.

1.3 Aux sends Fig. 2.3: The AUX SEND controls in the channel strips Aux sends take signals via a control from one or more channels and sum these signals to a so-called bus. This bus signal is sent to an aux send connector and then routed, for example, to an active monitor speaker or an external effects device. The return from an external effect can then be brought back into the console via the aux return connectors. For situations which require effects processing, the aux sends are usually switched post-fader so that the effects volume in a channel corresponds to the position of the channel fader. If this were not the case, the effects signal of the channel would remain audible even when the fader is turned to zero. When setting up a monitor mix, the aux sends are generally switched to pre-fader; i.e. they operate independently of the position of the channel fader. Both aux sends are mono, are sourced after the equalizer and offer up to +15 dB gain. Fig. 2.4: Panorama and routing controls PAN The PAN control determines the position of the channel signal within the stereo image.

This control features a constant-power characteristic, which means the signal is always maintained at a constant level, irrespective of position in the stereo panorama. MUTE/ALT 3-4 You can use the MUTE/ALT 3-4 switch to divert the channel from the main mix bus to the Alt 3-4 bus. This mutes the channel from the main mix. MUTE-LED The MUTE LED indicates that the relevant channel is diverted to the submix (Alt 3-4 bus). CLIP-LED The CLIP LED lights up when the input signal is driven too high. In this case, turn down the TRIM control and, if necessary, check the setting of the channel EQ. 6 2. CONTROL ELEMENTS AND CONNECTORS XENYX 1204/1204FX SOLO The SOLO switch (1204FX only) is used to route the channel signal to the solo bus (Solo In Place) or to the PFL bus (Pre Fader Listen). This enables you to monitor a channel signal without affecting the main output signal. The signal you hear is sourced either before (PFL, mono) or after (solo, stereo) both the pan control and the channel fader (see chapter 2.

3.6 Level meters and monitoring). @@@@@@In the 1204FX, the MON control is called AUX SEND 1. @@@@@@If only the connector marked L is used, the channel operates in mono. Stereo channels are designed to handle typical line level signals.

Both inputs can also be used with unbalanced jacks. @@@@@@@@@@Fig. 2.7: Aux send connectors AUX SEND 1 If you use aux send 1 pre-fader, you would usually connect the AUX SEND 1 connector to monitors via a power amp (or an active monitor system). @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@DAT recorder).

They can also be used as stereo line input. @@@@cassette recorder, CD player, etc.). @@Connect the CD/TAPE OUTPUT to the inputs of your recording device. @@@@@@@@@@Connect the amplifier of your monitor system to AUX SEND 1. The AUX SEND 1 master control determines the volume of the monitor mix. You can now use the STEREO AUX RETURN MON control to adjust the level of the effects signal routed to the monitor mix. You can easily use the headphones distribution amplifier BEHRINGER POWERPLAY PRO HA4600/HA4700/HA8000 to provide you with four (or eight with the HA8000) stereo headphone mixes for your studio. STEREO AUX RETURN 2 (FX) The STEREO AUX RETURN 2 control determines the level of signals fed into the AUX RETURN 2 connectors which are routed to the main mix. MAIN MIX/ALT 3-4 The MAIN MIX/ALT 3-4 switch routes the signal connected to STEREO AUX RETURN 2 to either main mix (not pressed) or submix (Alt 3-4, pressed).

Fig. 2.11: Control room/phones section, level meter CD/TAPE The TAPE switch routes the signal from the TAPE IN connectors to the level meter, the CONTROL ROOM OUT outputs and the PHONES connectorthis is a simple way to check recorded signals via monitor speakers or headphones. ALT 3-4 Similarly, the ALT 3-4 switch routes the signal from the Alt 3-4 bus to the same path for monitoring purposes. MAIN MIX The MAIN MIX switch sends the main mix signal to the abovementioned outputs and to the level meter. PHONES/CTRL R(oom) Use this control to set control room output level and headphones volume respectively. CD/TAPE TO MAIN When the CD/TAPE TO MAIN switch is depressed, the 2track input is routed to the main mix and thus serves as an additional input for tape machines. You can also connect MIDI instruments or other signal sources here that do not require any further processing. At the same time, this switch disables the main mix to tape output link. POWER The blue POWER LED indicates that the device is switched on. 8 2. CONTROL ELEMENTS AND CONNECTORS XENYX 1204/1204FX +48 V The red +48 V LED lights up when the phantom power supply is switched on. The phantom power supply is necessary for condenser microphones and is activated using the switch on the rear of the device. MAIN SOLO (1204FX only) The MAIN SOLO LED lights up as soon as a channel or aux send solo switch is pressed. The MODE switch also has to be set at Solo.

PFL (1204FX only) The PFL LED indicates that the peak meter is set to PFL mode. + Please do not connect microphones to the mixer (or the stagebox/wallbox) while the phantom power supply is switched on. Connect microphones before you switch on the power supply. In addition, the monitor/PA loudspeakers should be muted before you activate the phantom power supply. After switching on, wait approx.

one minute to allow for system stabilization. Fig. 2.12: PHONES connector PHONES You can connect headphones to this 1/4" TRS connector. The signal on the PHONES connection is sourced from the control room output. LEVEL METER The high-precision level meter accurately displays the appropriate signal level. LEVEL SETTING: When recording to a digital device, the recorders peak meter should not exceed 0 dB. @@@@+3 dB with lowfrequency signals (e.g. kick drum).

@@@@Snare drums should be driven to approx. @@@@PFL To activate the PFL function, depress the MODE switch. @@The signal is sourced pre-fader and assigned to the mono PFL bus. In the PFL setting, only the left side of the peak meter operates. Drive the individual channels to the 0 dB mark of the VU meter. @@Solo is short for Solo In Place.

@@@@@@The solo bus is, as a rule, switched postfader. Fig. 2.13: Alt 3-4 and main mix fader Use the high-precision quality faders to control the output level of the Alt 3-4 subgroup and main mix.

2.4 Rear view of 1204FX/ 1204 2.4.1 Main mix outputs, Alt 3-4 outputs and control room outputs + The PAN control in the channel strip offers a constant power characteristic. This means that the signal is always at a constant level, irrespective of its position in the stereo panorama.

If the PAN control is moved fully left or right from center, the level increases by 4 dB in that channel. This ensures that, when set in the center, the audio signal is not louder. For this reason, with the solo function activated (Solo in Place), audio signals from the channels with PAN controls that have not been moved fully to the left or right are displayed at a lower volume than in the PFL function. Fig. 2.

14: Main mix outputs, Alt 3-4 outputs and control room outputs MAIN OUTPUTS The MAIN outputs carry the MAIN MIX signal and are on balanced XLR connectors with a nominal level of +4 dBu. ALT 3-4 OUTPUTS The ALT 3-4 outputs are unbalanced and carry the signals of the channels that you have assigned to this group using the MUTE switch. This can be used to route a subgroup to a further mixing console for example, or or it could be used as a recording output working in tandem with the main output. This means you could record to four tracks simultaneously. The icing on the cake, so to speak, is that you could connect Y-cables to these four outputs and then connect your 8-track recorder in such a way that you have 2 x 4 tracks (e.g. channel 1 feeds track 1 and track 2, etc.). In the first recording pass, you record on tracks 1, As a rule, solo signals are monitored via the control room outputs and headphones connector and are displayed by the level meters. If a solo switch is pressed, the signals from the tape input, Alt 3-4 and main mix are blocked from the control room outputs, the headphone connector and the level meter.

2. CONTROL ELEMENTS AND CONNECTORS 9 XENYX 1204/1204FX 3, 5 and 7 and in the second pass, on tracks 2, 4, 6 and 8. CONTROL ROOM OUTPUTS The control room output is normally connected to the monitor system in the control room and provides the stereo mix or, when required, the solo signal. 3. DIGITAL EFFECTS PROCESSOR 2.4.2 Voltage supply, phantom power and fuse Fig. 2.15: Voltage supply and fuse FUSE HOLDER The console is connected to the mains via the cable supplied which meets the required safety standards. Blown fuses must only be replaced by fuses of the same type and rating.

IEC MAINS RECEPTACLE The mains connection is via a cable with IEC mains connector. An appropriate mains cable is supplied with the equipment. POWER Use the POWER switch to power up the mixing console. PHANTOM The PHANTOM switch activates the phantom power supply for the XLR connectors of the mono channels which is required to operate condenser microphones. The red +48 V LED lights up when phantom power is on.

As a rule, dynamic microphones can still be used with phantom power switched on, provided that they are wired in a balanced configuration. In case of doubt, contact the microphone manufacturer! Fig. 3.1: Digital effects module (only 1204FX) 24-BIT MULTI-EFFECTS PROCESSOR Here you can find a list of all presets stored in the multi-effects processor. This built-in effects module produces high-grade standard effects such as reverb, chorus, flanger, delay and various combination effects.

The integrated effects module has the advantage of requiring no wiring. This way, the danger of creating ground loops or uneven signal levels is eliminated at the outset, completely simplifying the handling. These effect presets are designed to be added to dry signals. If you move the FX TO MAIN control, you mix the channel signal (dry) and the effect signal. This also goes for mixing effects signals with the monitor mix. The main difference is that the mix ratio is adjusted using the FX TO MON control. Of course, a signal has to be fed into the effects processor via the FX control in the channel strip for both applications. + After the phantom power supply has been switched on, do not connect microphones to the mixer (or the stagebox/wallbox). Connect the microphones before you switch phantom power on. In addition, the monitor/PA loudspeakers should be muted before activating the phantom power supply.

After switching on, wait approx. one minute to allow the system to stabilize. Caution! You must never use unbalanced XLR connectors (PIN 1 and 3 connected) on the MIC input connectors if you want to use the phantom power supply. + On the following page, you will find an illustration showing how to connect your foot switch correctly. + LEVEL The LED level meter on the effects module should display a sufficiently high level. Take care to ensure that the clip LED only lights up at peak levels. If it is lit constantly, you are overloading the effects processor and this could cause unpleasant distortion. The FX control (AUX SEND 2) determines the level that reaches the effects module. PROGRAM You can select the effect preset by turning the PROGRAM control. The display flashes the number of the current preset.

To recall the selected preset, press the button; the flashing stops. You can also recall the selected preset with the foot switch. SERIAL NUMBER Please note the important information on the serial number given in chapter 1.3.3.

10 3. DIGITAL EFFECTS PROCESSOR XENYX 1204/1204FX 4. INSTALLATION 4.1 Rack mounting The packaging of your mixing console contains two 19" rack mount wings which can be installed on the side panels of the console. Before you can attach the rack mount wings to the mixing console, you need to remove the screws holding the left and right side panels.

Use these screws to fasten the two wings onto the console, being careful to note that each wing fits a specific side. With the rack mount wings installed, you can mount the mixing console in a commercially available 19" rack. Be sure to allow for proper air flow around the unit, and do not place the mixing console close to radiators or power amps, so as to avoid overheating. Fig. 4.2: XLR connections + Only use the screws holding the mixing console side panels to fasten the 19" rack mounts. 4.2 Cable connections You will need a large number of cables for the various connections to and from the console. The illustrations below show the wiring of these cables. Be sure to use only high-grade cables.

Fig. 4.3: 1/4" TS connector Fig. 4.1: 1/4" TS connector for foot switch 4.2.1 Audio connections Please use commercial RCA cables to wire the 2-track inputs and outputs. You can, of course, also connect unbalanced devices to the balanced input/outputs. Use either mono plugs, or ensure that ring and sleeve are bridged inside the stereo plug (or pins 1 & 3 in the case of XLR connectors). Fig.

4.4: 1/4" TRS connector + Caution! You must never use unbalanced XLR connectors (pin 1 and 3 connected) on the MIC inputs if you intend to use the phantom power supply.

Fig. 4.5: 1/4" TRS connector for headphones 4.
INSTALLATION 11 XENYX 1204/1204FX 5. SPECIFICATIONS Mono inputs Microphone inputs (XENYX Mic Preamp) Type XLR, electronically balanced, discrete input circuit Mic E.I.N. (20 Hz - 20 kHz) @ 0 W source resistance -134 dB / 135.
7 dB A-weighted @ 50 W source resistance -131 dB / 133.3 dB A-weighted @ 150 W source resistance -129 dB / 130.5 dB A-weighted Frequency response <10 Hz - 150 kHz (-1 dB), <10 Hz - 200 kHz (-3 dB) +10 to +60 dB +12 dBu @ +10 dB gain approx. 2.6 kW balanced 110 dB / 112 dB A-weighted (0 dBu In @ +22 dB gain) 0.005% / 0.004% A-weighted Main outputs Type Impedance Max. output level Control room outputs Type Impedance Max. output level Headphones output Type Max. output level DSP Converter Sampling rate Main mix system data 2 Noise Main mix @ -oo, Channel fader -oo Main mix @ 0 dB, Channel fader -oo Main Mix @ 0 dB, Channel fader @ 0 dB Power supply Mains voltage Power consumption Fuse Mains connection Physical 1204FX Dimensions (H x W x D) Weight (net) 1/4" TRS connector, electronically balanced approx.

20 kW +22 dBu 1204 Dimensions (H x W x D) Weight (net) XLR, electronically balanced approx. 240 W bal. / 120 W unbal. +28 dBu 1/4" TS connector, unbal. approx. 120 W +22 dBu Gain range Max. input level Impedance Signal-to-noise ratio 1/4" TRS connector, unbalanced +19 dBu / 150 W (+25 dBm) 24-bit Texas Instruments TM 24-bit Sigma-Delta, 64/128-times oversampling 40 kHz Distortion (THD+N) Line input Type Impedance Gain range Max. input level Fade-out attenuation1 (Crosstalk attenuation) Main fader closed Channel muted Channel fader closed Frequency response Microphone input to main out <10 Hz - 90 kHz <10 Hz - 160 kHz Stereo inputs Type Impedance Max. input level EQ mono channels Low Mid High EQ stereo channels Low Mid High Aux sends Type Impedance Max. output level Stereo aux returns Type Impedance Max.
input level 1/4" TRS connector electronically balanced approx. 20 kW balanced 10 kW unbalanced -10 to +40 dB 30 dBu -105 dB / -108 dB A-weighted -95 dB / -97 dB A-weighted -82,5 dB / -85 dB A-weighted 90 dB 89.5 dB 89 dB 100 - 240 V~, 50/60 Hz 40 W 100 - 240 V~: T 1.6 A H 250 V Standard IEC receptacle +0 dB / -1 dB +0 dB / -3 dB approx. 97 mm (3 7/8") x 247 mm (9 11/16") x 334 mm (13 5/32") approx.
2.60 kg (5 3/4 lbs) approx. 97 mm (3 7/8") x 247 mm (9 11/16") x 328 mm (13") approx. 2.56 kg (5 5/8 lbs) 80 Hz / ±15 dB 2.
5 kHz / ±15 dB 12 kHz / ±15 dB 80 Hz / ±15 dB 2.5 kHz / ±15 dB 12 kHz / ±15 dB 1/4" TS connector, unbalanced approx. 120 W +22 dBu Measuring conditions: 1: 1 kHz rel. to 0 dBu; 20 Hz - 20 kHz; line input; main output; unity gain. 20 Hz - 20kHz; measured at main output. Channels 1 - 4 unity gain; EQ flat; all channels on main mix; channels 1/3 as far left as possible, channels 2/4 as far right as possible. Reference = +6 dBu. 2: 1/4" TRS connector, electronically balanced approx. 20 kW bal. / 10 kW unbal.

+22 dBu BEHRINGER is constantly striving to manintain 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 illustrated. 12 5. SPECIFICATIONS XENYX 1204/1204FX 6. WARRANTY § 1 OTHER WARRANTY RIGHTS AND NATIONAL LAW 1. This warranty does not exclude or limit the buyers statutory rights provided by national law, in particular, any such rights against the seller that arise from a legally effective purchase contract. 2. The warranty regulations mentioned herein are applicable unless they constitute an infringement of national warranty law. § 2 ONLINE REGISTRATION Please do remember to register your new BEHRINGER equipment right after your purchase by visiting www.
behringer.com (alternatively www.behringer.de) and kindly read the terms and conditions of our warranty carefully. Registering your purchase and equipment with us helps us process your repair claims quicker and more efficiently.
Thank you for your cooperation! § 3 WARRANTY 1. @@@@@@2. @@3. Warranty claims other than those indicated above are expressly excluded. § 4 RETURN AUTHORIZATION NUMBER 1.
To obtain warranty service, the buyer (or his authorized dealer) must call BEHRINGER (see enclosed list) during normal business hours BEFORE returning the product. All inquiries must be accompanied by a description of the problem. BEHRINGER will then issue a return authorization number. 2. Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by BEHRINGER. 3. Shipments without freight prepaid will not be accepted. § 5 WARRANTY REGULATIONS 1. Warranty services will be furnished only if the product is accompanied by a copy of the original retail dealers invoice. @@s 2.

@@@@@3. Free inspections and maintenance/repair work are expressly excluded from this warranty, in particular, if caused by improper handling of the product by the user. This also applies to defects caused by normal wear and tear, in particular, of faders, crossfaders, potentiometers, keys/buttons, tubes, guitar strings, illuminants and similar parts. 4. Damages/defects caused by the following conditions are not covered by this warranty: s improper handling, neglect or failure to operate the unit in compliance with the instructions given in BEHRINGER user or service manuals. connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used. damages/defects caused by force majeure or any other condition that is beyond the control of BEHRINGER. s 5. Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the warranty. 6.
If an inspection of the product by BEHRINGER shows that the defect in question is not covered by the warranty, the inspection costs are payable by the customer. 7. Products which do not meet the terms of this warranty will be repaired exclusively at the buyers expense. BEHRINGER will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, BEHRINGER will return the unit C.
O.D. with a separate invoice for freight and packing. Such costs will also be invoiced separately when the buyer has sent in a written repair order. § 6 WARRANTY TRANSFERABILITY This warranty is extended exclusively to the original buyer (customer of retail dealer) and is not transferable to anyone who may subsequently purchase this product.
No other person (retail dealer, etc.) shall be entitled to give any warranty promise on behalf of BEHRINGER. § 7 CLAIM FOR DAMAGES Failure of BEHRINGER to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of BEHRINGER exceed the invoiced value of the product.