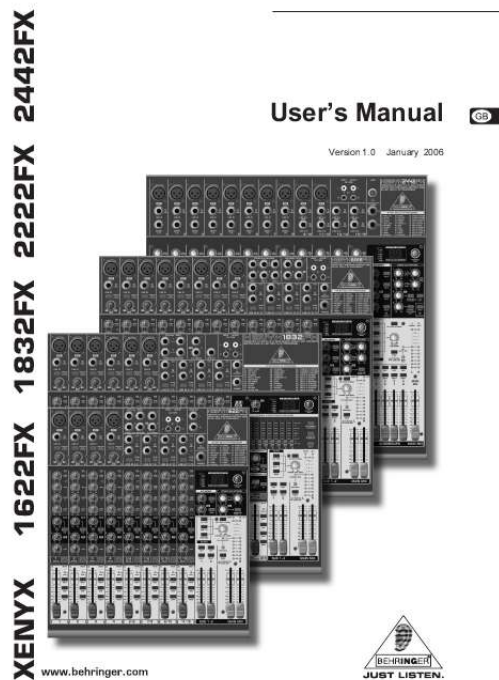




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You can read the recommendations in the user guide, the technical guide or the installation guide for BEHRINGER XENYX 2442FX. You'll find the answers to all your questions on the BEHRINGER XENYX 2442FX in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual BEHRINGER XENYX 2442FX
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SPECIFICATIONS

This feature is also an optimal solution for singers who need accompanying music for their rehearsals. USB/Audio interface The USB interface supplied with the unit is a perfect match for the XENYX Series and serves as a powerful recording interface to your PC or MAC. It supports the digital transmission of signals on up to four channels with max. 48 kHz and extremely low latency. When wired to the CD/TAPE INPUT and OUTPUT connectors, the interface transfers the stereo mix from the console directly to a computer. Both the recording signal and the playback signal from the computer can be monitored at the same time. In this way, you can use several recording runs to produce complete multi-track recordings.

+ CAUTION! We should like to draw your attention to the fact that extreme volumes may damage your hearing and/or your headphones or loudspeakers. Turn the MAIN MIX faders and phones control in the main section fully down before you switch on the unit. Always be careful to set the appropriate volume.

1.1 General mixing console functions A mixing console fulfils three main functions: s Signal processing: Preamplification Microphones convert sound waves into voltage that has to be amplified several-fold; then, this voltage is turned into sound that is reproduced in a loudspeaker.

Because microphone capsules are very delicate in their construction, output voltage is very low and therefore susceptible to interference. Therefore, mic signal voltage is amplified directly at the mixer input to a higher signal level that is less prone to interference. This higher, interference-safe signal level has to be achieved through amplification using an amplifier of the highest quality in order to amplify the signal and add as little noise to it as possible. The XENYX Mic Preamp performs this role beautifully, leaving no traces of noise or sound coloration. Interference that could take place at the preamplification level could affect signal quality and purity, and would then be passed on to all other devices, resulting in inaccurate sounding program during recording or playback.

Level-setting Signals fed into the mixer using a DI-box (Direct Injection) or the output of a sound card or a keyboard, often have to be adjusted to the operating level of your mixing console. Frequency response correction Using the equalizers found in each channel strip, you can simply, quickly and effectively adjust the way a signal sounds. Effects mixing In addition to the effects processor contained in your mixer, using the insert connectors on the mono channels and both aux busses lets you insert additional signal processors into your signal path. s Signal distribution: Individual signals adjusted at each channel our website at <http://www.behringer.com>. Additional information and explanations about various music industry/audio technology terminology can be found on individual product pages as well as in the glossary. 2. CONTROL ELEMENTS AND CONNECTORS This chapter describes the various control elements of your mixing console. All controls, switches and connectors will be discussed in detail.

2.1 Mono channels 2.1.1 Microphone and line inputs + The block diagram supplied with the mixing console gives you an overview of the connections between the inputs and outputs, as well as the associated switches and controls. 1.3 Before you get started 1.3.1 Shipment Your mixing console was carefully packed in the factory to guarantee safe transport. Nevertheless, we recommend that you carefully examine the packaging and its contents for any signs of physical damage, which may have occurred during transit. + If the unit is damaged, please do NOT return it to us, but notify your dealer and the shipping company immediately, otherwise claims for damage or replacement may not be granted.

1.3.2 Initial operation Be sure that there is enough space around the unit for cooling purposes and to avoid over-heating please do not place your mixing console on high-temperature devices such as radiators or power amps. The console is connected to the mains via the supplied cable. The console meets the required safety standards.

Blown fuses must only be replaced by fuses of the same type and rating. Fig. 2.1: Connectors and controls of mic/line inputs MIC Each mono input channel offers a balanced microphone input via the XLR connector and also features switchable +48 V phantom power supply for condenser microphones. The XENYX preamps provide undistorted and noise-free gain as is typically known only from costly outboard preamps.

+ Please note that all units must be properly grounded. For your own safety, you should never remove any ground connectors from electrical devices or power cables, or render them inoperative. Please ensure that only qualified people install and operate the mixing console. During installation and operation, the user must have sufficient electrical contact to earth, otherwise electrostatic discharges might affect the operation of the unit. + + Please mute your monitor system before you switch on phantom power. Otherwise potentially damaging thumps will be sent to your speakers. Please also note the instructions in chapter 5.5 Voltage supply, phantom power and fuse. 1.3.

3 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. LINE IN Each mono input also has a balanced line input on a 1/4" jack. You can also connect unbalanced devices using mono jacks to these inputs. + Please remember that you can use either the microphone input or the line input of a channel, but not both at the same time! 2. CONTROL ELEMENTS AND CONNECTORS 5 XENYX 1622FX/1832FX/2222FX/2442FX INSERT Insert points enable the processing of a signal with dynamic processors or equalizers. They are sourced pre-fader, pre-EQ and pre-aux send.

Detailed information on using insert points can be found in chapter 5.3. the MID control to set the amount of boost or cut, and the FREQ control to determine the central frequency. 2.1.

3 Monitor and effects busses (Aux sends) + Unlike the 2442FX, the 1622FX, 1832FX and 2222FX have their insert points located on the rear of the console. TRIM Use the TRIM control to adjust the input gain. This control should always be turned fully counter-clockwise whenever you connect or disconnect a signal source to one of the inputs. The scale has 2 different value ranges: the first value range (+10 to +60 dB) refers to the MIC input and shows the amplification for the signals fed in there. The second value range (+10 to -40 dB) refers to the line input and shows its sensitivity.

The settings for equipment with standard line-level signals (-10 dBV or +4 dBu) look like this: While the TRIM control is turned all the way down, connect your equipment. Set the TRIM control to the external devices standard output level. If that unit has an output signal level display, it should show 0 dB during signal peaks.



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For +4 dBu, turn up TRIM slightly, for -10 dBV a bit more. Fine-tuning of a signal being fed in is done using the level meter. To route the channel signal to the level meter, you have to press the SOLO switch and set the MODE switch in the main section to PFL (LEVEL SET). Using the TRIM control, drive the signal to the 0-dB mark. This way you have a vast amount of drive headroom for use with very dynamic signals. The CLIP display should light up only rarely, preferably never. While fine-tuning, the equalizer should be set to neutral.

LOW CUT Additionally, the mono channels of the mixing consoles have a high-slope LOW CUT filter for eliminating unwanted, low-frequency signal components (75 Hz, 18 dB/octave). Fig. 2.3: Aux Send control MON and FX in the channel strips Monitor and effects busses (AUX sends) source their 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 (for monitoring applications: MON OUT) and then routed, for example, to an active monitor speaker or external effects device. In the latter case, the effects return can then be brought back into the console via the aux return connectors. All monitor and effects busses are mono, are tapped into post EQ and offer amplification of up to +15 dB. Pre-fader/post-fader When using effects on a channel signal, it is usual to have the aux send post fader so that the balance between effect and dry signal stays constant even when the channel fader is altered. If this were not the case, the effects signal of the channel would remain audible even when the channel fader is turned all the way down. For monitoring, the aux sends are generally pre-fader, i.e. they operate independently of the position of the channel fader. PRE When the PRE switch is pressed down, the associated aux send is taken pre-fader. FX The aux send marked FX offers a direct route to the built-in effects processor and is therefore post-fader and post-mute. Please refer to chapter 4 DIGITAL EFFECTS PROCESSOR for detailed information.

2.1.2 Equalizer All mono input channels have a 3-band equalizer with semiparametric mid bands. All bands provide boost or cut of up to 15 dB. In the central position, the equalizer is off (flat).

The circuitry of the British EQs is based on the technology used in the best-known top-of-the-line consoles and providing a warm sound without any unwanted side effects. The result are extremely musical equalizers which, unlike simple equalizers, cause no side effects such as phase shifting or bandwidth limitation, even with extreme gain settings of 15 dB. + If you are using the built-in effects processor, make sure that STEREO AUX RETURN 3 has nothing plugged into it (2442FX and 2222FX), otherwise the internal effects return will be muted. This is not relevant if you use the FX OUT jack to drive an external effects device. 1622FX and 1832FX: On these consoles, the above note refers to the STEREO AUX RETURN 2 jacks as these models do not have a dedicated effect output. + Fig. 2.2: Equalizer of the input channels The upper (HIGH) and the lower (LOW) bands are shelving filters that increase or decrease all frequencies above or below their cut-off frequency. The cut-off frequencies of the upper and lower bands are 12 kHz and 80 Hz respectively. For the mid range, the console features a semi-parametric equalizer with a filter quality (Q) of 1 octave, tunable from 100 Hz to 8 kHz.

Use 6 2. CONTROL ELEMENTS AND CONNECTORS XENYX 1622FX/1832FX/2222FX/2442FX 2.1.4 Routing switch, PAN, SOLO and channel fader 2.2 Stereo channels 2.2.1 Channel inputs Fig. 2.4: The panorama and routing controls and the channel fader PAN The PAN control determines the position of the channel signal within the stereo image. When working with subgroups, you can use the PAN control to assign the signal to just one output, which gives you additional flexibility in recording situations.

For example, when routing to subgroups 3 and 4, panning hard left will route the signal to group output 3 only, and panning hard right will route to group output 4 only. MUTE The MUTE switch breaks the signal path pre-channel fader, hence muting that channel in the main mix. The aux sends which are set to post-fader are likewise muted for that channel, while the pre-fader monitor paths remain active irrespective of whether the channel is muted or not. MUTE LED The MUTE LED indicates a muted channel. CLIP-LED The CLIP-LED lights up when the input signal is driven too high.

If this happens, back off the TRIM control and, if necessary, check the setting of the channel EQ. SOLO The SOLO switch 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 listen to a channel signal without affecting the main output signal.

The signal you hear is taken either before the pan control (PFL, mono) or after the pan and channel fader (Solo, stereo) (cf. chap.

2.3.10 Level meters and monitoring). SUB (1-2 and 3-4) The SUB switch routes the signal to the corresponding subgroups. The 2442FX has 4 subgroups (1-2 and 3-4). MAIN The MAIN switch routes the signal to the main mix bus. The channel fader determines the channels volume in the main mix (or submix). Fig. 2.5: The various stereo channel inputs Each stereo channel has two balanced line level inputs on jacks for left and right channels.

Channels 9/10 and 11/12 on the 2442FX feature an additional XLR microphone jack with phantom power. If only the left jack (marked L) is used, the channel operates in mono. The stereo channels are designed to handle typical line level signals, and, depending on model, have a level switch (+4 dBu or -10 dBV) and/or a line TRIM control. Both jack inputs will also accept unbalanced connectors. LOW CUT and MIC TRIM These two control elements operate on the XLR connectors of the 2442FX, and are used to filter out frequencies below 75 Hz (LOW CUT) and to adjust microphone levels (MIC TRIM). LINE TRIM Use this control to adjust the line signal levels on channels 13-16 (2442FX only). LEVEL For level matching, the stereo inputs on the 1622FX, 1832FX and 2222FX have a LEVEL switch to select between +4 dBu and -10 dBV. At -10 dBV (homerecording level), the input is more sensitive than at +4 dBu (studio level). 2.2.

2 Equalizer stereo channels The stereo channels contain a stereo EQ section. The cut-off frequencies of the high and low bands are 12 kHz and 80 Hz respectively, while the center frequencies of the high-mid and low-mid bands are 3 kHz and 500 Hz respectively. The HIGH and LOW controls have the same characteristics as the EQ in the mono channels. Both mid range bands are of the peak filter type. A stereo EQ is superior to two mono EQs on a stereo signal as two separate EQs will usually result in a discrepancy between left and right channels.

2.2.3 Aux sends stereo channels In principle, the aux sends of the stereo channels function the same way as those of the mono channels. As the aux sends are mono, the send from a stereo channel is first summed to mono before it reaches the aux bus.



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CONTROL ELEMENTS AND CONNECTORS 7 XENYX 1622FX/1832FX/2222FX/2442FX 2.2.4 Routing switch, solo and channel fader + If you want to monitor the signal of just one AUX bus, none of the other SOLO SWITCHES should be pressed and the MODE switch should be in the SOLO position (not depressed). 2.3.2 Aux send jacks Fig. 2.6: Balance control and mute switch BAL The BAL(ANCE) control has a similar function to the PAN control in the mono channels. The balance control determines the levels of the left and right input signals relative to each other before both signals are routed to the left/right main mix bus (or odd/even subgroup). The remaining control elements in the stereo channels perform the same functions as their counterparts in the mono channels (MUTE switch, MUTE and CLIP LEDs, SOLO switch, SUB and MAIN switches and channel fader).

Fig. 2.8: Aux send jacks AUX SEND jacks The AUX SEND jack should be used when hooking up a monitor power amp or active monitor speaker system. The relevant aux path should be set pre-fader. 2.3 Interface panel and main section Where it was useful to trace the signal flow from top to bottom in order to gain an understanding of the channel strips, we now look at the mixing console from left to right. The signals are, so to speak, collected from the same point on each of the channel strips and then routed to the main section all together. + On the 2222FX, aux send 1 is hard wired as pre-fader and hence called MON. Model 1832FX has a dedicated monitor output (MON OUT jack), cf. chapter 2.

3.4. 2.3.1 MON control, aux sends 1, 2 and 3 (FX) Turning up the AUX 1 control in a channel routes the signal to the aux send bus 1. As already mentioned, the aux sends in the channels if set post-fader can be used to connect to external effects devices. AUX SEND (FX) The AUX SEND (FX) jack carries the master aux mix (from the channels FX controls). You can connect this to an external effects device to process the FX bus. The processed signal can then be brought from the effects device back into the STEREO AUX RETURN jacks. + As the 1832FX is equipped with an additional monitor path, its first aux control in the channel strips is named MON.

The console also has a dedicated master fader (MON SEND) for this aux path. AUX SEND 1, 2 and 4 The AUX SEND 1 control governs the master send level of the mix created by the individual channel AUX 1 sends. Likewise, the AUX SEND 2 control is the master control for the aux 2 bus, and AUX SEND 4 controls the AUX 4 bus. 2.3.3 Stereo aux return connectors Fig. 2.9: The aux return connectors + On the 2222FX, 1832FX and 1622FX the STEREO AUX RETURN jacks are located on the front panel of the unit. STEREO AUX RETURN The STEREO AUX RETURN 1 jacks generally serve as the return for the effects mix (created using the post-fader aux sends) by connecting the output of an external effects device. If only the left jack is connected, the AUX RETURN is automatically switched to mono.

Fig. 2.7: The AUX SEND controls of the main section! AUX SEND 3 (FX) The FX control determines the signal level for effects processing, i.e. regulates the level to an external (or the internal) effects device. 1622FX and 1832FX: On these consoles, this function is performed by the AUX SEND 2 control (FX). SOLO You can use the SOLO switch to separately monitor the aux sends via the CONTROL ROOM/PHONES outputs and check these with the level meters. + You can also use these jacks as additional line inputs. All stereo aux returns are balanced, but can of course also be used with unbalanced connectors. If you use an aux send for monitoring, the associated unused stereo aux returns are available for other line level signals (e.

g. keyboards). + A signal fed into the stereo return jacks can be output via an aux send jack. More information on this can be found in chapter 2.3. 5 STEREO AUX RETURN 1/2 (TO AUX SEND). STEREO AUX RETURN FX The STEREO AUX RETURN FX jacks accept the effects mix 8 2. CONTROL ELEMENTS AND CONNECTORS XENYX 1622FX/1832FX/2222FX/2442FX return (created using the channel FX sends). If these jacks are already in use as additional inputs, you can route the effects signal back into the console via a different channel. The advantage of this is that you can now use that channels EQ on the effects return signal.

+ + In this instance, the FX control of the channel being used as an effects return should be turned fully counterclockwise, otherwise feedback problems could occur! If you wish to use the internal effects processor, do not plug any connectors into the STEREO AUX RETURN FX jacks, unless you want to tap the processed signal via the FX OUT (2222FX and 2442FX only). 2.3.4 The monitor section of the 1832FX One of the ways that the 1832FX differs from the other models of this series is that it has a separate monitor output. Fig. 2.12: Stereo aux return and stereo aux return (to aux send) controls STEREO AUX RETURN 1/2 (TO AUX SEND) The two right-hand STEREO AUX RETURN controls have a special function: they can be used to add an effect to a monitor mix. An example follows (1622FX wired to an effects device): Monitor mix with effect In this instance, your effects device should be set up as follows: the AUX SEND 2 jack should be connected to the L/Mono input of your effects device, with its outputs coming back into the STEREO AUX RETURN 1 jacks. Fig. 2.

10: Monitor output of the 1832FX The first aux send (MON) on this console is used to set up the monitor mix from the channels and route it to the MON SEND fader. Connect the AUX SEND 1 jack output to the amplifier of your monitor system. The AUX SEND 1 master control determines the overall volume of the monitor mix. @@@@connectors MONITOR switch of the FX/AUX! RET !!!AY Fig. @@@@STEREO AUX STEREO AUX RETURN connectors RETURN (TO AUX ! SEND) control !###AY AUX SEND ! @@@@connectors Tab. @@@@The LED lights up when Solo is on. @@@@Use the SURROUND control to determine the intensity of this effect. @@@@Additionally, the filter seizes only the middle of the stereo image, exactly there where the vocals are typically located. 2.3.

6 Supplement to 1832FX The 1832FX has a stereo fader for the AUX RETURN FX and offers a variety of routing options: MUTE disables the effect return (but not PFL of course!), SOLO routes it to the Solo or PFL busses, SUB to the subgroups and MAIN to the main mix. + Connect the signal sources you wish to process using the Voice Canceller to the CD/TAPE INPUT connectors. The Voice Canceller circuitry is not available for other inputs. Possible applications for the Voice Canceller are obvious: you can very simply stage background music for Karaoke events. Of course, you can also do this at home or at your rehearsal room before you hit the stage.

Singers with their own band can practice singing difficult parts using a complete playback from a tape player or a CD, thus minimizing rehearsal time. 2.3.8 CD/Tape input, CD/tape output Fig.



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13: The FX/AUX 2 return fader of the 1832FX MON The MON switch routes the signals appearing at the AUX RETURN 2 jacks to the monitor path, along with the monitor signals from the channels. If you wish to route the effect signal to the monitor mix, you can also switch aux 1 to pre-fader, drive the effect device from the aux 1 output and return the effect signal via AUX RETURN 2 to the monitor signal. Fig. 2.15: 2-track connectors and lamp socket CD/TAPE INPUT The CD/TAPE INPUT jacks (RCA) are designed to accept a 2-track recorder (e.g. DAT recorder), or they can be used as stereo line input. The output signal of a second XENYX or the BEHRINGER ULTRALINK PRO MX882 can also be connected here. If you connect the output of a hi-fi amplifier (with a source selection switch) to the CD/TAPE INPUT, you can easily listen to additional sources (e.g.

cassette recorder, MD player, sound card, etc.). Using the voice canceller function (1832FX only), you can process all signals being brought into your mixing console via these connectors. CD/TAPE OUTPUT These connectors are wired in parallel to the MAIN OUT and carry the main mix signal (unbalanced).

Connect this to the inputs of your recording device. The final output level can be adjusted 10 2. CONTROL ELEMENTS AND CONNECTORS XENYX 1622FX/1832FX/2222FX/2442FX via the high-precision MAIN MIX fader. + If you connect a compressor or a noise gate post 2-track output, the main mix fader will probably not be able to create a satisfactory fade-out effect. LEVEL SETTING: When recording to digital recorders, the recorders meter should not go into overload. This is because, unlike analog recordings, it takes only slightly excessive levels to create unpleasant digital distortion.

When recording to analog, the VU meters of the recording machine should reach approx. +3 dB with low-frequency signals (e.g. kick drum). Due to their inertia, VU meters tend to display too low a signal level at frequencies above 1 kHz.

You should only drive instruments such as a Hi-Hat as far as -10 dB. Snare drums should be driven to approx. 0 dB. 2.3.

9 Lamp socket (2442FX only) Use this BNC socket to connect a gooseneck lamp (12 V DC, max. 0.5 A). 2.3.10 Level meter and monitoring + The peak meters of your XENYX display level almost independent of frequency. A recording level of 0 dB is recommended for all types of signal. MODE The MODE switch determines whether the channels SOLO switch operates as PFL (Pre Fader Listen) or as solo (Solo In Place). PFL (LEVEL SET) To activate the PFL function, press the MODE switch. The PFL function should, as a rule, be used for level setting (TRIM).

The signal is sourced pre-fader and assigned to the mono PFL bus. In PFL mode, only the left side of the peak meter is in operation. A PFLd channel should be driven to the 0 dB mark of the VU meter. SOLO (NORMAL) When the MODE switch is not depressed, the stereo solo bus is active. Solo is actually short for Solo In Place. This is the customary method for listening to an individual signal or to a group of signals. As soon as a solo switch is pressed, all channels not solo selected are muted in the monitor path (control room and phones). A channels position in the stereo image is maintained. The solo bus carries the output signals of the channel pan controls, the aux sends and the stereo line inputs. On the 2442FX all aux returns, and on the 1832FX only aux return 2 can be routed to the solo bus.

The solo bus is, as a rule, taken postfader. Fig. 2.16: Control room and phones sections of the 2442FX CD/TAPE The CD/TAPE switch routes the signal from the CD/TAPE INPUT jacks to the level meter, the CONTROL ROOM OUT outputs and the PHONES jack this is a simple way to check recorded signals via monitor speakers or headphones. SUB 1-2 or SUB The SUB 1-2 switch routes subgroup 1-2 to the level meter, CONTROL ROOM OUT and phones.

SUB 3-4 The SUB 3-4 switch performs a similar function for subgroup 3-4 (2442FX only). MAIN MIX The MAIN MIX switch sends the main mix to the CONTROL ROOM OUT and the PHONES output as well as to the level meter. PHONES/CTRL ROOM Use this control to adjust the control room output level and the headphones volume. CD/TAPE TO MAIN When the CD/TAPE TO MAIN switch is depressed, the 2-track 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 signals 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. +48 V The red +48 V LED lights up when phantom power is switched on. Phantom power is required to operate condenser microphones. + 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 position in the stereo panorama. If the PAN control is moved fully left or right, the level in that channel increases by 4 dB. This ensures that, when set at the center of the stereo image, the audio signal does not appear louder. For this reason, with the solo function activated (Solo in Place), audio signals from channels with PAN controls that have not been moved fully left or right are displayed at a lower volume than in the PFL function. As a rule, solo signals are monitored via the control room outputs and headphones jack and are displayed by the level meters.

If a solo switch is pressed, the signals from the tape input, the subgroups and the main mix are cut from these outputs and the level meter. MAIN SOLO The MAIN SOLO LED lights up as soon as a channel or aux send solo switch is pressed. The MODE switch must be set to Solo. PFL (LEVEL SET) The PFL (LEVEL SET) LED indicates that the peak meter is set to PFL mode. + While phantom power is switched on, do not connect or disconnect microphones on the mixer (or the stagebox/wallbox). Connect any microphones before switching on phantom power. Additionally, monitor/PA speakers should be muted before you activate the phantom power supply. After switching on, wait approx. one minute before adjusting the input gain so that the system has time to stabilize.

LEVEL METER The high-precision level meters always give you an accurate display of signal level.

Fig. 2.17: PHONES jack 2. CONTROL ELEMENTS AND CONNECTORS 11 XENYX 1622FX/1832FX/2222FX/2442FX PHONES jack You can connect headphones to this 1/4" stereo jack (2442FX: 2 phones jacks). The signal routed to the PHONES connection is the same as that routed to the control room output.

FBQ FEEDBACK DETECTION The switch turns on the FBQ Feedback Detection System. It uses the LEDs in the frequency band faders to indicate the critical frequencies. On a per-need basis, lower the frequency range in question somewhat in order to avoid feedback. The graphic stereo equalizer has to be turned on in order to use this function. 2.

3.11 Subgroups and main mix fader You use the high-precision quality faders to control the output level of the subgroups and the main mix.



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LEFT/RIGHT switch The switches located above the subgroup faders assign the subgroup signal either to the left or right side of the main bus. Similarly, it can be routed to both sides or none at all. In the latter case, the submix is present only at the corresponding subgroup outputs. + Logically, at least one (ideally several) microphone channels have to be open for feedback to occur at all! Feedback is particularly common when stage monitors (wedges) are concerned, because monitors project sound in the direction of microphones. Therefore, you can also use the **FBQ Feedback Detection** for monitors by placing the equalizer in the monitor bus (see **MAIN MIX/MONITOR**). 4. **DIGITAL EFFECTS PROCESSOR 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.

Use the **Aux Send FX** on the channels and the **Aux Send FX** master control to determine the input signal of the effects processor. Fig. 2.18: Subgroup and main mix faders Fig. 4.1: Digital effects module 3. **GRAPHIC 9-BAND EQUALIZER (1832FX only)** The built-in stereo effects processor has the advantage that it does not need to be wired up. This excludes the danger of humming or level mismatch right from the start and thus considerably facilitates use. These effect presets are classical mixing effects. If you move the **STEREO AUX RETURN FX** control, you mix the channel signal (dry) and the effect signal. You can control the balance between the two signals with the channel fader and the **STEREO AUX RETURN FX** control. **FX OUT** Mixing consoles 2222FX and 2442FX have a separate output for the effects device, which is unbalanced and stereo (tip = left signal; ring = right signal; sleeve = ground/shielding). Thus, you can record, for example, a vocal track enhanced with reverb in parallel to a dry vocal track; when doing the mix-down later on, you can freely determine the amount of reverb added. Fig. 3.

1: The graphic stereo equalizer of the 1832FX The graphic stereo equalizer allows you to tailor the sound to the room acoustics. **EQUALIZER** Use this switch to activate the graphic equalizer. **MAIN MIX/MONITOR** This toggles the graphic equalizer between the main mix and the monitor mix. With the switch up (not depressed), the equalizer is active in stereo on the main mix, and inactive on the monitor mix. When the switch is depressed the equalizer is active in mono on the monitor mix, and inactive on the main mix.

+ The 2442FX has the effect output on the rear, 2222FX **FX FOOTSW**. Connect a standard foot switch to the foot switch jack and use this to switch the effects processor on and off. A light at the bottom of the display indicates whether the effects processor has been muted by the foot switch. It is located next to the aux sends on the front panel. + In Chapter 6.2 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 12.4. **DIGITAL EFFECTS PROCESSOR XENYX 1622FX/1832FX/2222FX/2442FX** 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.

PROGRAM You can select the effect preset by turning the **PROGRAM** control. The display flashes with the number of the current preset. To recall the selected preset, press on the button; the flashing stops. You can also recall the selected preset with the foot switch. machine so that you have 2 x 4 tracks available (e.g. channel 1 to track 1 and 2, etc.). In the first pass, you can record the tracks 1, 3, 5 and 7, in the second the tracks 2, 4, 6 and 8. The **XENYX 2442FX** already has subgroup outputs wired in parallel (1-5, 2-6, etc.

). 5.3 Inserts 5. **REAR PANEL CONNECTORS 5.1** Main mix outputs, insert points and control room outputs Fig.

5.3: Insert points + On the 2442FX the channel insert points are located Insert points are very useful to process channel signals with dynamic processors or equalizers. Unlike reverb or other effects devices, whose signals are usually added to the dry signal, dynamic processors are most effective on the complete signal. In this case, aux send paths are a less-than-perfect solution. It is better to interrupt the signal path and insert a dynamic processor and/or equalizer. After processing, the signal is routed back to the console at precisely the same point it left. However, the channel signal path is interrupted only if a plug is inserted into the corresponding jack (stereo phone plug: tip = signal output; ring = return input). All mono input channels are equipped with inserts. They are pre-fader, pre-EQ and pre-aux send. Inserts can also be used as pre-EQ direct outputs, without interrupting the signal path. To this end, you will need a cable fitted with mono phone plugs on the tape machine or effect device end, and a bridged stereo phone plug on the console side (tip and ring connected). on the control panel between the line input and the **TRIM** control. Fig. 5.1: Main Mix outputs, main mix insert points and control room outputs **MAIN OUTPUTS** The **MAIN** outputs carry the **MAIN MIX** signal and are on balanced XLR jacks with a nominal level of +4 dBu.

In parallel with this, 1/4" phone jacks carry the main mix signal in a balanced format (1622FX: here, the phone jack outputs are unbalanced and located on the front panel). **CONTROL ROOM OUTPUTS (CTRL OUT)** The control room output is normally connected to the monitoring system in the control room and carries the stereo mix or, when selected, the solo signals. **MAIN INS(ERTS)** (2442FX only) These are the insert points for the main mix. In the signal path, they are post-main mix amp, but pre-main fader(s). Use them to insert, for example, a dynamics processor or graphic equalizer. Please also note the information on insert points in chapter 5.3. 5.4 Direct outputs (2442FX only) Fig. 5.

4: Direct outputs **DIRECT OUTPUTS** The direct outputs of the 2442FX (1 each per mono input channel) are ideal for recording if several tracks are to be recorded simultaneously. These unbalanced phone jacks are post-EQ, post-mute and post-fader. 5.2 Subgroup outputs 5.5 Voltage supply, phantom power supply and fuse Fig.

5.2: Subgroup outputs **SUB OUTPUTS** The subgroup outputs are unbalanced and provide the mix of those channels assigned to each subgroup with the **SUB** switch (2442FX: switches 1-2 or 3-4) next to the channel faders. Thus, you can, for example, route a subgroup to a second console or use the output as a recording output in parallel to the main outputs. In this way, you can record several tracks simultaneously. With an 8-track recorder, use Y cables and wire the inputs of your Fig.

5.5: Voltage supply and fuse **FUSE HOLDER/IEC MAINS RECEPTACLE** The console is connected to the mains via the cable supplied, 5. **REAR PANEL CONNECTORS 13 XENYX 1622FX/1832FX/2222FX/2442FX** which meets the required safety standards.



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Blown fuses must only be replaced by fuses of the same type and rating. The mains connection is made via a cable with IEC mains connector. An appropriate mains cable is supplied with the equipment. POWER switch Use the POWER switch to turn on the mixing console. The POWER switch should always be in the Off position when you are about to connect your unit to the mains. To disconnect the unit from the mains, pull out the main cord plug. When installing the product, ensure that the plug is easily accessible.

If mounting in a rack, ensure that the mains can be easily disconnected by a plug pull or by an all-pole disconnect switch on or near the rack. + Attention: The POWER switch does not fully disconnect the unit from the mains. Unplug the power cord completely when the unit is not used for prolonged periods of time. Fig. 6.1: Foot switch connector 6.2.1 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 use stereo plugs to link the ring and shaft (or pins 1 & 3 in the case of XLR connectors).

PHANTOM switch The PHANTOM switch activates the phantom power (necessary to operate condenser microphones) on the XLR sockets of the mono channels. The red +48 V LED illuminates when phantom power is on. As a rule, dynamic microphones can still be used with phantom power, provided that they are wired in a balanced configuration. In case of doubt, contact the microphone manufacturer! + Connect microphones before you switch on the phantom power supply. Please do not connect microphones to the mixer (or the stagebox/ wallbox) while the phantom power supply is switched on. 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. Caution! Please also note the information given in chapter 6.2.

Audio connections. Fig. 6.2: XLR connections + SERIAL NUMBER Please note the important information on the serial number given in chapter 1.3.3. + 6. INSTALLATION 6.1 Rack mounting The packaging of your mixing console contains two 19" rack mounts for installation on the side panels of the console.

Before you can attach the rack mounts to the mixing console, you need to remove the screws holding the left and right side panels.

Then, use these screws to fasten the two rack mounts, each specifically to one side. With the rack mounts 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. Caution! You must never use unbalanced XLR connectors (PIN 1 and 3 connected) at the MIC input jacks if you want to use the phantom power supply. + Only use the screws holding the mixing console side panels to fasten the 19" rack mounts. Fig. 6.3: 1/4" mono plug 6.2 Cable connections You will need a large number of cables for the various connections of the console. The illustrations below show the wiring of these cables.

Be sure to use only high-grade cables. 14 6. INSTALLATION XENYX 1622FX/1832FX/2222FX/2442FX Fig. 6.4: 1/4" stereo plug Fig.

6.5: Insert send/return stereo plug Fig. 6.6: Stereo plug for headphones connection 6. INSTALLATION 15 XENYX 1622FX/1832FX/2222FX/2442FX 7. SPECIFICATIONS 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 1622FX only: Impedance Max. output level XLR, electronically balanced and 1/4" TRS balanced 1/4" TS connector unbalanced approx. 240 W symm. / 120 W unbalanced +28 dBu +22 dBu (1622FX) Control room outputs Type Impedance Max. output level Headphones outputs Type Max. output level DSP Converter Sampling rate 1/4" TS connector unbalanced 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) 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 Low Mid High Mid High Aux sends Type Impedance Max.

output level Stereo aux returns Type Impedance Max. input level 24-bit Sigma-Delta, 64/128-times oversampling 40 kHz 1/4" TRS connector electronically balanced approx. 20 kW balanced 10 kW unbalanced -10 to +40 dB 30 dBu Main mix system data 2 Noise Main mix @ -∞, Channel fader @ -∞ Main mix @ 0 dB, Channel fader @ -∞ -101 dB -100 dB (2442FX) -93 dB -96 dB (1622FX) -87 dB (2442FX) -81 dB -83 dB (1622FX) -80 dB (2442FX) 90 dB 89 dB 89 dB Main mix @ 0 dB, Channel fader @ 0 dB +0 dB / -1 dB +0 dB / -3 dB Power supply Mains voltage Power consumption 1/4" TRS connector, electronically balanced approx. 20 kW +22 dBu Fuse Mains connection Physical 1622FX Dimensions (H x W x D) 1832FX / 2222FX Dimensions (H x W x D) 2442FX Dimensions (H x W x D) 100 to 240 V~, 50/60 Hz 37 W (1622FX) 43 W (1832FX) 46 W (2222FX) 47 W (2442FX) 100 - 240 V ~: T 1.6 A H 250 V

Standard IEC receptacle 80 Hz / 15 dB 100 Hz - 8 kHz / 15 dB 12 kHz / 15 dB approx. 3 7/8" x 11 7/8" x 13 7/8" (97 mm x 301mm x 351mm) approx. 3 7/8" x 16 1/16" x 14 1/16" 80 Hz / 15 dB 500 Hz / 15 dB 3 kHz / 15 dB 12 kHz / 15 dB (97 mm x 408 mm x 367 mm) approx. 5 3/8" x 16 1/2" x 17 1/4" (136 mm x 418 mm x 438 mm) 1/4" TS connector, unbalanced approx. 120 W +22 dBu Weight (net) 1622FX approx. 3.

3 kg 1832FX approx. 4.7 kg 2222FX approx. 4.8 kg 2442FX approx. 5.9 kg Measuring conditions: 1: 2: 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. 1/4" TRS connector, electronically balanced approx. 20 kW bal. / 10 kW unbal. +22 dBu 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 illustrated.



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16 7. SPECIFICATIONS XENYX 1622FX/1832FX/2222FX/2442FX 8. 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.

BEHRINGER (BEHRINGER International GmbH including all BEHRINGER subsidiaries listed on the enclosed page, except BEHRINGER Japan) warrants the mechanical and electronic components of this product to be free of defects in material and workmanship for a period of one (1) year* from the original date of purchase, in accordance with the warranty regulations described below. If the product shows any defects within the specified warranty period that are not excluded from this warranty as described under 5, BEHRINGER shall, at its discretion, either replace or repair the product using suitable new or reconditioned parts. In the case that other parts are used which constitute an improvement, BEHRINGER may, at its discretion, charge the customer for the additional cost of these parts. 2. If the warranty claim proves to be justified, the product will be returned to the user freight prepaid. 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. @ @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 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. * Customers in the European Union please contact BEHRINGER Germany Support for further details. Technical specifications and appearance subject to change without notice. The information contained herein is correct at the time of printing. The names of companies, institutions or publications pictured or mentioned and their respective logos are registered trademarks of their respective owners. Their use neither constitutes a claim of the trademarks by BEHRINGER nor affiliation of the trademark owners with BEHRINGER. BEHRINGER accepts no liability for any loss which may be suffered by any person who relies either wholly or in part upon any description, photograph or statement contained herein. Colours and specification may vary slightly from product. Products are sold through our authorised dealers only.

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