

XTE *electronic* the Electronics Maker



SF08



CM80



SVF



SB80

SECURE SYSTEM **EN60849**

*Emergency and fire evacuation
audio system*

User's Manual

Important safety instructions



This symbol indicates the presence of important directions for use and information that should be given particular attention so as to use the product properly.



This symbol indicates the presence of "dangerous voltage" that may cause the risk of electrical shock. Pay the utmost attention and proceed cautiously.

1. Follow carefully the attached documentation and keep it for future reference
2. Comply with the warnings
3. Store the packaging and check that all material is in excellent conditions.
4. Do not use water near the product, do not pour water or any other liquid on the amplifier. Do not to use it with wet hands or feet into the water.
5. Do not use next to heat sources such as radiators, stoves or the like.
6. Check the integrity of the mains cable. Do not tread on the cable and do not squeeze the plug.
7. Connect the plug to a socket equipped with grounding. Do not camper the plug. If the plug supplied is not consistent with your socket, please apply to an electrician for its replacement.
8. Connect to supply mains with the same voltage as indicated on the back of the device.
9. Install the device in compliance with the instructions.
10. Do not obstruct the air ducts.
11. Disconnect the appliance in case of storm and if unused.
12. Connect according to the instructions only.
13. Do not connect an input signal higher than that indicated in the manual.
14. Do not remove the upper or lower cover: there is a risk of electrical shock.
15. Do not try to self-repair the appliance, but apply to qualified personnel.
16. Clean with a dry cloth only.
17. The product shall be handled by skilled personnel in the following cases:
 - mains cable or plug damaged
 - Exposure of the product to rain or humidity
 - Some liquid entered inside the unit.
 - An object fell on the unit
 - The unit fell down and is damaged
 - The product does not work correctly or shows a remarkable change of performance.
21. A careful supervision is necessary if the product is used in the presence of children or inexperienced adults.
22. This product could produce sound levels, which cause damage to the hearing. Pay the utmost attention and do not operate at high level of volume or at an uncomfortable level for a long time. Consult an audiometric specialist in case of hearing loss or complaints.

Declaration of conformity

This device conforms to the requirements of the EMC directive 89/336/EEC, amended by 92/31/EEC, and the requirements of the Low Voltage Directive 73/23/EEC, amended by 93/68/EEC.

Standards Applied:

EN55103-1 (Emissions)

EN55103-2 (Immunity)

EN60065, Class I (Safety)



Radio interferences

A sample of this product has been tested and approved to meet the requirements of the Electromagnetic Compatibility Directive (EMC). These requirements have been defined so as to provide reasonable protection against dangerous interference of electrical equipment. Whenever this product has not been installed or handled according to these guidelines, it might interfere with other equipment such as radio receivers. However, there is no guarantee that they should not occur in a specific installation. Should this equipment interfere with transceiver equipment (such possibility can be checked by switching on and off the device), the user should try to cancel the interference by observing one or more of the following measures:

- Increase the distance between the device and the receiver.
- Connect the device to a plug linked to a different circuit with respect to the one to which the receiver is connected.
- Redirect or move the receiver's antenna.
- Make sure that the unit concerned conforms to the EMC immunity limits (CE-labelled). All electrical equipment sold in the EC should be approved as for what concerns protection against electromagnetic fields, high tension and radio interference.
- Contact qualified personnel.

Introduction

Congratulations on choosing XTE device and thanks for trusting us and our products. Your device has been carefully planned in the smallest details, starting with every part of its equipment till final assemblage. All products XTE are made with the main purpose of guaranteeing our clients' full satisfaction, thus we underline that the product you have chosen uses the most advanced technology.

An improper use of the device can compromise its correct operation. Therefore we recommend you to carefully and correctly use it.

Read this manual carefully as it contains essential information for a safe use of your device.

Unpacking

Immediately inspect the package and its content so as to check whether there are any signs of damage. After unpacking check the product and all parts, if you notice any damage inform your dealer immediately.

It is advisable to save the packaging materials even if the amplifier shows no sign of shipping damage; you might have to return it to XTE or to one of its dealers. Use the original package only, which is the best way to protect the equipment from shipping mishandling.

Installation/Assembly

Metal framing of all the XTE products is suitable to be supported on a surface (table, etc.) and is equipped with separated stirrups for assembly in 19" rack standard.

Pay particular attention during the installation; we remind you that the devices should not be installed in places with:

- High temperatures
- Dust and excessive humidity
- Presence of intense magnetic fields
- Water next to the component
- Vibrations
- Closed spaces inhibiting a proper ventilation

EN 60849 Standard

The "ELECTRO ACOUSTIC SOUND SYSTEMS FOR EMERGENCY PURPOSES" establishes the technical criteria to adopt for equipment and systems used to manage announcements for a correct evacuation of areas in buildings in case of emergency situations.

Some legislative norms exist, that impose the adoption of acoustic alarm systems through loudspeakers, for the broadcast of messages of alert and evacuation in some categories of buildings.

In order to be compliant, sound amplification systems for background music and message broadcast must keep control of the following main functions:

- Amplifiers efficiency control
- Efficiency control of the loudspeakers lines distributed in the zones in which the system is subdivided.
- Broadcast of emergency announcements in manual/automatic mode
- Fireman's Microphone Unit efficiency control
- Activation of back-up amplifiers in case of failure of any of the amplifiers in use
- Intelligibility of emergency messages regardless of background noise
- Generation of alarm messages after a warning signal with duration from 4 to 10 seconds
- Use of pre-recorded messages, stored in a non-volatile memory and monitored in order to guarantee availability when needed
- The announcement system must be activated within 3 seconds from the alarm signal
- The system can be divided into multiple areas and different messages can be used for each area
- speakers must be minimum fire resistant (metal body and fire housing, ceramic terminals, etc)
- Secondary energy source must be available

Applications

Secure System is best suited for all the applications where an emergency system is request, for example: call and message transmission installations with alert system, audio diffusion in industrial enterprises, schools, hotels, supermarkets hospitals and similar.

Features

- Broadcast 80 zones (8 zones per switching unit)
- 6 programmable inputs
- Management of 2 back-up amplifiers for each switching unit
- Local and remote control of failures
- Selective broadcast of evacuation messages
- 32 peripheral microphone stations
- Emergency microphone unit with priority over all other stations to generate general calls also in case of failure of the control unit
- Serial port for connection to a PC and/or an external printer
- Connection to an audio input with programmable "VOX" function for connection to a telephone switchboard.
- 3 audio inputs for connection to external sound sources (CD players–tuners–MP3-etc.)
- Built-in pre-recorded message board with solid state memory

Sistem Structure

CM80

Central unit for system control and supervision

SF08

Modular switching unit for audio lines housing up to 8 zone modules

SFM

Zone Modules perform amplifier and speaker line diagnostic

SNU

Background noise detection unit for automatic volume control

SB80

Base microfonica standard per chiamate selettive e generali

SVF

Emergency Microphone Unit (Firemen's Microphone)

DPA 240*

Power amplifiers for constant voltage speaker systems (100V)

CSF 10T*

Passive speakers for constant voltage audio lines (100V)

UPS*

For emergency power supply

*Indicative Items

System Working

Line Diagnostic

Secure system has a modular structure and demands to insert one zone module inside of the switching unit for each line. This diagnostic system previews the injection, at regular intervals of approximately 1", in the amplification chain of a pilot tone at an inaudible frequency of approximately 22 KHz. The pilot tone presence is constantly detect to the amplifier output and to the term of the loudspeaker line.

The absence of the pilot tone in one of the two points, or in both, determines the following events from part of the system:

1) Absence of the pilot tone to the amplifier output (fault amplifier).

- Switching Unit front panel indicator lighting
- Central Unit Acoustic indicator activation (Buzzer)
- Fault Amplifier indication on the Central Unit and Remote Units display
- Event saving in the Log events and eventual printing if previewed.
- Loudspeaker lines switch on the backup amplifier if previewed.

2) Absence of the pilot tone to the term of the loudspeakers line (fault line)

- Switching Unit front panel indicator lighting
- Central Unit Acoustic indicator activation (Buzzer)
- Fault Loudspeaker line indication on the Central Unit and Remote Units display
- Event saving in the Log events and eventual printing if previewed.

Backup Amplifiers

The Secure System is arranged to allows the connection of one or two backup amplifiers for Switching Unit.

When a single backup amplifier is connect (SPLIT OFF), all the zone modules inserted in the Switching unit, switch the audio inputs and the loudspeaker lines on the same amplifier in case of failure. Statistically it is very difficult that more amplifiers can be out of order at the same time, however if this happen, is necessary to determine opportunely the backup amplifier size in the way to supply enough power to cover the consumption from all the lines/zones.

In the single amplifier of backup configuration, connect the amplifier 100V output to BCK 1 OUT terminal and connect BCK 1 OUT with BCK 2 OUT terminals.

In order to guarantee a better division of the powers, in case of fault of more amplifiers, it is possible to connect two amplifiers of backup (SPLIT ON). In such case the switching unit

subdivides the system in two groups of 4 modules everyone.

In case of fault of the zone amplifiers from 1 to 4, the speaker lines will be connected to the first amplifier of backup.

In case of fault of the zone amplifiers from 5 to 8, the speaker lines will be connected to the second backup amplifier.

At least preview a backup amplifier for every installed switching unit.

It is necessary to consider that when the lines are connected to the backup amplifier, the system continuity operation are guaranteed but the fault indication remain and therefore it must necessary to intervene in order to restore the system, like previewed from EN 60849.

The zone modules that will find a fault of the service amplifier, switch on the backup amplifier, but they will be excluded from the reception of any programming and will be interested from general calls only and not from selective calls.

Feedback Loop

The Feedback Loop line is necessary in order to verify the continuity of the loudspeakers lines.

In the way to have a correct control, it is necessary that the loudspeakers system is arranged to have one line only for all the loudspeakers without derivations ("daisy chain" connection).The first speaker is connected starting from the diagnostic module, from this is gone to the second one and therefore until the last one of the line, from which the pair of conductors must start to close the Feedback Loop. With such system it is possible to find line interruptions or short circuits, as prescribed to the point "j" of paragraph 5.3 of EN 60849.

The line circuit fault is found and indicated from the diagnostic system, but it does not cause any commutation. In case of line interruption (not short circuit), the loudspeakers that be part of line that remain connected to zone modules still continue to be in use (example: line's interruption from one point in then).Obviously the system is not able to find the fault of a single speaker (condition not request from the normative), but if this fault causes an high impedance value reduction with signal and pilot tone attenuation, in this case the system could be able to indicate the fault.

Considerations on the emergency loudspeaker lines

In an audio system it is not request that all the speakers lines have to be used for emergency messages broadcast. The emergency lines would have to be realized in according with the criteria to guarantee the system operation also in critical conditions, this can cause high cost of realization (stell pipes, speaker with firedome and thermofuse), so could be best suited to dedicate only same lines to the broadcast of the emergency messages with a sufficient number of speakers to cover the environment.

In systems with an high number of lines it allows to obtain economic advantage, saving in backup amplifiers and consumptions, therefore in the UPS dimension. A mixed system could also be realized, using Secure System for the single management of emergency lines.

CM80 - Central Unit

Description

It is used to manage and control the components of the system to set the configuration parameters of the installation.

It communicates with the remote microphones and converts in audio signal the codified signal.

The central unit is provided with:

- Backlight LCD Display to show the system parameters
- Function push buttons to set the standard system parameters
- Chip card key to enable the modify of the system parameters
- Main functions status Led indicator
- Double Bus input for standard micro line
- Dedicate priority input for the Emergency Microphone Unit (Fireman Station)
- 2 Audio inputs for external audio sources (Tuner, CD, Tape, ecc.)
- Audio input for advertising messages source
- Internal sound board for pre-recorded emergency messages
- 4 programmable audio outputs for the broadcast of music and messages
- RS232 serial port for connecting a PC to manage all the system parameters
- 6 inputs for remote activation from fire alarm system or similar

Power Supply

The unit is expected to work with 230 VCA – 50/60 Hz distribution system.

In case of power dysfunction, check the protection fuses and eventually replace them with others of same calibration; if one of them burns out immediately, do not go on and have check the unit by qualified personnel.

Take away plug from 230 VCA electric power socket always, before removing fuses and, in any case, open the unit framing.

Installation

Signal input and output connection

AUDIO BUS

RJ45 8/8 connector is used to connect the audio Bus between the central unit and the switching unit (AUDIO IN). The BUS transports the four signals Music 1, Music 2, Messagges, Calls

DATA BUS

RJ45 8/8 connector is used to connect the Data Bus between the central unit and the switching unit (DATA IN). The Bus transports the data relevant the system diagnostic control and the informations relevant the settings sent to the zone modules.

MIC BUS

The two RJ11 6/6 connectors are used to connect the microphonic chain made up from 32 remote microphone units (Fireman station included). The two connectors are linked and allows to realize two ways of the chain. The connection is made from one remote microphone to the other through UTP CAT5 cable. Each unit is provided with double connector for the arrive of the line and for the re-start to the next unit.

EMG

RJ45 8/8 connector is used for the connection of the priority line for the emergency remote microphone unit (Fireman Station). Thanks this checked line the unit allows to do general emergency call with by-pass of all the digital system and with the audio priority on whichever the other audio sources broadcasting in that time. The connection is made through UTP CAT5 cable.

AUX 1

RCA connector mixed stereo, is used to connect an audio source for the background music diffusion. It is possibile to set in which zone to address the signal source connected to this input through PC.

AUX 2

RCA connector mixed stereo, is used to connect an audio source for the background music diffusion. It is possibile to set in which zone to address the signal source connected to this input through PC.

MSG 2

RCA connector mixed stereo, is used to connect an audio source for a general communications or advertising messages diffusion. The audio channel is activated through an order from the PC and allows to broadcast the audio source in general mode or in the indicated zone in the order only until a new order of stop will arrive to the central unit. This input have the priority on the AUX1 and AUX2 inputs.

TEL

RCA connector unbalanced mono, is used to connect an audio signal for voice call, in general mode, through tel exchanger.

The signal input must be low frequency audio signal. Is it not possible to connect a phonic line of telephone directly. The amplitude of the signal input get active a vox paging circuit and the announcement is broadcasted on all the zones with the priority on the music sources.

Remote Control

RS232

The Sub-D 9 pins serial port is used to connect the central unit with a PC. A specific software Secure System allows to set all the system parameters with differences also for single zone. In other way is possibile to connect a serial printer for the continue printing of the alarm announcement.

REMOTE INPUTS

Erobloc extractable connector with 6 inputs is used to connect the central unit with the external control devices.

The inputs can be programmed (by PC) to execute different functions (broadcast of emergency messages activation in general mode, selective zone mode, selective area mode or reset alarm).

4 inputs of the 6inputs are balanced on 2,2Kohm resistance and 2 are NC

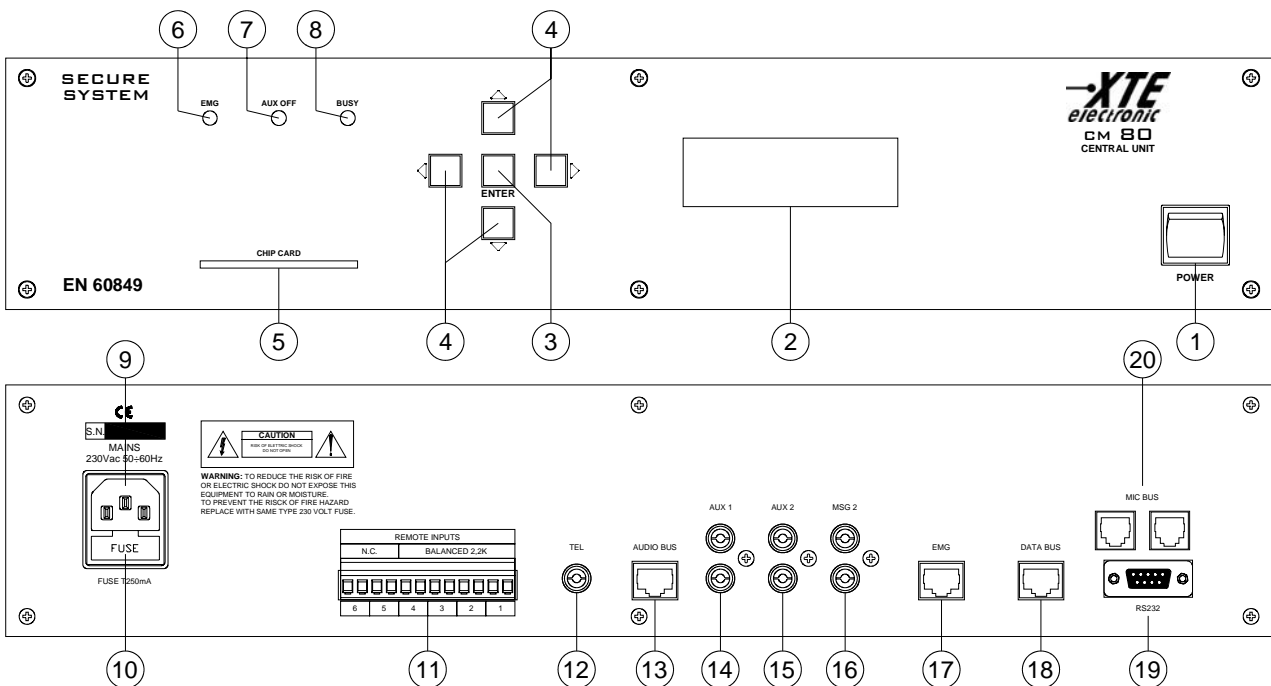
Specifications

MODEL	CM80
AUX Input Sensitivà	+9dB
AUX Input Impedante	20Kohm
MSG2 Input Sensitivà	0dB
MSG2 Input Impedante	20Kohm
TEL Input Sensitivà	0dB
TEL Input Impedante	20Kohm
Remote Input	4 balanced 2,2Kohm 2 unbalanced N.C.
Remote Control	PC RS232
Microphone units max number (Fireman Station included)	32
Power Requirements	230Vac 50÷60Hz
Consumption	15VA
Dimensions (H x W x D)	443 (Rack 482) x 88 x 240mm
Weight – Net	3,8Kg

Commands and Functions (as per Fig. 1)

- 1) POWER – power switch
- 2) DISPLAY – backlight LCD Display 20x4, to show the system parameters
- 3) ENTER – enter push buttons to scroll the menu and to confirm the settings
- 4) ARROW – direction push buttons to execute the functions and to select the system parameters
- 5) CHIP CARD – chip card key reader to enable the modify of the system parameters
- 6) EMG – emergency call active led indicator
- 7) AUX OFF – general mode Music off led indicator
- 8) BUSY – call in act led indicator
- 9) MAINS –230Vac supply mains socket
- 10) FUSE – protection fuse of CA mains, 250mA (temporized)
- 11) REMOTE INPUTS – inputs for Fair system or similar connection
- 12) TEL – audio input for Tel Exchanger
- 13) AUDIO BUS – audio Bus output for connecting the switching unit
- 14) AUX 1 – audio sources input
- 15) AUX 2 – audio sources input
- 16) MSG 2 – controlled audio input for advertising messages or similar
- 17) EMG – input with priority for emergency microphone unit
- 18) DATA BUS – data Bus In/Out for connecting the switching unit
- 19) RS232 – serial port for connecting a PC or serial printer
- 20) MIC BUS – digital input for the microphone units chain

FIG 1



SF08 – Switching Unit

Description

The Switching Unit, managed from Central Unit, is designed to contain the diagnostic zone modules for the switching of the audio signal on 8 zones for unit. It is configurable for multiple cascade connection of until 10 units to obtain a system of 80 zones. The communication and exchange of the data with the Central Unit via pair of Bus (Audio and Data) with proprietary protocol. The switching unit is provided with:

- 8 slot for the insertion of the diagnostic zone modules
- Leds for the immediate visualization of the zone module status.
- Module for the connection with the central unit and link in to the successive units.
- Module for the connection with the backup amplifiers (1 or 2).
- 230Vac supply mains module

Power Supply

The unit is expected to work with 230 VCA – 50/60 Hz distribution system.

In case of power dysfunction, check the protection fuses and eventually replace them with others of same calibration; if one of them burns out immediately, do not go on and have check the unit by qualified personnel.

Take away plug from 230 VCA electric power socket always, before removing fuses and, in any case, open the unit framing.

Installation

Signal input and output connection

AUDIO IN

RJ45 8/8 connector is used to connect the audio Bus between the switching unit and the central unit (AUDIO BUS). The BUS transports the four signals Music 1, Music 2, Messagges, Calls

AUDIO LINK

RJ45 8/8 connector is used to connect the audio Bus between the switching units in chain configuration (to the AUDIO IN of the following unit).

BUS IN

RJ45 8/8 connector is used to connect the Data Bus between the the switching unit and the central unit (DATA BUS). The Bus transports the data relevant the system diagnostic control and the informations relevant the settings sent to the zone modules.

BUS LINK

RJ45 8/8 connector is used to connect the data Bus between the switching units in chain configuration (to the BUS IN of the following unit).

BCK 1 IN

3 ways Euroblock removable terminal is used to connect the balanced audio signal between the switching unit and the first backup amplifier.

BCK 2 IN

3 ways Euroblock removable terminal is used to connect the balanced audio signal between the switching unit and the second backup amplifier.

BCK 1 OUT

2 ways Euroblock removable terminal is used to connect the 100V output audio signal between the first backup amplifier and the switching unit.

BCK 2 OUT

2 ways Euroblock removable terminal is used to connect the 100V output audio signal between the first backup amplifier and the switching unit.

Advanced Functions

Split

2 ways switching is used to select the backup mode. The system can be set to work with only 1 backup amplifier for 8 zones or with 2 backup amplifiers, each one for 4 zones (SPLIT OFF / SPLIT ON).

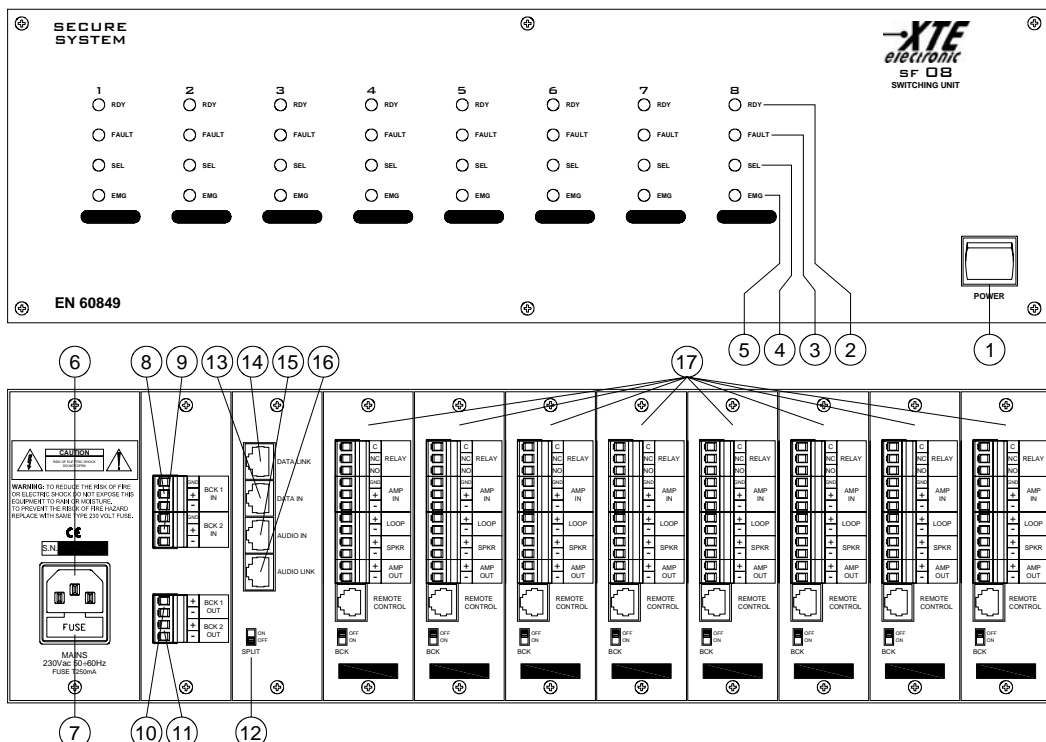
Specifications

MODEL	SF08
Slot number	8
Max unit number connection	10
Connection	2 x UTP CAT5 50cm
Power Requirements	230Vac 50÷60Hz
Consumption (with 8 modules)	50VA
Dimension (W x H x D)	443 (Rack 482) x 132 x 215mm
Weight (with 8 modules) - Net	8Kg

Commands and Functions (as per Fig. 2)

1. POWER – power switch
2. RDY – Zone module presence led indicator
3. FAULT – Fault Audio or fault board led indicator
4. SEL – Communication in progress with central unit led indicator
5. EMG – Emergency call activation led indicator
6. MAINS – 230Vac supply mains socket
7. FUSE – protection fuse of CA mains, 250mA (temporized)
8. BCK 1 IN – Audio output for the connection with the first backup amplifier input
9. BCK 2 IN – Audio output for the connection with the second backup amplifier input
10. BCK 1 OUT – 100V audio input for the connection with the first backup amplifier output
11. BCK 2 OUT – 100V audio input for the connection with the second backup amplifier output
12. SPLIT – Switch for the backup amplifiers number selection
13. DATA IN – Data Bus input for the DATA BUS that come from the Central Unit
14. DATA LINK – Data Bus output toward the successive Switching Unit DATA IN input
15. AUDIO IN – Audio Bus input for the AUDIO BUS that come from the Central Unit
16. AUDIO LINK – Audio Bus output towards the successive Switching Unit AUDIO IN input
17. SFM – Diagnostic zone module

FIG 2



SFM – Zone Module

Description

In order to be compliant with EN 60849, the diagnostic zone module is equipped with a specific diagnostic electronic circuit for the independent control of the amplification chain and the eventual commutation on the backup amplifier. The control is specific on every single amplifier and on every single loudspeakers line, the eventual anomalies found from the module are immediately communicated to the Central Unit that it supplies the opportune indications. The module is provided with:

- Dip Switch for the numerical configuration of the zone module.
- Output and Input terminals for the zone amplifier audio input and 100V output connection
- Output and Input terminals for the 100V loudspeaker loop connection
- Output terminal for the remote NO and NC control
- Background noise detection unit connection
- Switch for the backup function activation

Installation

Signal input and output connection

AMP IN

3 ways Euroblock removable terminals is used to connect the balanced audio signal between the zone module and the zone amplifier.

AMP OUT

3 ways Euroblock removable terminals is used to connect the 100V output audio signal between the zone amplifier and the zone module.

SPKR / LOOP

4 ways Euroblock removable terminals is used to connect the 100V audio signal of the loudspeakers line. The loop cable starts from the last loudspeaker of the line

Advanced Functions

RELAY

3 ways Euroblock removable terminals is used for the connection of the NO and NC contacts with an external device to command when selective, general or emergency calls are used or when pre-recorded messages are used.

REMOTE CONTROL

RJ11 6/6 connector is used to connect the data Bus between the zone module and the background noise detection unit and automatic volume control.

BCK

2 ways switch is used to activate the backup function on each zone module

ON = Active OFF = Deactive

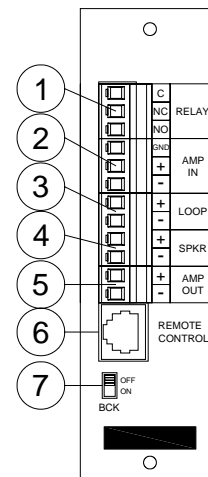
Specifications

MODEL	SFM
AMP IN output level	0dB
AMP OUT Amplifier Power output	max 500W
RELAY contact applicable voltage	max 24Vdc 1A
Pilot tone frequency	>20KHz
Internal connection	Slot Bus 64 pin
Power Requirements	12Vdc
Absorption	300mA
Dimension (W x H x D)	38x135x190mm
Weight - Net	160g

Commands and Functions (as per Fig. 3)

1. RELAY – Relay contacts NO / NC max 24Vdc 1A, controlled by calls and messages activation
2. AMP IN – Audio output to connect with the zone amplifier input
3. LOOP – Input for the return loop of loudspeakers 100V audio line
4. SPKR – 100V audio output for the loudspeakers line
5. AMP OUT – 100V audio input for the zone amplifier output
6. REMOTE CONTROL – Input to connect the background noise detection unit
7. BCK – Switch to activate the backup function

FIG 3



SB80 – Remote Microphone Unit

Description

The standard remote microphone unit is the user terminal used to broadcast selective paging messages in zone, area or general for common use. The communication with the central unit is made through a digital Bus on which the codified audio and the exchange of information between the two equipment travel.

The remote microphone, realized in table version, is provided with:

- Gooseneck electrete microphone with lighted ring.
- Membrane Keyboard for the call type selection.
- Back-light LCD Display for the visualization of the operations on progress.
- Double Bus connector for the in-out of the digital line
- Internal Dip Switch for the numerical configuration of the remote microphone.
- Socket for the connection to the external power source.

Power Supply

The unit is expected to work in DC (or AC) current supplied from the enclosed power source 230Vac/12Vdc. Predispose a 230 VCA electric power socket in proximity of the remote microphone emplacement.

Installation

Signal input and output connection

MIC BUS

The two RJ11 6/6 are used for the connection with the microphones chain constituted by up to 32 units (Emergency remote unit included)

The two RJ are in parallel connection and allow to connect the digital line that comes from the central unit (or from the previous remote units) and the link in toward the following remote unit.

The connection is made by UTP CAT5 cable (3 twisted pair).

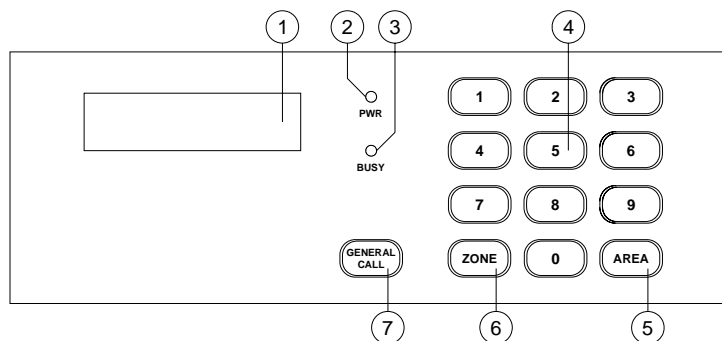
Specifications

<i>MODEL</i>	<i>SB80</i>
Microphone	Gooseneck Electrete
Frequency response	100-15000Hz
Pick-Up-Pattern	Cardioide
Sensitivity	-68dB
Impedance	100 ohm
Power Requirements	12Vdc/12Vac
Absorption	100mA
Dimension (W x H x D)	207 x 55 x 130mm
Gooseneck Length	500mm
Weight - Net	1,1Kg

Commands and Functions (as per Fig. 4)

- 1) DISPLAY – Back-light LCD 16x2 display for the visualization of the unit functions
- 2) PWR – Power on led indicator
- 3) BUSY – Led indicates that the Bus is busy cause another user's call
- 4) 0÷9 – Numeric keyboard to select the zone or area where make the call
- 5) AREA – Key for the area selective call selection
- 6) ZONE - Key for the zone selective call selection
- 7) GENERAL CALL – Key for general call selection

FIG 4



SVF – Emergency Microphone Unit

Descrizione

The emergency Microphone units, also called fireman's microphone, has the basic functions of the standard microphone unit like user terminal to broadcast paging messages.

It also has autodiagnosics of the microphone capsule and of the connection to the central unit.

An emergency 2 ways control is used to switch the unit from the normal mode (NORM) to the emergency mode (EMG) that allows to make general calls and with the priority on all the other user terminals or messages currently broadcasted.

This function is also available in case of digital system breakdown because the unit send the messages to the zone amplifiers inputs directly.

To allows these functions the emergency unit needs of another specific connection toward the central unit by emergency Bus line.

The unit, realized for the wall mounting in GEWISS GW 44819 case type (separately supplied) is provided with:

- Omnidirectional dynamic microphone with push-to-talk button.
- Membrane Keyboard for the call type selection.
- Back-light LCD Display for the visualization of the operations on progress.
- Double Bus connector for the in-out of the digital line
- Internal Dip Switch for the numerical configuration of the remote microphone.
- Socket for the connection to the external power source.
- Emergency Bus input connector.
- Safety commutation switch for the operation mode selection

In the Secure System is possibile to insert one emergency microphone only

Power Supply

The unit is expected to work in DC (or AC) current supplied from the enclosed power source 230Vac/12Vdc. Predispose a 230 VCA electric power socket in proximity of the remote microphone emplacement.

The unit can work in emergency mode (EMG) in case of 230Vac distribution system breakdown, because it is supplied directly from the central unit through the emergency Bus (if the central unit is supplied from UPS)

Installation

Signal input and output connection

MIC BUS

The two RJ11 6/6 are used for the connection with the microphones chain constituted by up to 32 units (Standard + Emergency)

The two RJ are in parallel connection and allow to connect the digital line that comes from the central unit (or from the previous remote units) and the link in toward the following remote unit.

The connection is made by UTP CAT5 cable (3 twisted pair).

EMG

RJ45 8/8 connector is used to connect the emergency controlled line. Through this line is possible to make emergency calls excluding all the digital system and with the priority on all the other audio sources.

The connection is made by UTP CAT5 cable.

MIKE

4 pins microphone connector is used to connect the hand-held microphone. The PTT buttons must be push when the unit is used to make a call in emergency mode EMG. When the unit is in NORM mode it must be used like a standard remote microphone unit.

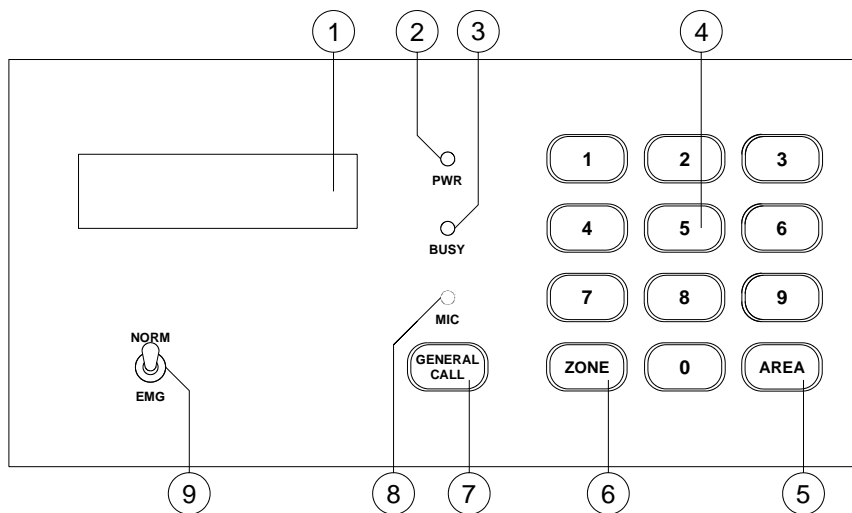
Specifications

<i>MODEL</i>	<i>SVF</i>
Microphone	Dynamic – Hand-Held
Frequency response	200-5000Hz
Pick-Up-Pattern	Omnidirectional
Sensitivita	-76dB
Impedante	500 ohm
Power Requirements	12Vdc/12Vac
Absorption	100mA
Dimension (W x H x D)	183x100x85mm
Microphone cable length	40/80cm
Weight – Net	1,2Kg

Commands and Functions (as per Fig. 4)

1. DISPLAY – Back-light LCD 16x2 display for the visualization of the unit functions
2. PWR – Power on led indicator
3. BUSY – Led indicates that the Bus is busy cause another user's call
4. 0÷9 – Numeric keyboard to select the zone or area where make the call
5. AREA – Key for the area selective call selection
6. ZONE - Key for the zone selective call selection
7. GENERAL CALL – Key for general call selection
8. MIC – Microphone active led indicator (In NORM mode only)
9. NORM / EMG – Operation mode selector

FIG 5



System power on

System connection

Before the system power on, carry out the following connections:

- Connect the central unit with the switching unit by the enclosed Patch UTP CAT5. Connect in multiple cascade the possible other switching units.
- Connect the emergency microphone unit priority line with the central unit by not enclosed UTP CAT5 cable.
- Connect the loudspeakers lines and the return loop to the respective zone modules.
- Connect the standard microphone unit line with the central unit by not enclosed UTP CAT5 cable.
- Connect the possible audio sources to the central unit.

The zone modules must be numbered by the appropriate dip-switch, in pure binary code. The modules installation must be done after the numbering in consecutive increasing mode with the start from the number 1.

System power on

The system power on must follow a precise sequence of activation between the several devices that compose it:

- 1) Power on of all the amplifiers, backup amplifier included
- 2) Power on of the Switching Unit SF08
- 3) Power on of the Central Unit CM80

The inverse sequence is for the system power off.

- 4) Power off of the Central Unit CM80
- 5) Power on of the Switching Unit SF08
- 6) Power off of all the amplifiers, backup amplifier included

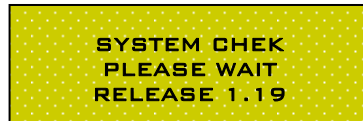
The amplifiers volume must not be too low to have high influence on the control pilot tone. So the volumes must be higher than the half of the level. Verify that the RDY green leds of the inserted zone modules are lighted when the switching unit is turned on. In the same time verify that the FAULT red leds are not lighted. If one of these is lighted, it is necessary to check the loudspeakers line and the return loop connection. Eventually try to set the amplifier volume to an higher level.

After the appropriate controls, reset the switching unit.

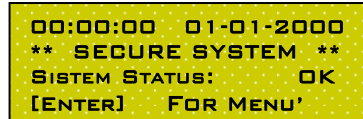
When the central unit is turned on, the system enters in an start status and displays on the LCD the following text "SYSTEM CHECK PLEASE WAIT".

After few seconds, if no functionality faults are detected, the system enters in stand-by status and displays on the LCD the following text "SISTEM STATUS OK"

In other way if a functionality faults are detected, the system displays on the LCD the faults found.



SYSTEM CHEK
PLEASE WAIT
RELEASE 1.19



00:00:00 01-01-2000
** SECURE SYSTEM **
SISTEM STATUS: OK
[ENTER] FOR MENU'

Configurations

Some of the system functions are adjustable from the front panel of the central unit, while others are adjustable from a PC with Secure System software only.

The functions programmable from the front panel are the following:

- Alarms reset.
- Zone modules control.
- Zone modules status visualization.
- Zone modules configurations visualizations.
- Clock and date setting.
- Audio setting (music on/off).
- Din-Don Signal setting.
- Vox input setting.
- RS232 setting.
- Built in monitor setting.
- Broadcast of pre-recorded voice messages.
- Events log visualization.
- Central unit reset with recall of default settings.

Panel setting mode:

Push Enter (ENTER) button when the LCD display the text "System status: OK" to have the access at the different functions. The functions are displayed in a cyclical mode at each Enter selection.

Use the arrows buttons to change the values and parameters. The modify is stored at the successive Enter button selection.

The functions programmable from the PC connected to the serial port are the following:

- Alarms reset.
- Zone modules control.
- Zone modules status visualization.
- Zone modules configurations visualizations.
- Events log visualization.
- Zone modules configurations setting.
- Remote inputs setting.
- System configurations storing.
- Stored settings recall.
- Events log managing and storing.
- Sent to the microphone units of character strings.
- Remote input activation simulation.
- MSG2 input activation and managing.
- Serial communication testing.

System start

The system needs of a switching unit zone modules control at the start of the first power on.

Push the Enter button on the front panel of the central unit until when the LCD displays the "ZONE MODULE SCAN" menu. Push right arrow button to start the control.

```
ZONE MODULE SCAN
> START SCANNING
[ENTER] FOR MENU'
```

When the control is finish, the LCD displays the "ZONE MODULE SCAN" menu. Push the right arrow button a second time to display the zone module status.

```
DISPLAY ZONE MODULES
<> PAGE SCROLL
[ENTER] FOR MENU'
```

If all the cards are working correctly, the LCD will display all the modules identification codes.

```
M01-> 01 02 03 04
M05-> 05 06 07 --
M09-> -- -- -- --
M13-> -- -- -- --
```

GA is the identification code for the cards with **audio fault**, and GS code for the cards with **card fault**

The system stores all the settings after the this control, also if the central unit will be power off.

Whichever zone modules number variations need of another manual control of the system.

```
M01-> GA 02 03 04
M05-> 05 06 07 --
M09-> -- -- -- --
M13-> -- -- -- --
```

```
M01-> 01 02 03 04
M05-> 05 GS 07 --
M09-> -- -- -- --
M13-> -- -- -- --
```

Remote Microphone Units

The remote microphone units must be connected in cascade mode to the central unit. Each unit is provided with internal dip-switch for the numerical configuration in pure binary code. This configuration allows to the central unit to identify when the units are activated from the calls.

The units configuration do not need to follow a consecutive increased numbering. The jumpers to close the line must be insert in the last unit of the chain (last for the distance from the central unit). The emergency remote unit (Fireman's Microphone) needs of two connection lines, the first one is in common with the other units and the second one directly connected with the central unit (EMG). Also the emergency unit is provided with internal dip-switch for the numerical configuration in pure binary code, it allows to identify the unit when it is used like standard unit. The emergency function is also active in case of 230Vac distribution system breakdown. The emergency unit needs of the original PTT microphone to work. The possible no connection of the microphone or the microphone capsule fault case is displayed on the central unit's LCD. The standard and emergency lines cables realization have to be made in pin-to-pin mode.

The microphone units is provided with numeric keyboard from 0 to 9 and with call buttons.

- Push for all the call time the General Call button to make general calls on all the zones. The lighted ring and the word CONNECT displayed on the LCD indicate the microphone activation. If the line is already used from another user the LCD displays the word BUSY. The use of the line from another user is indicated to the BUSY led.
- Select the interest zone number (from 1 to 80) and push for all the call time the Zone button to make a selective zone call. The Error message will be displayed on the LCD if a not existing zone is selected.
- Select the interest area number (from 1 to 40) and push for all the call time the Area button to make a selective area call. The Error message will be displayed on the LCD if a not existing area is selected

The emergency microphone unit in normal mode (switch in NORM position) has the same functions of the standard units. It does not need to push the PTT button on the hand-held microphone to make calls. Switch in EMG position the operation mode selector to make emergency calls. Push the PTT button only, to make general calls with the priority on all the system. The LCD on the central unit displays "EMERGENCY CALL" and the EMG leds on the switching unit will light on. The emergency function is also active in case of microphone power supply breakdown.

Remote Inputs

The central unit is provided with six programmable remote inputs on Euroblock connector. The first four inputs are balanced and need to be close by 2,2Kohm resistance for not generate alarm indication. The 2,2Kohm resistances must be connected in parallel to the N.O. activation contact and in series to the N.C. activation contact. The other two inputs do not generate alarm in N.C. mode. The remote inputs are programmable by software only. It is possible to assign one of the following alarm function to each one of the inputs:

- Activation of the broadcast on one zone, area or on all the system of pre-recorded voice message.
- Activation of the broadcast on one zone, area or on all the system of pre-recorded voice message, and trasmission to the microphone units of character string.
- Trasmission to the microphone units of character string.
- Alarm reset.

The unused balanced inputs must be close by the 2,2Kohm resistance, and the unbalanced inputs (5 and 6) must be close by jumper.

If there are not any different request from the customers, the first three balanced inputs are used for the activation of the broadcast, in general mode, of three different pre-recorded messages for fire alarm:

Input	Message
1	Warning a possible fire alarm is under investigation, please wait for featuring instructions
2	Warning a fire alarm has been activated, please leave the building using emergency exits only
3	Attention fire alarm is stopped, you are now allowed to return to the building

The pre-recorded messages are broadcast in Italian and in English languages.

The messages can be modified on customer request.

Fault Indications

The amplifiers and loudspeakers lines operation control is made by the injection of a pilot tone in the amplifiers chain (open circuit or short circuit). Any wrongs on loudspeaker line or loop connection (the loop of one line is connected to the wrong module zones), or the too low amplifier volume level, can generate a fault indication with the light on of the respective FAULT red led.

The wrong or no connection of the emergency unit (Firemen's microphone) can generate a fault indication on the LCD of the central unit or the unwonted activation of one emergency call. The system also detects the no connection of the PTT hand-held microphone to the emergency unit.

Secure system is provided with the loudspeakers lines, amplifiers and emergency unit controls, and also with the following other controls:

- Specific zone module fault indication.
- Internal voice messages card fault indication.
- Decoder for the communication with the standard remute units fault indication.
- Audio Bus through the central and switching unit fault indication.

Factory Settings

Each Secure System is realized for the market with the following settings:

Parameter	Value
Time and Date	00:00:00 01-01-2000
Music	NO (off)
Din-Don	NO (off)
Built-in Monitor	MUTE
RS232 Serial Port	NO (off)
Alarm Input 1	Message 1 – General Call
Alarm Input 2	Message 2 – General Call
Alarm Input 3	Message 3 – General Call
Alarm Input 4	No Message
Alarm Input 5	No Message
Alarm Input 6	Stop Alarm
Zone Call Volume	99
Zone Music Volume	70
Zone Musi Source	AUX 1

General Reset

Push and maintain the Enter and Left Arrow buttons when the central unit is turning on to reset all the system and recall the the factory settings

Attention:

This operation is allowed only to authorized personal.

System Architecture Diagram

