

THS Pc /THS Pr Talkback Headphone System

The THS-P is an all-in-one producer station. The THS-P is configured with a microphone and headset input, 2 Program inputs, a talkback input, 4 IFB outputs, and connections for use with intercom belt packs, all controlled with a user selectable bank of pushbuttons.

Talkback input receives talkback audio from the main mix console or other satellite units. The talkback input is routed into the headphone mix with the option of sending it down the RTS belt pack system (Switch 5).

Program 1 in is routed along the IFB lines and headphone out. Program 1 is ducked by the Microphone input on IFB lines with individual level and ducking control available for each line. Program 1's level and pan in the headphones can be adjusted by the two Controls on the front of the unit.

Program 2 in is summed with the B/P audio input and is available through headphones or the IFB lines by switching on switch #6 on the back

The mic input allows for the use of any headset or standalone microphone, with phantom or T power available through the recessed front switch. The microphone has an inline limiter available with user selectable ratio of 4:1 or ∞ :1, and is routed through each IFB line and the headphone out. The microphone level in headphones can be adjusted by the Mic to phones Level and Pan controls on the front of the unit.

The Belt Pack i/o allows for the full connection into the RTS intercom system, allowing for an audio input from the system into the unit, as well as sending the microphone and external talkback into the RTS system, allowing for full compatibility with the existing intercom system. The signal from the B/P can be routed in a myriad of ways, with the dip switches on the unit allowing for the B/P to feed headphones, IFB lines, and even duck Program 1/Mic in your headphone mix. Individual levels into the B/P system can be controlled using the trim pots on the back of the unit.

Audio can be sent to any IFB line with the simple press of the corresponding button, or sent out to all IFB lines with the ALL TALK button. Each IFB line outputs its own mix of Pgm.

Introduction

Thank you for selecting the Whirlwind THS-P. The THS-P comes complete with a microphone input, a full featured connection into a beltpack intercom system, 2 program inputs, and 4 IFB lines, allowing you to stay in constant communication with your team across any setting, small or large. The THS-P comes with the choice of using a standard 4 pin headset or separate microphone and headphones, with full control over the mix and panning. Individually controlled ducking is available on each IFB line, as well as a limiter on the mic input to ensure your voice comes in loud and clear. Further, DIP switches around the unit allow endless customizability, allowing you to dictate routing, switch behavior, and much more in order to best fit the THS-P into your current intercom system.

Unpacking

Whirlwind has made every effort to ensure that your equipment is received in the same perfect condition it was when it left the factory. Please inspect your product for any signs of damage during shipment and report them to your dealer so that a claim can be made to the shipper. We recommend saving the packing material in the unlikely event that you need to return your equipment for service.

Theory of Operation

The THS-P has a single mic input, two mono line program inputs, a mono talkback input, four transformer-balanced IFB outputs, a 1/4" and 3.5mm headphone output, a four-pin headset input, and a four-pin connector to access an intercom system through the belt pack.

The microphone input accepts any standard 3 pin microphone, with phantom or "T" power available through the three-position switch next to the input. The microphone input has an initial gain stage of +20 dB, with an additional 20dB – 40dB of gain available through the adjustment pot on the back of the unit. The microphone then goes through a switchable brickwall limiter, who's threshold can be selected from -6dB to +4dB through the dip switches on the back. The post-limited mic level can be viewed (in VU) on the bottom three LEDs of the "IFB Mic Level" meter, with the top LED illuminating when the limiter is engaged. The mic level into IFB 1-4 can be adjusted using the "Mic to IFB Level" pot on the back of the unit. The mic level into the intercom system can be similarly adjusted though the "Mic to B/P" pot.

The 6 buttons on the front of the unit control the microphone routing. All six buttons feature our silent switch technology, eliminating any pops or clicks when pressed. The Beltpack button sends microphone audio into the connected intercom system. The four IFB buttons send audio to the respective lines when the button is depressed, with the "All Talk" button routing through all IFB lines simultaneously. The beltpack and IFB buttons can be configured to a momentary or latching action with the DIP switch on the back of the unit. When latching is enabled on the IFB lines, the "All Talk" button functions as a flip, muting any open lines and opening any muted lines.

The Program 1 input is a balanced, mono line input with -60 to +10dB of gain available through the "PGM 1 to IFB Level" pot on the back. Additionally, the level of the program audio can be individually controlled for each IFB line with the respective "IFB X Program Level" adjustment pot. The program feed

can also be ducked by the microphone input on each IFB line, with the level of ducking being controlled by the respective "IFB X Program Duck" adjustment pot. The adjustable ducking goes from 0dB, or no change, all the way down to -80dB at full ducking, effectively acting as a mute.

The Talkback input allows for a talkback feed from the main console or other satellite units. The level of the talkback input can be monitored through the 3 segment LED stack on the front of the unit. The talkback feed can also be sent into the intercom system by selecting the "TB to B/P" dip-switch on the back, with its level being controlled by the "Talkback to B/P Level" pot on the back.

The Beltpack Headset I/O Jack is used to connect the THS-P to an intercom beltpack, giving the user the ability to tie the THS-P into an existing intercom system. The audio from the beltpack is summed with the program 2 input, and is available throughout the unit as the B/P audio feed. By pressing the beltpack mic on button, the THS-P microphone feed is sent into the intercom.

The Program 2 input is a balanced, mono line input that is summed with the audio feed from the intercom system.

The B/P audio can be routed into the main IFB lines using the "Beltpack to IFB" dipswitch, with its level controlled by the "B/P to IFB" pot on the back of the unit. This signal is then summed (post-fader) with the Program 1 feed, where it is then sent along each IFB line. Additionally, switching the "B/P Priority" dipswitch on the back enables a -15dB ducking circuit on the Pgm 1 and microphone feed on headphones, enabling the B/P feed to be better heard by the user.

The headphone section of the THS-P has three external outputs, a 1/4" and 3.5mm TRS jack feed the stereo signal, While the 4 Pin headset jack will only feed the left channel audio. The headphone mix can be controlled using the pots on the front of the unit. Full left/right panning for program one and the microphone monitor are available, as well as a user selectable assignment switch for the talkback and B/P feeds. Lastly, the Headphone Master controls the overall headphone volume. Switching the "Headphone Dim" dipswitch enables a separate -15dB ducking circuit on the master headphone out that is triggered whenever one of the Mic routing switches is depressed. The headphone amplifiers are designed to deliver powerful, undistorted audio that can be heard over an arena full of screaming fans. Headphones with impedances ranging from 30 to 600 Ohms can be driven to full volume. Most announcer headsets fall between 100 and 600 Ohms.

Power is supplied by a 12 VAC 1A power adapter, included with the unit. A front panel green LED indicates that power is on.

- 1) **Beltpack Mic On Switch** (Latching) sends the microphone to the beltpack output. Can be switched to momentary with the setup selector
- 2) **All Talk Switch** (momentary) sends the microphone to all four IFB outputs. Can be switched to latching with the setup selector. When set to latching, **All Talk** flips the state of each IFB Switch
- 3) **IFB Mic On Switch** (Momentary) sends the microphone to the selected IFB output. Can be switched to latching with the setup selector.
- 4) **4 pin Headset** accepts any standard, four-pin mono announcer headset. Pin 1 is mic ground, pin 2 is mic hot, pin 3 is phones, and pin 4 is audio ground. Only the left headphone channel is passed.
- 5) **CNDNSR (Condenser) Power** switch can be used to select either Phantom (PHTM) or T power for active microphones. The switch is recessed to prevent accidental switching
- 6) **Mic Input** is a balanced, mic level XLR connection allowing for either a stand-alone microphone or headset with a breakout to connect to the unit. Phantom or T power can be applied with the Condenser Power Switch. The mic input has 20dB of fixed gain, with an additional 20-40 dB of gain available on the **Mic Preamp Gain**
- 7) **Phones** jacks connect to standalone Headphones or the headset earpieces. Both 1/4" and 3.5mm TRS jacks are provided. Tip is left and Ring is right.
- 8) **TB (talkback) IN LEDs** display the talkback level (in VU) into the unit
- 9) **TB Level** pot controls the volume of the talkback feed into the headphones through a range of -60 to +20dB.
- 10) **TB-B/P to Phones** assignment switch routes the talkback and beltpack audio feed into headphones. Up is on.
- 11) **B/P (Beltpack) Level** pot controls the volume of the beltpack audio feed into the headphones through a range of -60 to +20dB.
- 12) **PGM 1 to Phones** pots control the level and pan of the program 1 feed into the headphones through a range of -60 to +20dB.
- 13) **Mic to Phones** pots control the level and pan of the microphone feed into the headphones through a range of -60 to +20dB.
- 14) **Phones Master** pot controls the overall volume of the headphone output through a range of -60 to +20dB.
- 15) **Power LED** illuminates when device is receiving power (12VAC, 600mA).
- 16) **IFB Out 1-4** are transformer balanced, line level XLR connections. Pin 2 is positive. An internal ground lift switch for each IFB line can be found by removing the bottom cover.
- 17) **Talkback Input** is a balanced, line level XLR input that sends signal to the into the talkback line.
- 18) **Program 1 Input** is a balanced, line level XLR input that sends audio into the program 1 line.
- 19) **Program 2 Input** is a balanced, line level XLR input that is summed with the beltpack input to form the B/P line.
- 20) **Beltpack Headset I/O Jack** is a 4 pin XLR I/O jack that connects the THS-P into an existing intercom system. Audio from the intercom is summed with Program 2 to from the B/P line. Microphone audio is sent into the intercom when Beltpack Mic On switch is depressed.
- 21) **Level From B/P LEDs** display the B/P audio line level in VU.
- 22) **Mic Preamp Gain** pot controls the mic preamp gain through a range of +20 to +40dB.
- 23) **Mic Level LEDs** display the post preamp level of the mic in VU.

- 24) **Mic to B/P** pot controls the level of the microphone sent into the intercom system through a range of -60 to +10dB.
- 25) **Talkback to B/P** pot controls the level of the talkback feed being sent into the intercom system through a range of -60 to +10dB. (Only active when Talkback to Beltpack assignment switch is selected)
- 26) **B/P to IFB** pot controls the level of the B/P audio feed into the IFB Lines through a range of -60 to +10dB. (Only active when Beltpack to IFB assignment switch is selected)
- 27) **Setup Selector Switches**
- a. **IFB PTT Mom/Latching** switches the IFB and All Talk Mic On buttons from momentary to latching. Note: All talk flips the state of each IFB switch in latching mode
 - b. **B/P PTT Mom/Latching** switches the Beltpack Mic On button from momentary to latching.
 - c. **Limiter On/Off** switches the onboard limiter on and off.
 - d. **Limiter Threshold** switches the limiter threshold from -6dB to +4dB
 - e. **Talkback to Beltpack** switch sends the talkback feed into the intercom system.
 - f. **Beltpack to IFB** switch sums B/P audio line with program 1, sending the B/P line through the IFB outputs.
 - g. **Headphone Dim** switch enables a -15dB ducking circuit on the headphone line whenever a Mic On button is depressed.
 - h. **B/P Priority** switch enables a -15dB ducking circuit on the microphone and program 1 headphone lines triggered by the B/P line.
- 28) **Program to IFB Level** pot controls the input gain for program 1 through a range of -60 to +10dB.
- 29) **IFB Program Level LEDs** display the level of the program feed (in VU) into the IFB lines. Shows summed level of Program 1 and B/P if Beltpack to IFB switch is enabled
- 30) **IFB Mic Level LEDs** display the level of the microphone (in VU) into the IFB lines on the bottom three LEDs. The top "Limit" LED illuminates when limiting circuit is active.
- 31) **Mic to IFB 1-4 Level** pot controls the level of the microphone into the IFB lines through a range of -20 to +20dB.
- 32) **IFB 1-4 Program level** pots control individual level into the IFB lines through a range of -60 to +10dB. **Duck** pots control the level of ducking triggered by the microphone.
- 33) **Chassis GND/LIFT** switch can reduce interference on the audio line. Use LIFT and connect thumbscrew to Earth for maximum RF rejection.
- 34) **Power** jack accepts 12VAC at 600mA on a 2.1mm, center negative barrel plug. Model PS12AC1A power adapter included.