



EMS5 Call Director Easy Set- Up Instructions

This unit has already been programmed at the factory. All you need to do is program a phone number to dial.

- Call the EMS5 unit or use your Master Station phone
- Enter **08601 you will hear three beeps
- Enter *03 (number to dial) # you will hear three beeps
- Enter ## to exit programming

For other programming options, refer to manual.

984-0013FS
Rev 1
01/21

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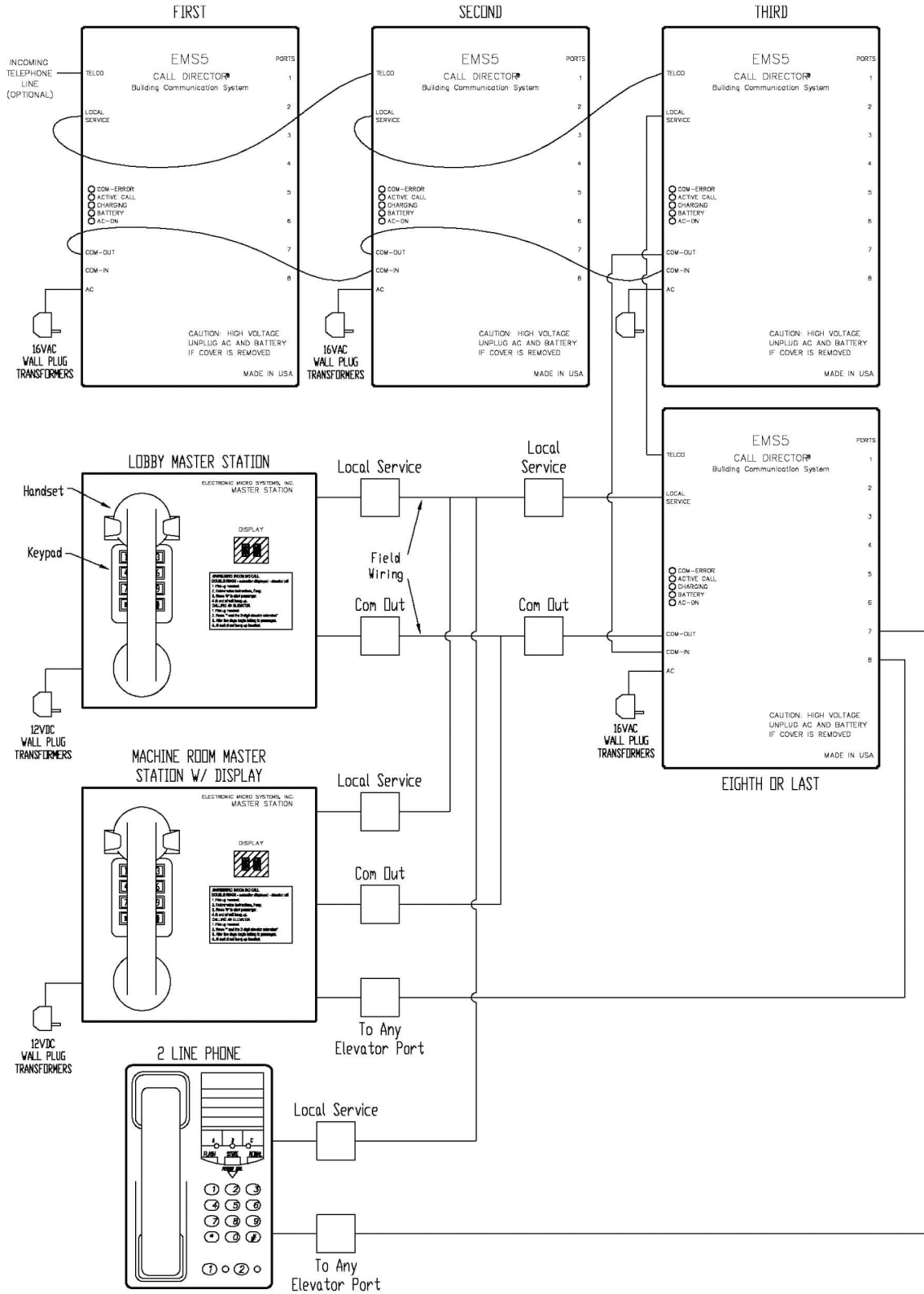
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If you have questions or problems, please call Janus technical support for assistance at 800-527-9156 or visit our website at www.avire-global.com.

Wiring Diagram



Wiring and Layout Consideration

1. Wiring from the EMS5(s) to Elevator Phones or Phone Devices:

You will need one pair of wires from each elevator phone (or phone device) to the EMS5(s). Cabling can be telephone communication cable, which is normally 20-22 gauge twisted pair. Through the traveling cable you will need a twisted shielded pair with the shield grounded at the elevator controller or a good earth ground.

NOTE: The shield needs to be connected throughout the entire run including any splices and should only be grounded at the controller end.

CAUTION: To reduce the risk of fire, use only 26 AWG or larger telecommunication line cords similar to the cords supplied with the system.

2. Wiring from the EMS5(s) to Machine Room Phones without Display:

You will need two pair of twisted wires from each Machine Room Phone back to the EMS5 unit(s).

3. Wiring from the EMS5(s) to Master Stations with Display:

Because the signaling between the EMS5(s) and the Master Stations with displays is digital, the digital signal noise WILL bleed over onto the pair coming from the Local Service port. Add up the total length of wiring from COM-OUT to COM-IN on each EMS5 plus the total length of cabling required to all Master Stations with a display:

- a. If the total length of wiring from COM-OUT to the Master Stations with Displays is between 100 feet and 500 feet you will need two separate cables, one cable for the wiring from the Local Service port and one cable for the wiring from the COM-OUT port. You can pull a separate pair for the COM-OUT connection.
- b. If the total length of wiring is over 500 feet you will need at least one pair for the COM-OUT connection. The Local Service pair can be 2 pair twisted with each pair shielded separately such as General Cable P/N 2P221S PL+GY-R-GCC. The shield of the Local Service port pair should be grounded to building ground on one end closer to the EMS5.

Installation Instructions

1. Ideally, it is best to mount each EMS5 Call Director side by side. This will reduce field wiring problems.

2. Use the 3 keyholes on the back box case of the EMS5 to mount the unit on a dry or concrete wall. The back box case could be used as a template to mark the 3 holes on the wall before drilling. When mounting the EMS5 unit, the two keyholes should be on top. We recommend but do not supply #6 (6-32) or #8 (8-32) wall screws for mounting (see Mounting Diagram for more info).

NOTE: We do not recommend mounting the case of the EMS5 Call Director on the Controller or on a metal surface that shorts to building ground to avoid interference/noise.

IF ONLY ONE EMS5 IS BEING INSTALLED, PROCEED TO STEP 5.

3. Multiple EMS5 units will be shipped with the units setup to operate as the primary (first) through to the secondary EMS5 unit(s) (last or eighth). They should be mounted in the same machine room from left to right, starting with the first EMS5 on the left, the second unit to the right, third unit to the right of the second, etc. through to the last or eighth unit allowing at least 15 inches between units.

4. If the EMS5 units are not identified with a number to indicate which is the first (primary) through the last or eighth (secondary), follow these steps:

- a. Any EMS5 can be switched between being a primary unit and a secondary unit by programming a simple programming command.
- b. Perform this step after the EMS5 is powered up. If you have a secondary unit and need to make it a primary unit, you can use the keypad or call into the unit to program it (see Accessing Programming Mode section).
- c. Perform this step after the EMS5 is powered up. If you have a primary unit and need to make it a secondary unit or change the number (order) of the secondary, disconnect it from the other units and press the reset button. Go into Programming Mode (see Accessing Programming Mode section) and enter * 6S # where "S" represents the number (order) of the secondary unit. Example: *61# (second unit), *62# (third unit), etc.

After three beeps enter # # to end programming. Listen for six beeps. Hang up the handset. Re-connect the EMS5 to the other ones in the group using the wiring diagram of this manual and then press the reset button. Continue by pressing the reset button on the rest of the units in a sequential order from the last to the first unit. After you reset all the units the 'COM ERROR' light should be 'OFF' on all the units in the group.

NOTE: If the 'COM ERROR' light is 'ON' on any of the units, check the cables that connect the units together.

5. Open up the front cover of the unit by removing the two screws on the sides of the unit.
6. Plug in the connector for the battery to the P1 connector.
7. Mount the EMS5 unit on the wall using the 3 keyhole pattern holes on the back box and close back the front cover.
8. Plug in the power supply, the LED labeled "COM-ERROR" (on the master EMS5 only) will start flashing and quit after 30 seconds. The LED labeled "AC" will turn on.
9. If the battery is being charged the "CHARGING" LED will be on.
10. Unplug the AC power, the AC LED should go off and the BATTERY LED turns on. Plug AC power back in (ensures that the back-up circuit works properly).
11. If you have a C.O. / PBX phone line available you should connect it to the "TELCO" port of the first EMS5. There should be approximately 35-52VDC on the incoming phone line. **THERE SHOULD BE NO OTHER PHONE EQUIPMENT CONNECTED TO THE SAME PHONE LINE WITH THE EMS5.**

NOTE: The EMS5 system does not require a phone line connection to operate. You can use it strictly as an intercom system.

12. Connect each pair of your elevator phones to any on the 8 ports on the EMS5 unit. There should be one connector for each elevator phone that will be connected to the EMS5.
13. There are two optional jacks that may be included. They will be used for the "LOCAL SERVICE" and "COM-OUT" ports. These jacks should be mounted on the left-hand side of the last EMS5 near the EMS5 ports labeled "LOCAL SERVICE" and "COM-OUT". If you are planning to answer incoming calls in the building you will need the local service jack. If you have more than one EMS5 you will need the "COM-OUT" jack. You will always need the "COM-OUT" jack if you have a Master Station with the digital display.
14. Using another modular cord, plug one end into the "COM-OUT" port on the first EMS5 and the other end into the "COM-IN" port on the second EMS5. Then from "COM-OUT" on that EMS5 to "COM-IN" on the next EMS5. Continue until the last EMS5.
15. Using two more modular cords, plug one end into the "LOCAL SERVICE" port on the first EMS5 and the other end into the "TELCO" port on the second EMS5. Then plug the other modular cord from "LOCAL SERVICE" of that EMS5 to "TELCO" of the next EMS5. Continue until the last EMS5.
16. If a Master Station came with the system, temporarily plug one modular cord on the Master Station labeled "COM-OUT" into the "COM-OUT" and another cord from of the Master Station labeled "LOCAL SERVICE" directly into the "LOCAL SERVICE" port on the last (or only) EMS5.

NOTE: Use the Green and Red terminals of the phone jacks for all your connections.

NOTE: After installation of the EMS5, test the Master Station(s) by plugging in their modular cords at the local service port and COM-OUT jacks on the EMS5. Test with a phone by calling from one of the elevator ports to make sure the display shows the proper port when the call is made and there is communication. After testing, move the Master Station to its permanent location.

Programming Instructions

The EMS5 is pre-programmed at the factory to function as an intercom system. It will work using all the default codes described in this manual. There is no need for additional programming.

If you are planning to connect a phone line to the unit then you must follow the following programming instructions.

Accessing Programming Mode

There are three methods you can use to program the EMS5 Call Director:

Method 1: Plug a touch-tone phone into the port on the EMS5 labeled “LOCAL SERVICE” or use the Master Station phone. If you have multiple EMS5 units use the “LOCAL SERVICE PORT” on the last unit of the group. Pick up the handset and enter the pass code * * 08601. Listen for three beeps. Follow the programming instructions below.

Method 2: Call into the EMS5 unit from another line. When the unit answers enter the pass code **08601. Listen for three beeps. Follow the programming instructions below.

Method 3: Press the “Program” above the onboard keypad. If you have multiple EMS5 units press the “Program” button on the first (master EMS5) unit of the group. Follow the programming instructions below (you don’t need to enter the passcode **08601).

Programming the EMS5 to Dial on a Standard Phone Line

The EMS5 can dial up to three different phone numbers. Wait for three beeps after each step. If you need to dial a “9” or another digit to get an outside phone line, you can add a 2 second pause after the “9” by entering a “*” (ex * 03 9 * 5551212 #).

PROGRAMMING ONE PHONE NUMBER:

- a. * 01 # (clears the number 1 dialing position)
- b. * 02 # (clears the number 2 dialing position)
- c. * 03, followed by the phone number to be dialed, # to end (ex * 035551212 #)

PROGRAMMING TWO PHONE NUMBERS:

- a. * 01 # (clears the number 1 dialing position)
- b. * 02 followed by the first phone number to be dialed, # to end
- c. * 03, followed by the second phone number to be dialed, # to end

PROGRAMMING THREE PHONE NUMBERS:

- a. * 01 followed by the first phone number to be dialed, # to end
- b. * 02 followed by the second phone number to be dialed, # to end
- c. * 03, followed by the third phone number to be dialed, # to end

PROGRAMMING THE EMS5 TO DIAL ON A RING-DOWN LINE:

- a. Call the EMS5 unit or use your Master Station phone
- b. Pick up the handset or wait for the unit to answer the call and enter **08601, listen for three beeps
- c. Enter “ *5100# ”, listen for three beeps
- d. Enter “ * 03 * # “, listen for three beeps
- e. Enter “### ”, listen for six beeps and hang up

Programming the EMS5 to Play Voice Messages (Optional)

There are four different voice messages. The first message can be played on an incoming call when the EMS5 answers a call. The second message can be played on an outgoing call when the operator answers the call. The third message will play when the unit is about to timeout (this message is pre-recorded at the factory but can be changed as needed). The fourth and last message can be setup to play on an outgoing low battery backup call. Follow the following programming instructions to setup the EMS5 to play messages.

You must first access programming mode described in the Programming Instructions section. Then use any of the following commands.

- * 9 1 - Record message for incoming calls (16 second max)
- * 9 2 - Record message for outgoing calls. (16 second max)
- * 9 3 - Record timeout message (4 second max)
- * 9 5 - Record message to be played for Low Battery Backup Call# (up to 16 seconds long)

NOTE: Stop the recording by pressing any digit. The message will play back automatically.

- * 8 1 - Play back message for incoming calls
- * 8 2 - Play back message for outgoing calls
- * 8 3 - Play back message for timeout message
- * 8 5 - Play back message for low battery backup call
- * 2 1 # - Enables outgoing message
- * 3 1 # - Enables incoming messages
- * 2 0 # - Disables outgoing message (DEFAULT)
- * 3 0 # - Disables incoming messages (DEFAULT)

NOTE: Outgoing messages will start to play only on an outgoing call from an elevator port when the voice detection circuit of the EMS5 detects that the call has been answered and the call waiting beeping stops.

NOTE: Incoming messages will start to play only on an incoming call when the EMS5 is set up to answer incoming calls and after it plays the diddle-diddle sound.

Additional Programming Commands

1 A B C # (Default *1 445 #)

A – The number of incoming rings before answers incoming call, [0-8], default 4

NOTE: When A = 0, the EMS5 will not answer incoming calls from an outside line (operator).

B – The number of rings to ring the local port from a call initiated from an elevator port [0-8], default 4 (if the unit is programmed to call out it will do so after completing ringing)

NOTE: When B = 0, the EMS5 will not Ring the Local Service Port when a call comes in from an elevator phone but instead the elevator phone will use the phone line to call out right away. Also local service port will be connected to the phone line so if the Master Station goes off-hook it will hear dial-tone. If there is no phone line connected to the EMS5 set “B” to 8 and delete all phone numbers by programming * 01 #, * 02 #, * 03 #. This will cause the Local Service Phone (or Master Station) to ring 3 times the number programmed into “B”.

C – The number of outgoing rings for each phone number [1-8], default 5

*05 Phone Number for Low Battery Backup Call#

NOTE: If the unit works off the battery and the battery voltage drops below 12VDC for 10 minutes it will make a call to this number.

NOTE: The battery LED should also be blinking to indicate low voltage on battery (less than 12 volts for more than 10 minutes).

**01 - Plays back the number as DTMFs

**02 - Plays back the number as DTMFs

**03 - Plays back the number as DTMFs

**05 - Plays back the number as DTMFs

43 XXX # - Call Timer, Default XXX=240, range [060-990]

44 X # - AUX1 Phone line monitoring output, Default: *44 0 #. (X=0-1, 0=Disabled, 1=Enabled)

NOTE: If AUX1 is enabled, it will close within 5 minutes after the phone line is disconnected from the unit and re-open within 5 minutes when the phone line is re-connected. The AUX1 will also re-open if the unit is reset. If there are multiple EMS5 Call Directors only the AUX1 of the master EMS5 needs to be connected.

* 5 D E F # - Optional programming command, default *5000#

D - When activated with “1” it will not monitor dial tone and always call out (used for Ring Down mode lines).

E - When activated with “1” if a call comes in from an elevator phone it will force the call externally even if someone answers the call from a local port. If answered on local port, and only if the call is acknowledged externally, it will function as a conference. The local port phone will not interfere with the handling of the call but simply used for conferencing.

F - When activated with “1” if a call goes out from an elevator phone the EMS5 automatically sends ‘0’ to the elevator phone only when the call is answered by the operator (on tone or voice mode) and the call is acknowledged.

6 X # - Set unit ID to X value, [0-7]

NOTE: The ID will set the display to show different numbers as shown below:

ID '0' = 01 – 08

ID '1' = 09 – 16

ID '2' = 17 – 24

ID '3' = 25 – 32

ID '4' = 33 – 40

ID '5' = 41 – 48

ID '6' = 49 – 56

ID '7' = 57 – 64

* 7 2 1 # - Enable CPC detection (default)

* 7 2 0 # - Disable CPC detection

* 75 1 # - Enable automatic rollover for force through calling (when enabled the EMS5 will automatically turn OFF an active phone within 19 seconds after another phone has been activated and connect you to the next phone on the line)

* 75 0 # - Disable automatic rollover for force through calling. The operator will still hear call waiting tones when another phone becomes active but the call will not automatically switch in 19 seconds. The operator must press *0 to talk to the next phone (default)

* 8 0 # - Set voice mode (default)

* 8 6 # - Set tone mode

* 87X# - X=0 - Disables hang-up tones.

X=1: Enable EMS hang up tones (“*0”) (default)

X=2: Enable VPPhang up tones (“#”)

X=3(YZ): Sets custom 2 digit hang up command (acceptable commands: *, #, 0-9)

If the hang up command was “##”, you must program: *873(##) #

NOTE: The EMS5 will send the hang up tones in all of the following cases:

1. When the EMS5 detects the CPC from the line.

2. When the user hangs up the phone connected on Local Service Port.

* 880# - Disables call progress tones – (The call progress tones will stop after the unit has made a call and it will not try to call a second phone number)

* 881#- Enables call progress tones – (Default)

* 89X# -X=1-3 – Outgoing voice message repetitions (Default *891#)

NOTE: The outgoing message could be stopped by using any DTMF tone if it's set to 2 or 3 repetitions. ## - The EMS5 gives you 6 beeps exits programming and goes back on hook.

****90# - CODE TO SET THE FOLLOWING CODES TO FACTORY DEFAULTS:**

- *1 445 #
- *20 #
- *30 #
- *43 240 #
- *44 0#
- *5 000 #
- *70 2 #
- *1 445 #
- *20 #
- *30 #
- *43 240 #
- *44 0#

EMS5 Onboard Display Codes

When the EMS5 first powers up it should scroll on the display the following:

EMS5 - FIRMWARE REV X.X.X. – UNIT ID and then 2 Dashes

X0: Communication error or short on a display connected to COM-OUT

IC: When a call comes in from an outside phone line. When the call is answered by the EMS5 or by the user on local port it should return to dashes.

PG: EMS5 is in programming mode

CPC: CPC signal detected

LB: Low or bad battery

XX: Active call from an elevator (XX=01-64)

Note: If more than one elevator is active, the display should show all numbers and switch between each number every second. Ex: Ports 1, 3, 6 became active. Display should show 01 then 03 then 06 then back to 01, 03, 06 etc.

LN: If there is a number programmed in the memory to call out with AUX1 enabled, and telephone line is shorted or disconnected for more than 5 minutes

Programming Instructions for Hands Free Phones Connected to the EMS5

1. You can use your machine room or lobby Master Station Phone or dial into the EMS5 from another phone. If you don't have a Master Station available and you can't dial into the EMS5, you can plug a single line touch tone phone into the "Local Service" port of the EMS5.
2. Press * and the number of the elevator 01 through 64.
3. You will hear three double rings, the elevator phone should turn on and you will hear a diddle-diddle-diddle sound.
4. Enter the programming passcode for the elevator phone. It will be # 94851 or #9000000, listen for three beeps.
5. Disable the first number by entering # 0 * #, listen for three beeps.
6. Disable the second number dialer by entering # 1* #, listen for three beeps.
7. If the EMS5 is not connected to a phone line, enter the following code to disable the voice message # * 1180180 * # (the voice message is used by an off-site location to identify the location).
8. If the EMS5 is connected to a phone line, skip step 7 and program a location message into the elevator phone by pressing # 7.
9. After the beep, talk into the handset of your phone to record the message. If you finish the message in less than nine seconds press "0". The message will play back for review. If you are not satisfied with the message, press # 7 and re-record the message. If you want to review the message again press # 8.
10. Press # # to end programming. The phone will turn off.

Operating Instructions

WHEN CONNECTED TO A DEDICATED PHONE LINE AND MASTER STATION:

1. The Master Station will alarm with double rings.
2. The display will show the number of the elevator calling in.
3. Pick up the handset on the Master Station and talk to the trapped passenger.
4. Press "0" to alert a hearing impaired passenger with blinking light.
5. At end of call, hang up handset.

RECEIVING A CALL FROM THE ELEVATOR PHONE AT THE ANSWERING SERVICE:

1. The operator picks up handset to answer incoming call.
2. The operator hears a repeating voice message stating "*ELEVATOR CALL, AT THE TONE PRESS 1 TO TALK, PRESS 2 FOR LOCATION.*" After the tone, the operator should press "1" to talk to the trapped passenger.
3. If the passenger does not know their location the operator can press 2.

4. At the end of the location message, a message will tell the operator to *“press 0 to alert passenger of rescue”*. When the operator dials “0” they will hear three beeps, which indicates that the passenger has been alerted with blinking light (or in some cases a green steady light).
5. After approximately three minutes the operator will hear the message *“TO AVOID DISCONNECT PRESS 3 NOW”*. At the end of this message the operator must press “3” within 10 seconds to keep the elevator on line.
6. If the operator has pressed “0” and heard the three beeps but they are not sure if anyone is in the elevator, they can ask the passenger to press the button on the front of the elevator phone again. The operator will hear an audible diddle-diddle-diddle sound which means that someone is in the elevator. This feature is for passengers who cannot speak or has difficulty.
7. At the end of the call the operator simply hangs up.

NOTE: If more than one elevator phone is calling out, the EMS5 will transmit the typical call waiting tones to the operator so he/she knows there is another active call. The operator at this point can press *0 to hang-up the current phone and will be automatically connected to the next active phone. This procedure will repeat until all calls have been answered.

SEE ALTERNATE CALL HANDLING INSTRUCTIONS ENCLOSED WITH ELEVATOR PHONES

CALLING AN ELEVATOR PHONE FROM THE MASTER STATION:

1. Pick up the handset on the Master Station.
2. Press “*” and the display number of the elevator you wish to call (e.g. *01, *02, etc.).
3. You will hear double tones while the EMS5 is ringing the elevator.
4. The elevator phone will answer on the fifth ring.
5. You can talk to the passenger after the phone answers.
6. At the end of the call, hang up the handset.

NOTE: To make an announcement call to all phones (the microphone will be muted on the phones) connected to an EMS5 unit, pick up the handset of the Master Station and press * 91 for the first unit, * 92 for the second unit, * 93 for the third unit, * 94 for the fourth, etc. *99 will call all phones on all units.

CALLING AN ELEVATOR PHONE FROM THE ANSWERING SERVICE:

1. Operator dials the phone number that the EMS5 is connected to.
2. The Master Station phone will ring and if the attendant is there they will pick up.
3. If the operator needs to call directly to an elevator without talking to the attendant they should dial “*” and the display number for that elevator, assuming that the attendant has not answered the call.
4. The elevator phone will ring with double rings and turn on after the fifth ring.
5. At the end of the conversation the operator simply hangs up their handset.

NOTE: To make an announcement call to all phones (the microphone will be muted on the phones) connected to an EMS5 unit, call into the unit and dial * 91 for the first unit, * 92 for the second unit, * 93 for the third unit, * 94 for the fourth, etc. *99 will call all phones on all units. In order for the announcement call to work properly, all elevator phones being called must be set with the same ring count. If not, some of the phones will not auto answer.

CALLING AN OUTSIDE LINE FROM THE MASTER STATION:

1. Pick up the handset on the Master Station.
2. Press “9” and wait for a dial tone.
3. Dial the number you wish to call.
4. At the end of the call, hang up the handset to terminate the call.

Operating FAQs

QUESTION: What will happen if multiple phones on an EMS5 Call Director try to place a call?

ANSWER: When multiple phones on the out-ports of the EMS5 unit are trying to call out, all the phones will be allowed to complete their call either locally to the local service port or to an outside line in an order of “first come, first served” basis. The operator will hear a beep (similar to a call waiting tone) every 4 seconds prompting him/her that another call is being processed. The operator should press *0 which will then disconnect the current phone and connect the next one. This procedure will repeat until all calls have been answered. If the automatic force through calling is enabled with code 75, the operator does not have to press *0 to connect to the next phone. The EMS5 will automatically switch to the next phone every 19 seconds until all calls have been answered.

QUESTION: Will my system call out if the phone line is being used?

ANSWER: If the phone line that the EMS5 unit connects to is being used by another phone, the EMS5 will wait for that phone to hang up and then it will seize the line in order to complete the call.

QUESTION: What will happen if I am using my Master Station to talk to an outside line or internally to another Master Station and at the same time an emergency call is being placed?

ANSWER: If the local service port is used to access an outside line or talk to another Master Station and an elevator phone becomes active, it will be conferenced into the call and be able to talk to both the Master Station and the outside line.

QUESTION: Will my system time out if the phone stays on?

ANSWER: Yes, all Janus elevator phones have a built in timer that times out in 180 seconds. If that fails or a different phone is used with the system that times out later or does not time out, the EMS5 has a timer that times out in 240 seconds. Before any of these timers are about to expire, the operator will hear a prompt message twice, “press 3 to avoid disconnect”. If the operator presses a ‘3’, the timer will be renewed for the time that it was set for.

Troubleshooting Guide

If the hands free phone is not placing a call:

1. Check the push button and connections to the phone.

Are the connections and button good?

Yes: Proceed to step number 2.

No: Replace and/or repair and retry the phone.

2. Connect a handset phone to the modular jack on the hands free phone board and try to call out.

Did the call go through?

Yes: Replace the hands free phone.

No: Proceed to step number 3.

3. Connect a handset phone to the corresponding port on the EMS5 and try to call out.

Did the call go through?

Yes: The problem is in the interconnecting wiring.

No: Check TELCO line for dial tone.

Is dial tone present?

Yes: Replace the EMS5.

No: Contact the telephone company.

Specifications

MECHANICAL

Size: 8-3/8" W x 14-1/8" H x 2-5/16" D

Weight: 9 lbs.

ELECTRICAL

Phone Line Requirements: (TELCO) Standard (analog) loop start voice grade touch-tone telephone line, PBX or key system station analog telephone line.

AC Power: (Transformer supplied) 120VAC to 16-18VAC @ min. 1A

Battery: (Supplied) Lead - Acid Battery - 12VDC @ min 1.3Ah

Phone Line Voltage On-Hook: 24 to 70VDC (nominally 48VDC)

Phone Line Voltage Off-Hook: 8 to 20VDC (nominally 14VDC)

Ring Sensitivity: 40 - 120VAC RMS

Dialing: DTMF (Dual Tone Multi Frequency)

Frequency Response: 50Hz - 3400Hz, +/- 3db.

Operational Loop Impedance: 600 ohms

FCC Registration US: NFLTE02B33770

Ringer Equivalency Number: 0.2B