

***TELIKOU*[®] Intercom System**

TM-200 Main Station

Instruction Manual

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I. Introduction

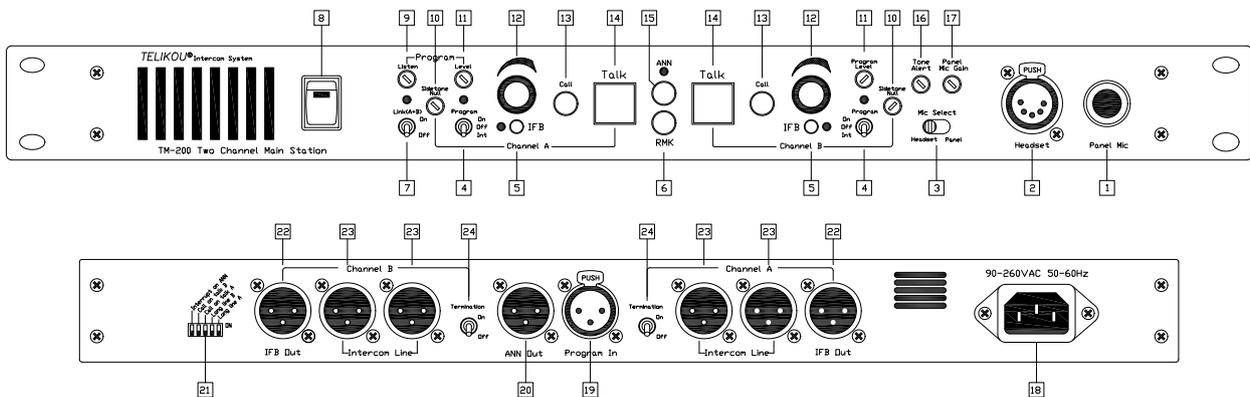
Thank you for choosing TELIKOU intercom product. TM-200 main station is suitable for television station, communication center, UB truck, live performance and any other environment which requires communication. We recommend you read through this manual to better understand the functions of TM-200.

This system adopts wired connection, and has following features, free of external emission interference, stable and reliable performance, flexible configuration, full-duplex communication, clear and loud communication sound, easy operation, and strong noise resistance.

II. Characteristics

- Remote Microphone Kill Switch (RMK).
- IFB function.
- Announcement output
- Controllable background input
- Automatic circuit short protection and indication.
- Supports LED working light
- Supports Dynamic or Electret Goose neck Microphone

III. Basic operations

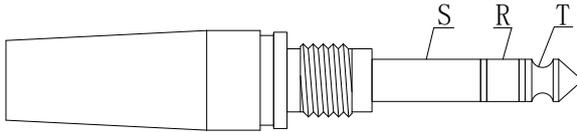


Front Panel

1. Panel Microphone Connector

Ø6.35mm microphone jack can be used as unbalanced dynamic or electrets microphone.

Pin definition is as follow:



S --- Shield

R --- Common

T --- Microphone Hot

2. Headset connector

4-pin XLR Male or 5-pin XLR Female

Earphone: Dynamic 8-300 ohm

Microphone: Dynamic 200 ohm

The wiring of headset is as follow:

Pin 1—Mic. common

Pin 2—Mic. hot

Pin 3—Earphone -

Pin 4—Earphone +

Pin 5—LED working light power supply (Only for TM-200/5)

3. Mic Select Switch

Mic select switch is used to select panel microphone or headset microphone to use.

When select “Panel”, panel microphone and speaker is on. Headset microphone is off.

When select “Headset”, panel microphone and speaker is off. Headset microphone is on.

Note: Headset earphone is always on under both selection.

4. Program Feed Control

Turn the switch up or down will send the external input signal to intercom channel.

ON: Activated channel always receives external program signal.

OFF: External program signal cannot be sent into system.

INT: Activated channel receives external program signal.

It will be interrupted when TALK button is turned on.

5. IFB Button

When IFB button of channel A is pressed, the microphone signal of channel A and B is cut off. Microphone signal is only sent to IFB OUT of channel A. The program audio at IFB OUT of channel A is also cut.

IFB button of channel B is same as channel A.

6. Remote Mic Kill Switch

Microphone on belt pack may forget to be turned off by operators. Noise will disturb the whole intercom system.

The Remote Microphone Kill (RMK) switch will turn off the microphone of every beltpack remotely. If the Talk Functions of a large number of belt packs have inadvertently been left activated, incidental noise and talking can make it difficult or impossible to communicate on the intercom system. The RMK switch can be pressed to quiet the line in this situation.

7. Link Switch (A+B)

When this switch is turned to OFF, Channel A and Channel B are individual.

When this switch is turned to ON, The LED indicator right above this switch will light. Channel A and Channel B are connected to each other. Under this situation, all the user station on Channel B are added to Channel A. And the Channel B controls and switches will be inactive. The Sidetone zero-adjusting for Channel A may required some re-adjustment.

8. Power and Power LED

Power switch and Red LED indication light

9. Program Listen Level Control

This knob is used to adjust the volume level of background program level which heard from earphone and speaker.

10. Sidetone zero-adjusting

The TM-200 uses full-duplex audio in which the talk and listen audio are sent and received on the same line. Thus, when you talk on a channel, you will also here your own voice back in the speaker or earphone. This is called sidetone. Sidetone could cause unwanted feedback, since the microphone may pick up your returned voice audio and re-amplify it. In either of these cases, you should minimize the amount of sidetone.

Typically, different sidetone null settings are needed depending upon whether you are using the gooseneck panel microphone along with the speaker or not. Use one the following procedures to correctly set the sidetone level controls.

A) Sidetone Adjustment Procedure for Gooseneck Microphone with Speaker turned on:

1 Turn on the Mic switch. Set Mic select switch to panel.

2 Turn the level control to a comfortable level.

3 Speak into the microphone while turning the sidetone null control slowly back and forth. There should be a point where your voice (and any accompanying acoustic feedback) is the lowest. This is the null point.

B) Sidetone Adjustment Procedure for Headset:

- 1 Turn on the Mic switch. Set Mic select switch to headset.
- 2 Turn the level control to a comfortable level by having someone talk to you from another station.
- 3 Speak into the microphone while turning the sidetone null control slowly back and forth. There should be a point where your voice (and any accompanying acoustic feedback) is the lowest. This is the null point.

C) System Sidetone Adjustment

- 1 Turn off all the microphones on sub-stations and belt packs.
- 2 Followed by A) and B), adjust sidetone on TM-200 main station.
- 3 Turn on the microphone on sub-station and belt packs one by one, and then adjust the Sidetone to satisfied level.

11. Program Level Control

Adjust program audio level which goes into TM-200, by clockwise or counterclockwise direction.

12. Volume Control

This control is to set the listening level of audio signal in headset or panel speaker.

Turn the control on counterclockwise completely will silence the channel.

13. Call Button

Before use call function, please turn on the channel which want to talk. Press the call call button will sent a call signal to all the connected channels. The CALL button lights red.

14. TALK Button

Press this button will send amplified microphone signal through intercom line. When the button is pressed down, the LED inside will light. The button status is as follow:

LATCH: Single click the button quickly. The button is self-locked.

PTT: Hold the button, Release when finish talking.

15. Announcement Button (ANN)

Microphone signal is sent to ANN. Out connector which is at rear panel when this button is pressed.

16. Tone Alert Level Control

When TM-200 receives external call signal, the internal buzzer will sent a hum to panel speaker

and earphone. This knob adjusts the hum level.

17. Panel Mic Gain

It is used to adjust panel microphone gain to achieve proper microphone output level. It does not affect headset microphone's sensitivity.

The gain has pre-set as electrets microphone as default. If panel microphone is changed, please re-adjust panel Mic. gain.

18. AC Power Connection

Input 95V-260V, 50-60Hz AC, and the power consumption is less than 45VA.

19. Program Input

XLR-3F balanced input. The pinout of the Program Input connector is as follows:

Pin 1 --- Common (Shield)

Pin 2 --- + Audio

Pin 3 --- - Audio

20. Announce Out

This connector is 3-pin XLR male. 0dBu balanced output.

The pinout of Announce Out is as follows:

Pin 1 --- Common (Shield)

Pin 2 --- Audio +

Pin 3 --- Audio -

21. Function DIP Setting

5 digits dipper has following settings:

DIP1 (Long Line A):

Sidetone compensation for Channel A. If you cannot adjust sidetone properly. Turn this DIP on.

DIP2 (Long Line B):

Sidetone compensation for Channel B. If you cannot adjust sidetone properly. Turn this DIP on.

DIP3 (Call on Talk A):

On: Sent a call signal to Channel A when Talk switch is turned on.

Off: Disable auto call function.

DIP4 (Call on Talk B):

On: Sent a call signal to Channel B when Talk switch is turned on.

Off: Disable auto call function.

DIP5 (Interrupt on Ann):

On: Disable microphone when announcement function is activate.

Off: Enable microphone when announcement function is deactivate.

22. IFB Output Connector

3-pin XLR female socket, The pinout is as follows:

Pin 1 --- Common (Shield)

Pin 2 --- Power (+24 VDC)

Pin 3 --- Audio

23. Intercom Line connector

3-pin XLR female socket, The pinout is as follows:

Pin 1 --- Common (Shield)

Pin 2 --- Power (+24 VDC)

Pin 3 --- Audio

24. Termination switch

When this switch is turned to ON position, one 300ohm termination resistor will be connected to intercom line. If the intercom system is not terminated, the level of intercom line will be too high, and the system stability will be influenced. However, only one termination point is allowed within same intercom line. If multiple termination points are used incorrectly, the driving load will be aggravated, and the level of intercom line will be too low.

This switch is set to ON position by factory default. Before using, you should set it to ON or OFF position according to the actual connection of intercom line.

Note: When TM-200 connects more than ten ends, this switch can be set as OFF.

IV. Installation and cable

1. Installation

TM-200 main workstation adopts 19-inches 1U cabinet, and this workstation can be mounted on rack or placed on desktop. If it is placed on desktop, it is required to adhere 4 rubber foot pads provided with machine to four corners at the bottom of cabinet with double-face adhesive tape.

2. Intercom cable

A). Rules for cable selection

TELIKOU intercom system adopts double-core shielded audio cable, one core is used for transmitting audio signal, another core is used for transmitting DC power or control signal, and the

shielded layer is used as common line for audio and power supply. To decrease resistance of common line and crosstalk interference, the cable with larger cross section area should be used. When it is used in fixed way, the cross section area of single line should be at least 1.5mm², when it is used in mobile mode, the cross section area of single line should be at least 0.75mm². When the cable is longer, the cross section area of cable should be larger. If the cable has more than 2 cores, it is recommended to use the additional core as common line.

B). Cable connection

The standard TELIKOU intercom cable is connected with a pair of 3-pin XLR connectors, one male and one female. If longer cable is required, you can connect several cables together with head-end method.

The wiring of connector is as follows:

Pin 1 --- Common (Shield)

Pin 2 --- Power or Control Signal

Pin 3 --- Audio Signal

Notice: the pin-1 GND connection for each XLR connector must be insulated from cabinet, and cannot be connected to shell of XLR connector.

V Troubleshooting

Problem: Power LED wink

Cause 1: Direct short on the intercom channel

Solution 1: Remove all the intercom cables from TM-200. Check each channel one by one, until find the short channel.

Cause 2: Overload

Solution 2: Decrease the amount of remote stations.

Problem: System feedback (Acoustical)

Cause 1: Listen level control at this station or a remote station is set too high

Solution 1: Reduce the volume.

Cause 2: Sidetone null control at this station or a remote station is not adjusted correctly

Solution 2: Adjust sidetone again.

Cause 3: Channel un-terminated.

Solution 3: Set the TM-200 termination switch to the ON position.

Cause 3: A headset cord is too long or jointing quality.

Solution 3: Check headset cord

Problem: Excessive crosstalk

Cause 1: High DC resistance in ground return.

Solution 1: Use heavier cable; add additional conductor(s) to ground return.

Cause 2: Headset cables are not wired properly or shielded properly.

Solution 2: Correct wiring. Use headsets with properly shielded wiring.

Problem: Hum or buzz in system

Cause 1: Inductive pickup caused by close proximity of this main station or connected remote stations to power lines or transformers.

Solution 1: Relocate the offending unit.

Cause 2: Intercom line cable is not wired properly; the shield of microphone cable is not connected to Pin-1 of 3-XLR

Solution 2: Check intercom line cable. Make sure all the cables' Pin-1 of 3-XLR connects correct.

If this condition occurs, it is because the system ground came into contact with something that was "HOT" with respect to the power supply earth ground. Carefully check the system ground and AC distribution in the area.

WARNING: THIS IS A POTENTIALLY DANGEROUS SITUATION. A SHOCK HAZARD MAY EXIST BETWEEN A REMOTE STATION HEADSET AND GROUND.

VI Technical Specification

BANDWIDTH:

300Hz-4000Hz ±3dB

SIDETONE:

Adjustable range: >32dB

EARPHONE:

Dynamic 8 - 300ohm

MICROPHONE:

Dynamic 200-600 ohm

POWER SUPPLY:

AC 90-260V, 50-60Hz, <45VA

DIMENSION:

19" (W) x1.75" (H) x9.48" (D), 482mm x 44.5mm x 241mm

WEIGHT:

2.6kg