MACKENZIE®

MACKENZIE LABORATORIES, INC.
1163 Nicole Court
Glendora, CA 91740 USA

ICM-25

INPUT CONTROL MODULE, 25 INPUTS
RS-232(SERIAL) OUTPUT

OTHER MACKENZIE PRODUCT LINES

Storecasting & Message On Hold - Mackenzie's full line of digital Storecasting & Message-On-Hold systems, turn your public address system and telephone into a powerful marketing tool. The DYNAVOX series offers maintenance free digital playback with USB, modem or satellite download. Several varieties are available with advanced features such as Music-Thru, individual message enable/disable, message sequencing and more.

Digital Message Repeaters - Mackenzie's line of Digital Message repeaters are the ideal audio announcement solutions for Public Address, Amusement, Entertainment, Museum and Exhibit applications. Self-contained solid state systems offer unparalleled reliability. A variety of channel, connection, bandwidth and memory configurations are available.

Controls and Peripherals - Many applications require additional equipment to optimize the performance of Mackenzie products. This area focuses on items developed or sourced for their compatibility, ease of use and value. Included are: input/output controllers, speakers, amplifiers, motion sensors and pushbuttons among others.

Transit - Mackenzie is making a difference in transit applications with innovative solutions for ADA compliance and Passenger Information Systems. These products address a variety of audio and text messaging requirements and support both in-vehicle and wayside installations.

Overhead Page Management - Mackenzie's OPM series of Digital Page Stacker/Repeater and Feedback Eliminators offer advanced features for the most difficult paging and intercom applications. A unique design makes feedback virtually impossible by recording then repeating pages which opens the loop between the input microphone and speakers. Various models are available to support simple repetition, multiple page stacking and multiple input channels.
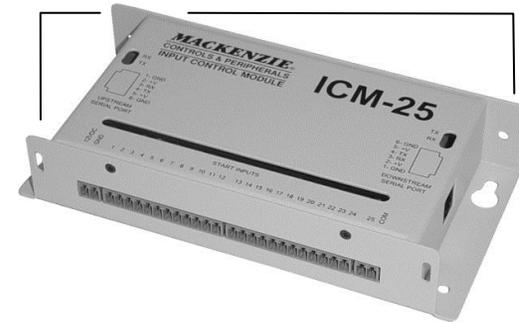
User's Manual
Version 1.0 Revised 19, January 2016
Doc 99-20-085

General Safety Instructions

Always follow these basic safety precautions when using the system:

1. Read carefully and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. DO NOT block or cover ventilation slots and openings.
4. DO NOT place the product in a closed enclosure or cabinet unless proper ventilation is provided.
5. Never spill liquid on the product or drop objects into the ventilation slots and openings. Doing so may result in serious damage to the components.
6. Repair or service must be performed by a factory authorized repair facility.
7. DO NOT staple or otherwise attach the power supply cord to building surface.
8. DO NOT use the product near or in wet or damp places, such as wet basements.
9. DO NOT use extension cord. Install within 6 feet of a grounded outlet receptacle.
10. DO NOT install during lightning storm.
11. Never touch un-insulated wires or terminals unless the unit is disconnected from both power and the rest of the phone system.
12. Use Caution when installing or modifying configuration switches or control lines.
13. Install in a protected location where no one can step on, or trip over, power and line cords.
14. The unit must be securely attached to a wall board, rack or table mounted.
15. Use correct power source. Use only the power pack supplied.

⚠ **CAUTION:**	If any wiring from the system leaves the premises, you must use proper electrical protectors.

Warranty & Registration Card for the
ICM-25 - INPUT CONTROL MODULE

Date:_____   Serial No.: _____

Purchaser: _____

Address: _____

City: _____   State: _____   Zip: _____

Phone: _____   Fax: _____   Email: _____

Seller: _____

Address:_____

City: _____   State: _____   Zip: _____

Phone: _____   Fax: _____   Email: _____

Return warranty card via:

FAX: (909) 394-9411
MAIL: Address on reverse side
ONLINE: www.macklabs.com/registration.html

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4. Warranty

The Mackenzie ICM-25 is tested and checked before shipment and is guaranteed against defective material or workmanship for a period of one (1) year from the date of purchase. Should trouble ever develop, contact the Factory directly by telephone or in writing. If it is determined that the equipment requires Factory service, obtain a Return Merchandise Authorization(RMA) number and return it to the address listed below. If our inspection shows that the trouble was caused by defective material or workmanship, we will repair or replace the equipment without charge and return prepaid. Repairs made necessary by abuse, improper use, unauthorized service or maintenance, and/or improper installation, as well as out of warranty repairs, will be charged at our regular repair prices in effect at the time. The obligation under this warranty shall be limited to the replacement, repair or refund of any such defective device within the warranty period, at Mackenzie's discretion.

MACKENZIE LABORATORIES, INC.
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email: info@macklabs.com

APPENDIX A - Start Input Tables

MacFi-mpe/se Unit #1 Start Input / Message Number

ICM Start Input	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Message Number	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33

MacFi-mpe/se Unit #2 Start Input / Message Number

ICM Start Input	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Message Number	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	51	53	54	55	56	57	58

M3.1 and M3.1+1 Unit #1 Start Input / Message Number

ICM Start Input	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Message Number	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35

M3.1 and M3.1+1 Unit #2 Start Input / Message Number

ICM Start Input	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Message Number	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

M3.2 Unit#1 Start Input / Message Number

ICM Start Input	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Message Number	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

M3.2 Unit #2 Start Input / Message Number

ICM Start Input	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Message Number	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70

Table of Contents

Shipping Container Contents

The following items should be found in the container of the ICM-25 - Input Control Module with 25 inputs and RS-232(Serial) output.

- ICM-25 system
- Slave Cable
- Mounting hardware
- User's manual

Models

ICM-25-MPE	ICM-25 unit for the MacFi-mpe
ICM-25-SE	ICM-25 unit for the MacFi- se
ICM-25-M3	ICM-25 unit for the M3 Series

Options

ICM-PS	12V @ 1 Amp power supply
ICM-CNTCBL	Control Cable, RJ12 to 3 pin Euro

1. OVERVIEW

The Mackenzie ICM-25 is an Input Control Module which extends the start contact capability of Mackenzie audio messaging systems. Each ICM-25 offers 25 individual start contacts to initiate playback on the MacFi-mpe/se and M3. These systems typically offer a limited quantity of start contacts due to space limitations, but have greater message storage capacities. Up to two ICM-25 units may be interfaced to a supported digital message repeater allowing access to an additional 50 messages. The ICM-25 is powered by 12VDC which may be sourced from the host unit or directly from an optional ICM-PS power supply.

1.2 General Specifications:

Power: 12VDC, pluggable terminal

Inputs: 25 Optically coupled start contacts, pluggable terminal

Communication:
  Upstream   RS232, RJ12
  Downstream   RS232, RJ12

Indicators: Individual start contact status, upstream Rx/Tx, downstream Rx/Tx.

Compatibility: MacFi-mpe 40, MacFi-se, or M3.1, M3.1+1, M3.2

2. Installation:

This section provides complete instructions for mounting the ICM-25. Before you install the ICM-25, make sure you have:

-A message repeater compatible with your specific ICM-25 such as the MacFi-mpe 40, MacFi-se, M3.1, M3.1+1 or M3.2.
-A non-switchable 110VAC electrical outlet near the location where the unit is to be installed. (If a separate power supply is being used to power the ICM units)

2.1 Wall or Table Installation:

1. Locate a proper space on the equipment board or wall. You can mount the ICM-25 unit in one of three positions: flat, side, or horizontal.
2. Position the unit on the board; mark the mounting hole locations.
3. Using the mounting screws provided, secure the ICM-25 system to the board or wall.
4. If table top mounting the ICM-25, stick the enclosed rubber feet on the bottom of the unit.

3.3 Upstream Serial Port:

The upstream serial port is used to connect the ICM-25 to the digital message repeater, or to the ICM-25 that is connected to the digital message repeater. Upstream is defined as going towards the device you intend to control. The communications parameters of this port are 9600 baud, 8 bits, No Parity, 1 stop bit. Make sure the communications port of your digital message repeater is set to the correct baud. Below is a pin out for the RJ12 connector of this port.
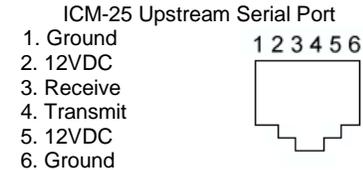
ICM-25 Upstream Serial Port
1. Ground   1 2 3 4 5 6
2. 12VDC
3. Receive
4. Transmit
5. 12VDC
6. Ground

Two LED's, transmit and receive, are offered to allow monitoring of the communications on this port.

3.4 Downstream Serial Port:

The downstream serial port is used to connect the ICM-25 other ICM-25's for additional start inputs. Downstream is defined as going away from the device you intend to control. The communications parameters of this port are 9600 baud, 8 bits, No Parity, 1 stop bit. Below is a pin out for the RJ12 connector of this port.
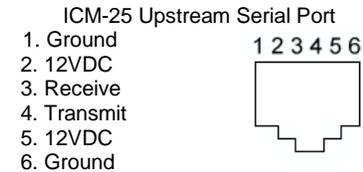
ICM-25 Upstream Serial Port
1. Ground   1 2 3 4 5 6
2. 12VDC
3. Receive
4. Transmit
5. 12VDC
6. Ground

Two LED's, transmit and receive, are offered to allow monitoring of the communications on this port.

Note: If the ICM-25 is disconnected from the Host system during normal operation, allow at least 20 seconds for the ICM-25 and the Host system to resynchronize prior to providing any activations to the IC-M25.

2.4 Connection Subsequent ICM-25 Units:

The Downstream Serial Port of the first ICM-25 in a chain is used to connect to subsequent ICM-25 units allowing for additional start inputs.

-Connect one side of the supplied Slave Cable(RJ12/RJ12) into the Downstream Serial Port connection of the first ICM-25.
-Connect the other side of the supplied Slave cable to the Upstream Serial Port connection of the next ICM-25.

3. Interfaces:

3.1 Power:

One 2 pin Euro Terminal connection is provided for 12VDC power as indicated.
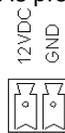
One LED is provided to indicate that there is power to the system.

3.2 Start Inputs:

Two 12 pin and one 2 pin Euro Terminals provide 25 start inputs. Connecting these inputs to common will trigger a play command on your digital message repeater. See the tables in Appendix A for information on which message will be played based on your setup. These triggers act identically to those on the digital message repeater in that all repeat delay and mode setup configurations are adhered to.

1--12----13--24----25 Common
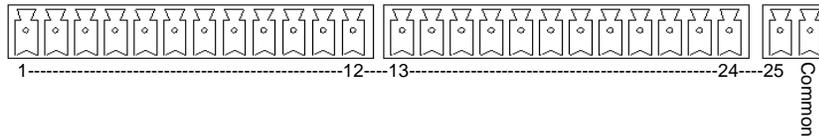
One LED is provided for each input. Each LED with illuminate for the duration that its input is held to common.

2.2 Connecting power:

The 12VDC power requirements of the ICM-25 are relatively low and, in many cases, power can be shared with the host system. Below are examples of sharing the power and using a separate transformer.

Shared Power:

-Unplug the host systems power pack from the outlet.
-Obtain the desired length of low voltage 2 conductor cable. (22AWG, min.)
-Install one end of the cable into the 12VDC and GND locations of the 2 pin Euro Terminal supplied with the ICM-25 and plug it in.
-Install the other end of the cable into the corresponding 12VDC and GND locations of the power plug on the M3 or the MacFi-mpe/se.
-Power on the host system and the power LED of the ICM-25 should illuminate.

Dedicated Power Pack:

-Plug the optional power pack (ICM-PS) into a 120VAC power outlet.
-Plug the 2 pin Euro Terminal into the ICM-25 location marked with 12VDC and GND.
-The power LED of the ICM-25 should illuminate.

2.3 Connection to Digital Message Repeater:

The Upstream Serial Port of the first ICM-25 in a chain is used to connect to the serial input of a digital message repeater such as the MacFi-mpe 40, MacFi-se, M3.1, M3.1+1 or M3 and should be connected as follows:

-Connect the RJ12 side of the supplied Control Cable into the Upstream Serial Port connection of the ICM-25.
-Connect the 3 pin Euro Terminal side of the supplied Control Cable into the Serial port of the digital message repeater.

Digital Message Repeater Serial Port
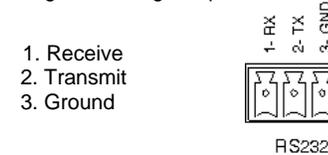
1. Receive
2. Transmit
3. Ground

1- RX   2- TX   3- GND

RS232

1 **POWER:**
Connect 12VDC power supply to the first ICM in the chain, Downstream ICM's will receive power through their upstream serial port.

2 **START INPUTS FOR MESSAGE TRIGGERING:**
Contact inputs to trigger individual message playback Connect any start input to "COM" to activate that message number.

3 **START INPUT LEDs:**
Indicate start input activity. The left most LED will always be on when power is applied to the unit.

4 **UPSTREAM SERIAL PORT:**
Connect to the digital message repeater serial interface

5 **UPSTREAM LEDs:**
Status LEDs for the upstream serial port. These LEDs blink when the device is sending or receiving data over this port.

6 **DOWNSTREAM SERIAL PORT:**
Connect to other ICM units for additional message triggering

7 **DOWNSTREAM LEDs:**
Status LEDs for the downstream serial port. These LEDs blink when the device is sending or receiving data over this port.

ICM-25 Quikey
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Model ICM-25
CONTROLS & PERIPHERALS INPUT CONTROL MODULE