5Simplex

UL, ULC, CSFM Listed; FM Approved; MEA (NYC) Acceptance*

4100 Fire Control Panels

Addressable Fire Detection and Control Emergency Voice/Alarm Communications Equipment

Features

Emergency voice/alarm communications provide:

- Alarm/evacuation signal generation with multiple built-in tones
- Standard or customized digital message storage and message generation
- Automatic or manual operation
- Mass Notification operation

Multiple channels are available:

- Analog audio systems provide dual channel operation
- Digital audio systems provide up to eight channels over a single wire pair

Communications features:

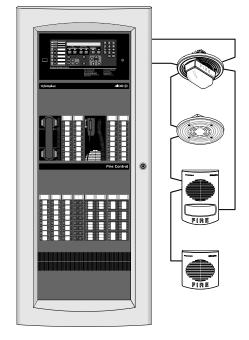
- Up to five supervised remote microphone inputs
- Spoken voice coding from the digital message player
- Multiple digitally recorded human voice messages
- Spoken WALKTEST system testing
- Separate evacuation, drill, and optional "All Clear" voice messages and tones
- Ready-to-talk microphone indicator on front panel audio control module
- Local panel speaker for tone/message broadcast verification
- MINIPLEX Voice Transponders are available for distributed audio

Amplifiers are available with analog or digital input:

- Flex-35 (35 W) and Flex-50 (50 W) amplifiers provide a dual channel design with configurable operation modes
- 100 W primary and backup, single channel amplifiers include a built-in power supply
- Amplifiers are available for 25 VRMS or 70.7 VRMS output with on-board, power-limited NACs (only one voltage choice per system)
- Built-in Temporal Pattern horn tone provides default backup signal operation
- Optional modules provide power-limited NAC expansion, convert Class B NACs to Class A operation, and provide Constant Supervision Operation for Non-Alarm Audio (NAA) applications (NAA requires additional hardware, and software revision 11.08 or higher)

Firefighter telephone systems:

- Master telephone can simultaneously talk with up to 6 remote telephones and can be connected as an audio input for broadcast messages
- Ring signal on remote firefighter telephone indicates that a call request is initiated and a hold signal indicates that a connected line has been deselected
- Telephone circuits are supervised for open and short circuits, too many telephones connected, and the master telephone is supervised for cord integrity
- Degraded mode allows remote telephones to remain connected to each other in the event of a communications loss



4100ES Fire Alarm Control Panel with Voice and Firefighter Telephone Options

Listed to:

- UL 864, Fire Detection and Control (UOJZ), and Smoke Control Service (UUKL)
- UL 2017, Process Management Equipment (QVAX)
- UL 1076, Proprietary Alarm Units-Burglar (APOU)
- UL 2572, Mass Notification Systems (PGWM)
- ULC S527, Control Units for Fire Alarm Systems

Description

4100ES Audio Systems provide voice communication, alarm tones, and/or digitally prerecorded voice messages to alert occupants of fire or other emergency situations. Evacuation signaling may be automatically generated via alarm initiated event programs or by firefighting personnel using the operator controls.

4100U Series Products Note. The audio system modules and features listed in this data sheet are both compatible with, and listed for use with 4100U series fire alarm control panels. Contact your local Simplex® product supplier for details.

* See page 5 for product that is listed as UL or ULC and additional product listing details. This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7165-0026:251 for allowable values and/or conditions concerning material presented in this document. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tvco Fire Protection Products.

Audio Controller Module Description

The Audio Controller Module provides digitized alarm tones and digitally recorded voice messages and message construction, and manages both microphone inputs and other auxiliary inputs connected to the optional Auxiliary Audio Input Module. Tones and voice messages are digitally recorded and stored in the audio control module's message memory.

Two versions are available: **Analog** and **Digital**. Systems must be either analog or digital, not intermixed. One audio control module controls the entire audio system.

Common audio control board features:

- On-board digital message memory provides up to 2 minutes at normal or 1 minute at high resolution
- Connects to optional 4-input audio input modules (two maximum) for a total of up to 6 microphones and 11 distinct audio inputs
- Memory expansion is available to provide up to 8 minutes or 32 minutes at normal resolution (4 minutes or 16 minutes at high resolution)
- Connections for a Master Microphone and one Remote Microphone, compatible with standard or noise-canceling microphones
- Master telephone to audio interface connection uses the audio bay's Power Distribution Interface Module (PDI)
- Local panel speaker output with on-board volume control
- On-board download port for message loading
- The microphone ready-to-talk LED is located on the front panel audio control module (see p. 4) and requires connection to a 64 LED/64 switch controller
- Audio risers, either digital or analog, may be directly connected to 31 remote nodes; for applications requiring audio risers to more than 31 remote nodes, alternate connection methods are available, contact your Simplex product representative for details

Analog Audio Controller Modules

Analog audio control modules are for systems that require one or two simultaneous channels of audio information per the following feature summary.

- Built-in 10 VRMS riser output eliminates the need for separate riser amplifiers available as Class B or Class A
- Messages can play on one or both risers simultaneously, with the same or a different message
- Analog audio controllers are for connection to analog input audio amplifiers and audio risers only
- On-board status LEDs assist with setup and troubleshooting

Digital Audio Controller Modules

Digital audio control modules are for systems that require more than two simultaneous channels of audio information per the following feature summary.

- Up to 8 channels of information at normal resolution are available (4 channels at high resolution) on one twisted wire pair
- Primary 1 Digital Audio Riser (DAR) output can be either wired Style 4 or Style 7; Primary 2 DAR is an identical, separate output for Style 4 connections, typically to local MINIPLEX voice transponders
- Digital audio controllers are for connection to digital input audio amplifiers and digital audio risers only

Audio Tone List

The Temporal 3 Pattern is available for compatible tones (1/2 sec on, 1/2 sec off, 1/2 sec on, 1/2 sec off, 1/2 sec on, 1-1/2 sec off) to indicate evacuation. The following is a list of the standard audio tones.

- Horn, continuous 520 Hz tone, primarily used for coded systems or general temporal pattern signaling; 520Hz tone is compliant with NFPA 72 Low Frequency Signal Requirements for Sleeping Areas
- Chime, a digitally recorded mechanical chime tone, normally used free-running or for coded operation
- Bell, a digitally recorded mechanical bell sound, normally used free-running, for coded systems, or general temporal pattern signaling
- Fast Whoop, a quickly ascending tone
- Slow Whoop, a slowly ascending tone
- **High/Low**, with high frequency of 750 Hz for 100 ms and low frequency of 500 Hz for 400 ms
- **Beep,** 500 Hz tone of 0.7 s on, 0.7 s off
- **Stutter,** 500 Hz tone with on and off times of 100 ms
- Wail, ascends, then descends between 600 to 940 Hz
- **GSA Tone,** continuous 2000 Hz tone

Audio Controller Message Description

Zone Coded Signaling is available using tones or spoken numbers. Spoken coded messages can be used in place of conventional pulse tone coding to eliminate counting and interpretation of the zone coded location. For example, a fire alarm zone such as First Floor East, Smoke Detector Room 23 will be Code 1123.

Two possible transmission schemes are:

- 1. Conventional Zone Coded Signaling where T = Tone: T...T...TT...TT...T...T...TT...TT...
- 2. Spoken Coded Signaling:

Code, one..one..two..three; Code, one..one..two..three

The Audio Controller has the ability to precede spoken codes with phrases and alert tones. As an alternative, the previous example could have been preceded with a chime tone. The word "code" could be replaced with the phrase "Doctor Firestone, please dial...".

Preprogrammed Special Messages can be ordered. Up to 32 minutes of special phrases and messages are available to meet specific applications. The standard Evacuation Message is: "Attention... Attention... Attention... Attention... All occupants walk to the nearest stairway exit and walk down to your assigned re-entry floor or main lobby... Do not use the elevator... Walk to the nearest stairway... Do not use the elevator... Walk to the nearest stairway."

Custom Message Ordering is summarized below:

Model	Description					
4100-8804	Select when Custom Messages are required , choose message types from below as required (minimum quantity of one)					
4100-0822	Custom Messages from Tape	Order (1)				
4100-0823	Custom Messages from Transcript; NOTE: Send transcript in advance to Applications Engineering to verify phrase quantity	Order (1) 4100-082x for each (2) complete messages without spliced phrases; or for each (50)				
	Custom Messages from Archive	spliced phrases				
4100-0824	0824 CO Relocation Message; Temporal 4 Pattern hotone with English male voice instruction; identify a "UCSET1393" when ordering					

Audio Amplifiers General Description

4100ES audio amplifiers are available as dual channel models rated for 35 W (Flex-35) or 50 W (Flex-50) and as single channel 100 W models with on-board NACs (notification appliance circuits) for convenient field wiring. Common features are summarized as follows:

- Analog input amplifier models are for single or dual channel system operation
- Digital input amplifier models are for multi-channel system operation providing up to eight channels over a single twisted wire pair
- Amplifiers are power-limited with models available providing 25 VRMS, or 70.7 VRMS output
- When Non-Alarm Audio (NAA) applications (such as for background music, paging, or for Mass Notification) are required, optional Constant Supervision modules provide continued speaker zone supervision during the page or while background music is playing; due to the NAA supervision requirements, when amplifiers are used for paging or playing background music, output power is derated to 70% of alarm output rating (24.5 W, 35 W, and 70 W); during alarm conditions full amplifier output power is available
- Linear power output stages are traditional Class B designs for low distortion and low EMI
- An on-board 500 Hz temporal pattern horn tone on each amplifier provides a default backup tone
- Supervision actively monitors amplifier gain in real time, comparing output level to input level
- On-board test switches can be activated to test and observe amplifier backup
- On-board overcurrent protection protects against overloads and short circuits
- Each amplifier communicates to the host CPU and allows voltage and current values to be accessed from the fire alarm control panel operator interface

Flex-35 and Flex-50 Amplifiers, General

Flex-35 and Flex-50 amplifiers are a *self-backup dual channel design* that provides a total of 35 W or 50 W of audio power with the following common feature summary:

- Self-backup feature allows NACs connected to a disabled amplifier channel to be routed to the remaining channel with the full 35 W or 50 W providing the single channel as selected by the fire alarm control panel programming; external backup amplifiers are not required
- Three standard on-board audio NACs are each rated for 2 A maximum and are capable of being routed to either desired amplifier channel
- Compatible power supplies include the: Expansion Power Supply (XPS), Remote Power Supply (RPS), or System Power Supply (SPS); power supplies with single amplifiers can provide power for other compatible applications within their rated output
- Digital models of the Flex-35 and Flex-50 have a digital decoder module that selects one or two of the input channels as desired
- Selectable reduced output levels of -12 dB or -6 dB are available for non-emergency audio output, selectable per channel

Flex-35 Amplifiers

- Each Flex-35 channel is capable of up to 35 W output with a total of 35 W
- Channels can be divided as 0 W and 35 W; 17.5 W and 17.5 W; 10 W and 25 W; or any combination that totals 35 W or less

Flex-50 Amplifiers

- Each Flex-50 channel is capable of up to 50 W output with a total output of 50 W
- Channels can be divided as 0 W and 50 W; 25 W and 25 W; 10 W and 40 W; or any combination that totals 50 W or less

Dual Flex-35 or Flex-50 Connections

- Two Flex-35 amplifiers, or two Flex-50 amplifiers can connect to a *single* Expansion Power Supply (XPS) in the same audio expansion bay (amplifiers must be the same model number); XPS output is dedicated to amplifier power
- Mounting for dual Flex-35 or Flex-50 amplifiers is Blocks A & B for amplifier 1, Blocks C & D for the XPS, blocks E & F are not used, and Blocks G & H are for amplifier 2 (see page 7 for mounting reference)

100 W Audio Amplifiers

100 W amplifiers provide single channel operation per the following feature summary:

- Six standard on-board Class B audio NACs are each rated for 2 A maximum
- 100 W amplifiers include a built-in power supply and use system battery backup
- Amplifier and power supply size requires four continuous blocks of expansion bay size
- A *single* 100W primary amplifier *or* both a primary and a backup amplifier can be located on a single expansion bay (refer to page 7 for bay loading)
- Redundant (backup) amplifiers interconnect directly to minimize wiring connections and their power is routed through the NACs of the primary amplifier
- Redundant amplifier operation can be configured as one-for-one or one-for-many depending on specific requirements
- Digital models of these amplifiers have a digital decoder module that selects the desired input channel per system requirements
- Selectable reduced output levels of -12 dB or -6 dB are available for non-emergency audio output

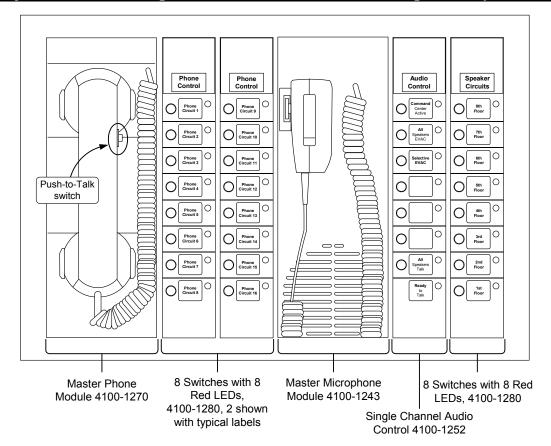
Audio NAC Expansion Modules

3

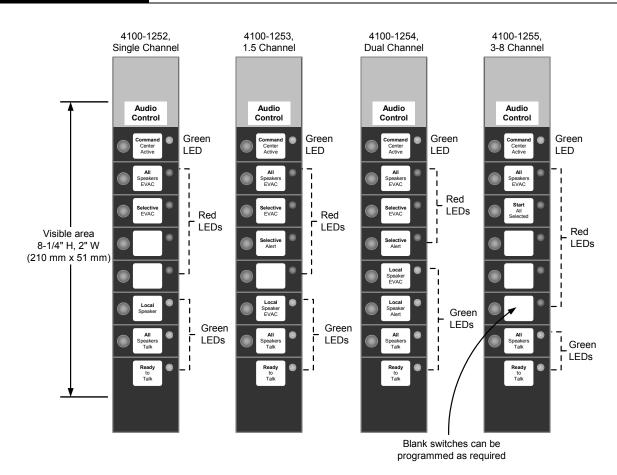
- For applications requiring additional NACs, modules are available for on-board expansion and further expansion is available with the chassis mounted 4100-5116 Expansion Signal Module
- 100 W Amplifiers support optional modules that convert the six audio NACs to Class A or to increase the Class B audio NACs to twelve
- **NOTE:** Adding NAC expansion modules does not increase amplifier power beyond the stated ratings

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Audio Bay Reference with Single Channel Audio Control and Firefighter Telephone Modules



Audio Control Modules



Emergency Voice/Alarm Communications Equipment Product Selection

NOTE: Select systems as either analog or digital. When amplifiers are used for Non-Alarm Audio paging or background music with

	,	/Alarm Cor	nmunications Ed	quipment	i	upervision Compatible)		
Model	Description	Vudia Oparati	ion with mioronhono	roguiros	Details	anaian Day 4100 1210 An	alaa Cantralla	r Doord	
4100-9620	dedicated expa	Basic Analog Audio Operation with microphone, requires dedicated expansion bay				ansion Bay, 4100-1210 Ana odule, and Audio Expansio		воаго,	
4100-1210	Analog Controller Board only; order expansion bay and audio expansion bay kit separately				Controller boa	rd mounts in Blocks A and	В		
4100-1361	25 VRMS output Flex-35, 35 W Amplifier, constant				NAC rating = '		Includes thre		
4100-1362	70.07 VRMS output supervision compatible			NAC rating = 0).5 A speakers max.	board Class NACs; powe			
4100-1312	25 VRMS outp	25 VRMS output Flex-50, 50 W Amplifier, constant			NAC rating = 2		supplied from		
4100-1313	70.7 VRMS ou	tput super	vision compatible		NAC rating = 0).707 A speakers max.	RPS, or SPS	S*	
100 W <i>Ai</i>	nalog Amplifi	ers with Po	wer Supply, Con	stant Su	pervision Co	mpatible			
Model/Out	put Voltage	Dower Sun	ply Input/Listing		Description	Details			
25 VRMS	70.7 VRMS	Power Sup	ppry input/Listing		Description	Details			
4100-1314	4100-1315	120 VAC, 6		UL	Primary	Includes six, Class B aud			
4100-1316	4100-1317	120 VAC, 6	60 Hz	ULC	100 W	NAC rating = 100 speake 2 A @ 25 VRMS (50 W);	rs maximum;	ULC	
4100-1318	4100-1319	220/230/24	0 VAC, 50/60 Hz	UL	Amplifier	1.414 A @ 70.7 VRMS (1	00 W)	models have low	
4100-1320	4100-1321	120 VAC, 6	0 Hz	UL	Backup	Uses the six Class B NAC	Co of primary	battery dropout	
4100-1322	4100-1323	120 VAC, 6	60 Hz	ULC	100 W	amplifier	s of primary	circuit	
4100-1324	4100-1325	220/230/24	0 VAC, 50/60 Hz	UL	Amplifier	· r			
Digital Emer	gency Voice/	Alarm Con	munications Eq	uipment,	Constant Su	pervision Compatible			
Model	Description			•	Details	· · ·			
4100-9621	Basic Digital Audio Operation with microphone, requires dedicated expansion bay			requires	Includes: Expansion Bay, 4100-1311 Digital Controller Board, Microphone Module, and Audio Expansion Bay Kit				
4100-1311	Eight Channel Digital Controller Board only; order expansion bay and audio expansion bay kit separately				Controller board mounts in Blocks A and B				
4100-1363	25 VRMS outp	ut Flex-	35, 35 W Amplifier, o	constant	NAC rating = 1	1.4 A 35 W, or 100	Includes thre		
4100-1364	70.07 VRMS output supervision compatible NAC rating = 0.5 A speakers max. board Class B a NACs; power is								
4100-1326	25 VRMS outp		50, 50 W Amplifier, o	constant	NAC rating = 2 A 50 W, or 100 supplied from an X				
4100-1327	70.7 VRMS ou	1,000	vision compatible		NAC rating = 0		RPS, or SPS	S*	
	•	rs with Po	wer Supply, Cons	stant Sup	pervision Cor	npatible			
	put Voltage	Power Sup	ply Input/Listing		Description	Details			
25 VRMS	70.7 VRMS			ı	·			_	
4100-1328	4100-1329	120 VAC, 6		UL	Primary	Includes six, Class B aud NAC rating = 100 speake		ULC	
4100-1330	4100-1331	120 VAC, 6		ULC	100 W	2 A @ 25 VRMS (50 W);	is maximum,	models	
4100-1332	4100-1333	220/230/24	0 VAC, 50/60 Hz	UL	Amplifier	1.414 A @ 70.7 VRMS (1	00 W)	have low	
4100-1334	4100-1335	120 VAC, 6		UL	Backup	Uses the six Class B NA0	e of primary	battery dropout	
4100-1336	4100-1337	120 VAC, 6		ULC	100 W	amplifier	25 Of primary	circuit	
4100-1338	4100-1339	220/230/24	0 VAC, 50/60 Hz	UL	Amplifier	•			
Audio Optio	ns for use wi	th e <i>ither</i> Ar	nalog or Digital S	ystems	(see page 2 fo	r custom message orde	ering)		
Amplifier	and Related	Audio Opt	ions						
Model	Description				Details and M	lounting Reference			
4100-1245	Flex-35/50 Exp three Class B		Module; adds	Choose one per	TOL TOU SUBAKEIS MAXIMUM SUDV - 0.4 MA AIAMI - OU MA				
4100-1246			Module; converts ass A operation	amplifier		x-35/50 assembly; NAC ra maximum; <i>Supv. = 1 mA</i> , <i>i</i>			
4100-1248			NAC Module; NAC 0 speakers max.	Choose one per		dditional Class B audio NA mbly; <i>Supv. = 17 mA, Alan</i>		n 100 W	
4100-1249	= 2 A, 50 W, o	r 100 speake	dule; NAC ratings rs maximum	amplifier	100 W amplifie	n-board NACs to Class A der assembly; Supv. = 1 mA			
4100-1259	25 VRMS Outp rating = 2 A, 50 speakers maxi	0 W, or 100	Constant Supervisi Adapter for three N select per amplifier	IACs; output	Supv. = 10 mA on batteries; Alarm = 35 mA	Converts three Class E or Class B Constant Su	upervision NA	Cs; mounts	
4100-1260	70.7 VRMS Ou rating = 0.707 100 speakers i	A, 50 W, or	(not compatible wit amplifier NAC expa modules)		Supv. = 38 mA Alarm = 70 mA				

¹⁰⁰ speakers maximum * Refer to data sheet S4100-0031 for power supply details.

Emergency Voice/Alarm Communications Equipment Product Selection (Continued)

Details and Mounting Reference Details Detail	Amplif	ier and Related Audio Option	ns (Continued)					
4100-1268 Fig. 1 = 1.5 A, 5.0 W, or 100 speakers maximum and mounts in expansion bay, Super 2 of M. Alarm # 80 MA 4100-1267 Expansion Signal Module Nac Expansion, Nacional Programment and Programment Annual Programment An	-							
rating = 1.5 A, 50 W, or 100 speakers maximum from 2	4400 E446							
Expansion Signal Module NAC Expansion FACE Expansion Signal Module Class A Adapter, NAC Expansion Signal Module Class A Adapter, NAC Converts 3 Class B, NACs to Class A; Supv. = 7 mA; Converts 3 Class B;	4100-5116							
Audio-1287 Aud	/100 ₋ 1266	Expansion Signal Module NAC I	Expander; NAC	Expands module capacity to six, Class B NACs;				
4100-1281 Audio Input and Controller Options (see page 2 for custom message ordering) Audio Days Interconnection Hamess Kit, order one for each audio bay addition 4100-1293 Audio Bay-to-Bay Interconnection Hamess Kit, order one for each audio bay addition 4100-1294 Audio Bay-to-Bay Interconnection Hamess Kit, order one for each audio bay addition 4100-1295 Audio Bay-to-Bay Interconnection Hamess Kit, order one for each audio bay addition 4100-1297 Audio Bay-to-Bay Interconnection Hamess Kit, order one for each audio bay addition 4100-1291 Audio Bay-to-Bay Interconnection Hamess Kit, order one for each audio bay addition 4100-1292 Audio Bay-to-Bay Interconnection Hamess Kit, order one for each audio bay addition 4100-1294 B Minute Message Expansion Module 1400-1242 32 Minute Message Expansion Module 1400-1242 32 Minute Message Expansion Module 1400-1242 32 Minute Message Expansion Module 1400-1242 52 Minute Message Expansion Module 1400-1245 Fire Alarm Control Panels 1400-1245 Fire Alarm Control Panels 1400-1245 Fire Alarm Control Panels 1400-1245 Sa Channel (Julia Julia) 1400-1255 Sa Channel (Julia Julia) 1400-1272 Sa Channel (Julia Julia) 1400-1272 Sa Channel (Julia Julia) 1400-1273 Telephone NAC Sas A Adapter Module 1400-1273 Telephone NAC Sas Sa Adapter Module 1400-1273 Telephone NAC Sas A Adapter Module 1400-1273 Telephone NAC Sas A Mapter Module 1400-1284 Module with NAA Input 1400-1284 Sa Channel (Julia Julia) 1400-1285 Sa Channel (Julia Julia) 1400-1270 Capansis Markel (Channel Controller Module With Irres 1400-1270 Capansis Markel (Channel Controller Module With Irres 1400-1270 Capansis Markel (Channel Controller Module With Irres 1400-1270 Capansis Markel (Ch	4100-1200							
Expansion Signal Module Constant Supervision Converts 3 Class B NoCs to Class A Constant port 4100-5116 14.4 h. 50 W, or 100 speakers maximum 2.4 h. 4.5 m. 2.5	4100-1267				4100-5116;			
400-1286 Adapter for 25 VRMS or 70.7 VRMS, NAC rating Supervision NACS; Supv. = 38 m An or batteries (constant 408-19918 End-of-line resistor harness for 70.7 VRMS NACS; 10 kt. 1, 1W 400-2300 Ludio Bay-to-Bay Interconnection Harness Kit; order one for each audio bay addition 4100-2320 Audio Bay-to-Bay Interconnection Harness Kit; order one for each audio bay addition 4100-0320 Audio Bay-to-Bay Interconnection Harness Kit; order one for each haudio bay addition 4100-0321 Audio Bay-to-Bay Interconnection Harness Kit; order one for each bau-for the part of the fore the fore and the foreign of								
Audio Description Description Model Microphone Module (mike) Front panel module that requires 2 Slots (4*). Supervisory Panels Remote Microphone Module (mike) Front panel module that requires 2 Slots (4*). Supervisory Panels St. Channel (guidio or mike) Panels St. Channel (guidio or mike) St. Channel (guidio	4100-1268							
4100-2320 Audio Bay Hardware: order one for each expansion bay 4100-2321 Audio Bay-to-Bay Interconnection Harness Kit; order one for each audio bay addition 4100-1247 Audio Input and Controller Options (see page 2 for custom message ordering) Description 4100-1240 Auxilian/ Audio Input Module: 5 maximum minutes and the provided of	4004 0040	·		77				
Audio Bay-10 Bay Interconnection Harness Kit; order one for each audio bay addition				,				
Audio Box Interconnection Harmess Kit; order one for each close-nippled audio cabinet Audio Input and Controller Options (see page 2 for custom message ordering) Model 100-1240 Auxiliary Audio Input Module; four additional incorponent Block; current = 10 mA 100-1241 8 Minute Message Expansion Module 100-1242 12 Minute Message Expansion Module Provides 8 minutes at normal resolution or 16 minutes at high microphone 18 look; current = 10 mA 100-1243 13 Minute Message Expansion Module Provides 8 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA 100-1243 100-1244 100-1245 100-1246 100-1247 100-1247 100-1248 100-1249 100-1249 100-1249 100-1249 100-1249 100-1240 100				· · · · · · · · · · · · · · · · · · ·				
Model Description Details and Mounting Reference Injustion 17 VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Mounting Agent		· · · · · · · · · · · · · · · · · · ·						
Description Auxiliary Audio Input Module; four additional (unsupervised) inputs per module; 2 maximum Inputs for 10 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, 25 VRMS, 25 VRMS, 70 * VRMS, line level (0.707 VRMS), or microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, and line level (0.707 VRMS), or line looked in the level of 10 microphone; 1 Block; current = 10 mA Inputs for 10 VRMS, and line level (0.707 VRMS). 4100-1242 Renote Microphone Module; control of 10 VRMS, and 10	Audio			• • • • • • • • • • • • • • • • • • • •				
Auxiliary Audio Input Module: four additional unsupervised) inputs per module; 2 maximum microphone; 18 lock, current = 10 mA.			, (000 page 2 .0					
Autonome			ur additional	•	707 VRMS), or			
4100-1242 32 Minute Message Expansion Module Provides 23 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA 4100-1242 32 Minute Message Expansion Module Provides 23 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA 4100-1243 Provides 32 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA 4100-1244 Provides 24 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA 4100-1245 Provides 25 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA 4100-1245 Provides 27 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA 4100-1245 Provides 27 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA 4100-1245 Provides 27 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA 4100-1245 Provides 27 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA 4100-1258 Provides 28 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA 4100-1258 Provides 28 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA 4100-1258 Provides 28 minutes at normal resolution; Supv. = 2 mA; Active = 17 mA 4100-1259 Provides 28 minutes at normal resolution; Supv. = 2 mA; Active = 17 mA 4100-1259 Provides 28 minutes at normal resolution; Supv. = 2 mA; Active = 17 mA 4100-1259 Provides 28 minutes at normal resolution; Supv. = 2 mA; Active = 17 mA 4100-1269 Provides 28 minutes at normal resolution; Supv. = 2 mA; Active = 17 mA 4100-1279 Provides 28 minutes at normal resolution; Supv. = 2 mA; Active = 17 mA 4100-128 Provides 28 minutes at normal resolution; Supv. = 2 mA; Active = 17 mA 4100-128 Provides 28 minutes at normal resolution; Supv. = 2 mA; Active = 17 mA 4100-128 Provides 28 minutes at normal resolution; Supv.	4100-1240	(unsupervised) inputs per modul	e; 2 maximum	·	1			
Auto-1242 32 Minute Message Expansion Module Provides 32 minutes at normal resolution or 16 minutes at high resolution; Supv. = 2 mA; Active = 17 mA module	4100-1241	8 Minute Message Expansion M	odule					
Operator Interface and Related Options Description Details and Mounting Reference	4100 4040	22 Minuto Massass Francis	Andula					
Model Description Description Description Description Control Panels One maximum per audio system; front panel module that requires 2 Slots (4"), Supervisory current = 1.00-1243 Fire Alarm Control Panels Con	4100-1242	32 Minute Message Expansion I	viodule					
Microphone Module (mike); for Iric Alarm Control Panels Remote Microphone Module; Front panel module that requires 2 Slots (47). locate on expansion bay only; space behind for 4100ES flat modules only current = 2.4 mA 2.4 mA 4100-1244 fire Alarm Control Panels Mounted on plate with controls, for 2-gang box mount, see data sheet S4100-0053 for details 4100-1252 1.5 Channel (audio or mike) Operator Interface A100-1253 1.5 Channel (audio + mike) Operator A100-1254 2 Channel (full audio) Operator Interface A100-1255 3.5 Channel (audio + mike) Operator Interface A100-1254 2 Channel (full audio) Operator Interface A100-1255 A3 E Channel (B channel normal res. messages, 4 channels of high res. messages A100-023 for LED/switch modules, as shown on p. 4, are used as required for specific speaker circuit selection (refer to data sheet S4100-023 for LED/switch modules, as shown on p. 4, are used as required for specific speaker circuit selection (refer to data sheet S4100-1289 A100-1289 A	Operat	or Interface and Related Op	tions					
Fire Alarm Control Panels Remote Microphone Module; for Remote Annunciator Panels Remote Microphone Module 4100-1244 for Remote Annunciator Panels Remote Microphone Module 4100-1252 for Remote Annunciator Panels 4100-1253 for Remote Microphone Module 4100-1252 for Lannel (audio or mike) 4100-1253 for Lannel (audio or mike) 4100-1254 for Remote Microphone Module 4100-1255 for Department of the Microphone Module 4100-1256 for Remote Microphone Module 4100-1257 for Schannel (audio or mike) 4100-1258 for Department of the Microphone Module 4100-1258 for Department of the Microphone Module with mounting plate 4100-1288 for LEDIA's Witch Controller Module with mounting plate 4100-1289 for LEDIA's Witch Controller Module with mounting plate 4100-1289 for LEDIA's Witch Controller Module with mounting plate 4100-1270 for LEDIA's Witch Controller Module and three Class B telephone NACs, one maximum per audio system; for use in Fire Alarm Control Panels only; includes one 4100-1278 Module with three Class B telephone Control Module with three Class B telephone NACs Class A Adapter Module 4100-1271 Telephone ANC Class A Adapter Module 4100-1272 Telephone ANC Class A Adapter Module 4100-1273 Telephone ANC Class A Adapter Module 4100-1274 Telephone	Model			•				
Remote Microphone Module; for Remote Annunciator Panels 4100-1244 for Remote Annunciator Panels 4003-9803 Remote Microphone Module 4003-9803 Remote Microphone Module 4003-9803 Remote Microphone Module 4100-1253 1.5 Channel (audio or mike) 4100-1253 1.5 Channel (audio or mike) 4100-1254 2 Channel (full audio) 3-8 Channel (Ro channel normal res. messages, 4 channels of high res. Messages high res. Module with mounting plate for hodule with mounting plate for particular of the high res. Module with mounting plate for high res. Module with members of high res. Messages high res. Module with members of high res. Messages high res. Messa	4100-1243							
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Additional days for details Alton-1252 1. Channel (audio or mike) Alton-1253 1. Channel (audio mike) Operator Interface Alton-1254 2. Channel (full audio) Operator Interface Alton-1255 3-8. Channel (g. channel normal) Operator Interface Channel (g. channel (g. channel normal) Operator Interface Channel (g. channel (g	4100-1244	for Remote Annunciator	space behind for	Active current				
4100-1252 1 Channel (audio or mike) 4100-1253 1.5 Channel (audio + mike) Operator 4100-1254 2 Channel (full audio) Operator 4100-1254 2 Channel (full audio) Operator 4100-1255 3-8 Channel (8 channel normal res. messages, 4 channels of high res. messages of 4100-0032 for specific speaker circuit selection (refer to data sheet S4100-0032 for details of the house of the provisions for one 4100-1289 Controller Module and the full of the house of the high res. messages of 4100-0032 for details only and their connected module without mounting plate. Telephone System Products Model Description Details and Mounting Reference Pront panel module; space behind for 4100ES flat modules only; phone control module included, mounted on bay module mounting plate; for individual telephone circuit control, use LED/switch modules; has provisions for one 4100-1228 on the provisions for one 4100-1289 control of endividual telephone circuit control, use LED/switch modules; has provisions for one 4100-1289 Controller Module on three Class B telephone NACs one maximum per audio system; for use in Fire Alarm Control of word with a control of endividual telephone circuit control, use LED/switch modules; has provisions for one 4100-1289 Controller Module one of the provisions for one 4100-1289 Controller Module one of the provisions for one 4100-1289 Controller Module one of t	4000 0000		,					
4100-1253 1.5 Channel (audio + mike) 4100-1254 2 Channel (full audio) 3-8 Channel (8 channel normal res. messages) 4100-1255 Sa Channel (8 channels of high res. messages) 4100-1288 A LED/64 Switch Controller Modules with mounting plate Module with mounting plate Module with mounting plate Module with mounting plate Module without mounting plate Seet \$4100-1289 Mounts behind the LED/switch modules; has provisions for one 4100-1289 Controller Module without mounting plate Seet \$4100-0032 for details Mounts on extra space of 4100-1288; controls additional 64 LEDs and 64 switches Perior fighter Telephone System Products Model Description Master Telephone NACs, one maximum per audio system; for use in Fire Alarm Control Panels only; includes one 4100-1272 Module Mounts in Remote Annunciator Panel only (see drawings on p. 4); current = 24 m/a; 4100-1289 Controller Module and their connected modules with there Class B telephone Control Module and three Class B telephone Control Module with three Class B telephone Control Module with three Class B telephone Control Module with three Class B telephone NACs and Mounts in Remote Annunciator Panel only (see Sat100-0038) 4100-1272 Expansion Telephone Control Module with three Class B telephone NAC Class A Adapter Module Mounts to 4100-1270 or -1272; no additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones (see table on page 7) Network and MINIPLEX Transponder Audio Connection Options Model Description Network Audio Riser Controller Module for Control Wodule; with NAA input Module; with NAA input Network Audio Riser Controller Module for Control Wodule; with NAA input Network Audio Riser Controller Module for Control Wodule; with NAA input for 25, 70.7, or 0.707 VRMS Selects a single digital audio channel and converts it to an analog in level for input to an an			Mounted on plate					
4100-1255 2 Channel (full audio) 3-8 Channel (8 channel normal tes. messages) 4 channels of high res. messages of high res. Module of high res. Messages of high res. Messages of high res. Me		` ,	Operator					
4100-1258 Firefighter Telephone System Products Module Description At 100-1271 Remote Master Telephone Control Module with three Class B telephone NACs, one maximum per audio system; for use in Fire Alarm Control Panels only; includes one 4100-1272 Module with three Class B telephone NACs At 100-1273 Telephone NACs Adapter Module with three Class B telephone NACs At 100-1273 Telephone NACs Adapter Module with three Class B telephone NACs At 100-1270 Telephone Control Module with three Class B telephone NACs At 100-1271 Remote Master Telephone Control Module with three Class B telephone NACs At 100-1273 Telephone Control Module with three Class B telephone NACs At 100-1273 Telephone Control Module with three Class B telephone NACs At 100-1274 Telephone Control Module with three Class B telephone Control Module with three Class B telephone NACs At 100-1275 Telephone Control Module with three Class B telephone NACs At 100-1276 Telephone Control Module with three Class B telephone Control Module with three Class B telephone NACs At 100-1276 Telephone Control Module with three Class B telephone NACs At 100-1277 Telephone Control Module with three Class B telephone NACs At 100-1278 Telephone NAC Class A Adapter Module Module Control Module Module With three Control Module Module Module With three Class B telephone NAC Class A Adapter Module Module Module Module With three Control of either an analog or digital riser module Module Module With three Control of either an analog or digital riser module Module With Mach Aliput Module With NAA input With		, , ,						
high res. messages) 4100-1288 64 LED/64 Switch Controller Module with mounting plate 4100-1289 64 LED/64 Switch Controller Module with mounting plate 4100-1289 64 LED/64 Switch Controller Module with mounting plate 4100-1289 64 LED/64 Switch Controller Module with mounting plate Firefighter Telephone System Products Model Description Master Telephone NACs, one maximum per audio system; for use in Fire Alarm Control Panels only; includes one 4100-1272 Module 4100-1270 Remote Master Telephone Expansion Telephone Control Module with three Class B telephone NACs 14100-1271 Remote Master Telephone Expansion Telephone Control Module with three Class A Adapter Module 4100-1272 Telephone NACs 14100-1273 Telephone NACs 14100-1273 Telephone NAC Class A Adapter Module Mounts to expansion Telephone Control Module with three Class A Module 14100-0623 Telephone NACs 14100-0623 Telephone NACs 14100-0624 Mounts in Remote Annunciator Panel only; see S4100-0038) 14100-0625 Telephone NACs 14100-0626 Telephone NACs 14100-0627 Module 14100-0628 Telephone NACs 14100-0629 Telephone Control Module with three Class A Mapter Module 14100-0629 Telephone NACs 14100-0629 Telephone Circuit Module 14100-0629 Telephone Circuit Module 14100-0620 Telephone Circuit Module 14100-0621 Telephone NAC Class A Mapter Module 14100-0622 Telephone NAC Class A Mapter Module 14100-0623 Telephone Circuit Module 14100-0624 Telephone Circuit Module 14100-0625 Telephone NAC Class A Mapter Module 14100-0626 Telephone NAC Class A Mapter Module 14100-0627 Telephone NAC Class A Mapter Module 14100-0628 Telephone NAC Class A Mapter Module 14100-0629 Telephone NAC Class A Mapter Module 14100-0629 Telephone NAC Class A Mapter Module 14100-0629 Telephone NAC Class A Mapter Module 14100-0620 Telephone NAC Class A Mapter Module 14100-0621 Telephone NAC Class A Mapter Module 14100-0622 Telephone NAC Class A Mapter Module 14100-0629 Telephone NAC Class A Mapter Module Telephone Circuit Controller Module Telephone Circuit Controll								
4100-1288 64 LED/64 Switch Controller Module with mounting plate 4100-1289 64 LED/64 Switch Controller Module with mounting plate 54100-1289 64 LED/64 Switch Controller Module with mounting plate 54100-1289 64 LED/64 Switch Controller Module without mounting plate 54100-1289 64 LED/64 Switch Controller Module without mounting plate 54100-1289 64 LED/64 Switch Controller Module without mounting plate 54100-1289 64 LED/64 Switch Controller Module without mounting plate 54100-1289 64 LED/64 Switch Controller Module without mounting plate 54100-1289 64 LED/64 Switch Controller Module without mounting plate 54100-1289 64 LED/64 Switch Controller Module with throut mounting plate 54100-1270 Module 45100-1270 Module 45100-1271 Module 45100-1272 Module 64100-1272 Module 64100-1273 Module 64100-1273 Telephone Control Module with three 64100-1273 Telephone NAC Switch Control Module 67100-1273 Telephone NAC Class A Adapter Module 67100-1273 Telephone NAC Class A Adapter Module 67100-1273 Telephone NAC Class A Adapter Module 67100-1273 Telephone NAC Switch Control 67100-1273 Module 74100-1273 Telephone NAC Switch Control 67100-1274 Module 74100-1274 Telephone Module 74100-1274 Telephone NAC Switch Control 67100-1274 Module 74100-1274 Telephone NAC Switch Module 74100-1275 Telephone NAC Switch Module 74100-1275 Telephone NAC Switch Mo	4100-1255	o .	Modules		Sileet			
### Addule with mounting plate for datals sheet \$4100-1289		0 0 /		Mounts behind the LED/switch modules: has	/switch controllers			
### Accepts who will be a managed of the same bay and the same bay additional 64 LEDs and 64 switches without mounting plate in the same bay additional 64 LEDs and 64 switches without mounting plate in the same bay additional 64 LEDs and 64 switches with the same bay additional 64 LEDs and 64 switches with the same bay additional 64 LEDs and 64 switches with the same bay additional 64 LEDs and 64 switches with the same bay additional 64 LEDs and 64 switches with the same bay additional 64 LEDs and 64 switches with the same bay additional 64 LEDs and 64 switches with the same bay additional 64 LEDs and 64 switches with the same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with the same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with the same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with same bay additional 64 LEDs and 64 switches with and 64 switches with same bay additional 64 LEDs and 64 switches with and solve; for panel module; space behind for 4100ES Advalues only; phone control module; space behind for 4100ES Advalues only; phone control module; space behind for 4100ES Advalues only; phone control module; space behind for 4100ES Advalues only; phone control module; space behind for 4100ES Advalues only; phone control module; space behind for 4100ES Advalues only; phone control included, mounted on	4100-1288							
Firefighter Telephone System Products Model Description Master Telephone with Control Module and three Class B telephone NACs, one maximum per audio system; for use in Fire Alarm Control Panels only; includes one 4100-1272 Module Supv. = 80 mA; in use = 140 mA + remote phones (see table on page 7) 4100-1271 Remote Master Telephone Master Tele	4100-1289							
Model Description Master Telephone with Control Module and three Class B telephone NACs, one maximum per audio system; for use in Fire Alarm Control Panels only; includes one 4100-1272 Module Master Telephone NACs, one maximum per audio system; for use in Fire Alarm Control Panels only; includes one 4100-1272 Module Mounts in Remote Annunciator Panel only (see S4100-0038) Expansion Telephone Control Module with three Class B telephone NACs Mounts in Remote Annunciator Panel only (see S4100-0038) Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones (see table on page 7) Mounts in Remote Annunciator Panel only (see S4100-0038) Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Mounts in Remote Annunciator Panel only (see S4100-0038) Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Mounts in Remote Annunciator Panel only (see S4100-0038) Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Mounts in Remote Annunciator Panel only (see S4100-0038) Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Mounts in Remote Annunciator Panel only (see S4100-0038) Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Expansion Telephone Circuits in Mounts on the Valua of transponder in Supv. = 80 mA; in use = 140 mA + remote phones Expansion Telephone Crouts on Telepho		01		additional 64 LEDs and 64 switches	same bay			
Master Telephone with Control Module and three Class B telephone NACs, one maximum per audio system; for use in Fire Alarm Control Panels only; includes one 4100-1272 Module 4100-1271 Remote Master Telephone 4100-1272 Expansion Telephone Control Module with three Class B telephone NACs 4100-1273 Telephone NAC Class A Adapter Module 4100-1273 Telephone NAC Class A Adapter Module 4100-01273 Telephone NAC Class A Adapter Module 4100-1274 Network and MINIPLEX Transponder Audio Connection Options Model 4100-0623 Dual Channel Analog Audio Riser Module 4100-0624 Network and Dual Channel Analog Audio Riser Module 4100-1341 MCC (Multiple Command Center) Digital Audio Riser Interface MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel	_		:S	1				
three Class B telephone NACs, one maximum per audio system; for use in Fire Alarm Control Panels only; includes one 4100-1272 Module 4100-1271 Remote Master Telephone 4100-1272 Expansion Telephone Control Module with three Class B telephone NACs 4100-1273 Telephone NACs 4100-1273 Telephone NAC Class A Adapter Module Network and MINIPLEX Transponder Audio Connection Options Model 4100-0623 Network Audio Riser Controller Module for control of either an analog or digital riser module 4100-0621 Size Module 4100-0622 Reparation Nacy Size Module 4100-0624 Network Ander Presentation of either an analog or digital riser module 4100-0625 Network Module; with NAA input MCC (Multiple Command Center) Digital Audio Riser Interface MCC (Multiple Command Center) Digital Audio Riser Interface MCC (Multiple Command Center) Digital Audio Riser Interface NPU to 4100ES Audio Interconnect Module; NPU to 4100ES Audio Interconnect Module; NPU to 4100ES Audio Interconnect Module; Date Class B telephone icricuit control, use LED/switch modules; for individual telephone circuit control, use LED/switch modules; Supv. = 80 mA; in use = 140 mA + remote phones (see table on page 7) Mounts in Remote Annunciator Panel only (see S4100-0038) Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Mounts to 4100-1270 or -1272; no additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Expansion module; in use = 140 mA + remote phones E	Model	•	Andula and	•	e only: nhono			
per audio system; for use in Fire Alarm Control Panels only; includes one 4100-1272 Module 4100-1271 Remote Master Telephone 4100-1272 Expansion Telephone Control Module with three Class B telephone NACs 4100-1273 Telephone NAC Class A Adapter Module Network and MINIPLEX Transponder Audio Connection Options Model Description 4100-0623 Network Audio Riser Controller Module for control of either an analog or digital riser module 4100-0621 Dual Channel Analog Audio Riser Module 4100-0622 A Schannel Digital Audio Riser Module; with NAA input MCC (Multiple Command Center) Digital Audio Riser Interface MCC (Multiple Command Center) Digital Audio Riser Interface MPU to 4100ES Audio Interconnect Module; Mounts in Remote Annunciator Panel only (see S4100-0038) Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Mounts in Remote Annunciator Panel only (see S4100-0038) Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Expansion module for additional telephone circuits in main control or transponders; Supv. = 80 mA; in use = 140 mA + remote phones Expansion module for add	/100 1270			control module included, mounted on bay module mounting	ng plate; for			
4100-1271 Remote Master Telephone Mounts in Remote Annunciator Panel only (see S4100-0038) 4100-1272 Expansion Telephone Control Module with three Class B telephone NACs 4100-1273 Telephone NAC Class A Adapter Module Mounts to 4100-1270 or -1272; no additional current required Network and MINIPLEX Transponder Audio Connection Options Model Description Moter Audio Riser Controller Module for control of either an analog or digital riser module Riser Module 4100-0621 Dual Channel Analog Audio Riser Module 4100-0622 A Channel Digital Audio Riser Module; with NAA input MCC (Multiple Command Center) Digital Audio Riser Interface MCC (Multiple Command Center) Digital Audio Riser Interface Interf	4100-1270							
4100-1272 Expansion Telephone Control Module with three Class B telephone NACs 4100-1273 Telephone NAC Class A Adapter Module Mounts to 4100-1270 or -1272; no additional current required Network and MINIPLEX Transponder Audio Connection Options Model Description Network Audio Riser Controller Module for control of either an analog or digital riser module Riser Module 4100-0623 3-8 Channel Analog Audio Riser Module; with NAA input Selects a single digital audio channel and converts it to an analog line level for input to an analog 4100-1258 NPU to 4100ES Audio Interconnect Module; Dual terminal block module with harnesses for connecting to the Audio Riser Interface in legacy panel	4100-1271	,	1272 Module					
transponders; Supv. = 80 mA; in use = 140 mA + remote phones Mounts to 4100-1270 or -1272; no additional current required Network and MINIPLEX Transponder Audio Connection Options Model Description Network Audio Riser Controller Module for control of either an analog or digital riser module 4100-0621 Dual Channel Analog Audio Riser Module 4100-0622 As Channel Digital Audio Riser Module; with NAA input MCC (Multiple Command Center) Digital Audio Riser Interface MCC (Multiple Command Center) Digital Audio Riser Interface 4100-9854 4100/4100+ Legacy bay mounting kit Transponders; Supv. = 80 mA; in use = 140 mA + remote phones Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required Mounts to 4100-1270 or -1272; no additional current required		'	odule with three	, ,				
Network and MINIPLEX Transponder Audio Connection OptionsDetails4100-0623Network Audio Riser Controller Module for control of either an analog or digital riser moduleTypically for Network nodes without an audio controller, used for NAA applications; mounts in Block A; current = 14 mA4100-0621Dual Channel Analog Audio Riser ModuleAccepts two separate audio signals from host; controlled by Transponder Interface Module; current = 25 mA when active4100-06223-8 Channel Digital Audio Riser Module; with NAA inputSelect one, mounts in Block B4100-1341MCC (Multiple Command Center) Digital Audio Riser InterfaceSelect one, mounts in Block B4100-98544100/4100+ Legacy bay mounting kitUse to mount 4100-1341 MCC Digital Audio Riser Interface in legacy panel4100-1258NPU to 4100ES Audio Interconnect Module;Dual terminal block module with harnesses for connecting to the Audio		Class B telephone NACs		transponders; Supv. = 80 mA; in use = 140 mA + remote	phones			
ModelDescriptionDetails4100-0623Network Audio Riser Controller Module for control of either an analog or digital riser moduleTypically for Network nodes without an audio controller, used for NAA applications; mounts in Block A; current = 14 mA4100-0621Dual Channel Analog Audio Riser ModuleAccepts two separate audio signals from host; controlled by Transponder Interface Module; current = 25 mA when active4100-06223-8 Channel Digital Audio Riser Module; with NAA inputSelect one, mounts in Block B4100-1341MCC (Multiple Command Center) Digital Audio Riser InterfaceSelect one, mounts in Block B4100-98544100/4100+ Legacy bay mounting kitUse to mount 4100-1341 MCC Digital Audio Riser Interface in legacy panel4100-1258NPU to 4100ES Audio Interconnect Module;Dual terminal block module with harnesses for connecting to the Audio		· · · · · · · · · · · · · · · · · · ·			ired			
Network Audio Riser Controller Module for control of either an analog or digital riser module 4100-0621 Dual Channel Analog Audio Riser Module 4100-0622 3-8 Channel Digital Audio Riser Module; with NAA input MCC (Multiple Command Center) Digital Audio Riser Interface 4100-9854 4100/4100+ Legacy bay mounting kit NPU to 4100ES Audio Riser Controller Module for control of either an analog or digital riser module Typically for Network nodes without an audio controller, used for NAA applications; mounts in Block A; current = 14 mA Accepts two separate audio signals from host; controlled by Transponder Interface Module; current = 25 mA when active Receives and decodes digital inputs; up to eight audio channels; current = 70 mA; NAA input for 25, 70.7, or 0.707 VRMS Selects a single digital audio channel and converts it to an analog line level for input to an analog 4100ES/ 4100U/4100 Legacy voice panel; current = 70 mA 4100-1358 NPU to 4100ES Audio Interconnect Module; Dual terminal block module with harnesses for connecting to the Audio			Audio Connect					
control of either an analog or digital riser module 4100-0621 Dual Channel Analog Audio Riser Module 4100-0622 3-8 Channel Digital Audio Riser Module; with NAA input MCC (Multiple Command Center) Digital Audio Riser Interface 4100-9854 4100/4100+ Legacy bay mounting kit MPU to 4100ES Audio right in an analog or digital riser module applications; mounts in Block A; current = 14 mA Accepts two separate audio signals from host; controlled by Transponder Interface Module; current = 25 mA when active Receives and decodes digital inputs; up to eight audio channels; current = 70 mA; NAA input for 25, 70.7, or 0.707 VRMS Selects a single digital audio channel and converts it to an analog line level for input to an analog 4100ES/ 4100U/4100 Legacy voice panel; current = 70 mA 4100-1358 NPU to 4100ES Audio Interconnect Module; Dual terminal block module with harnesses for connecting to the Audio	Model	•	Mandada C					
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3-8 Channel <i>Digital</i> Audio Riser Module; with NAA input MCC (Multiple Command Center) Digital Audio Riser Interface MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel MCC (Multiple Command Center) Digital Audio Riser Interface in legacy panel	4100-0621	Dual Channel Analog Audio	1001110011	Accepts two separate audio signals from host; controlled	by Transponder			
4100-1341MCC (Multiple Command Center) Digital Audio Riser InterfaceBlock BSelects a single digital audio channel and converts it to an analog line level for input to an analog 4100ES/ 4100U/4100 Legacy voice panel; current = 70 mA4100-98544100/4100+ Legacy bay mounting kitUse to mount 4100-1341 MCC Digital Audio Riser Interface in legacy panel4100-1358NPU to 4100ES Audio Interconnect Module;Dual terminal block module with harnesses for connecting to the Audio	4100-0622	3-8 Channel Digital Audio Riser	,	Receives and decodes digital inputs; up to eight audio cha	annels;			
4100-9854 4100/4100+ Legacy bay mounting kit Use to mount 4100-1341 MCC Digital Audio Riser Interface in legacy panel NPU to 4100ES Audio Interconnect Module; Dual terminal block module with harnesses for connecting to the Audio	A100 1244		Block B	Selects a single digital audio channel and converts it to ar				
4100-9854 4100/4100+ Legacy bay mounting kit Use to mount 4100-1341 MCC Digital Audio Riser Interface in legacy panel NPU to 4100ES Audio Interconnect Module; Dual terminal block module with harnesses for connecting to the Audio	4100-1341	Digital Audio Riser Interface		, ,	panel, current =			
NPU to 4100ES Audio Interconnect Module; Dual terminal block module with harnesses for connecting to the Audio	4100-9854	4100/4100+ Legacy bay mounting	ng kit					
	4100-1258		,	Dual terminal block module with harnesses for connecting to the Audio				

Firefighter Telephone System Description

Firefighter telephone systems provide two-way communications for facilities where radio communications may not be available or are unreliable. They are typically used during active firefighting conditions, during a fire alarm investigation, or during fire alarm system inspection and test.

System Operation. Connections are made using a common talk line (party line) that includes a Master Telephone and up to six remote telephones. Remote telephones call into the Master by either being taken off-hook or by being plugged into a telephone jack. The Master Telephone location receives a ring-in tone with a visible LED indicator for each telephone circuit. When the call is received, the operator selects the calling telephone circuit using the assigned switch control. The operator at the master location can place the original telephone circuit on hold and connect to additional telephone circuits or add them to the talk line.

Master Telephone Operation. The Master Telephone connects directly into a telephone interface module. A Push-to-Talk (PTT) switch provides the operator with voice input control. Each master telephone uses local LED/switch modules to select telephone circuits and to silence any subsequent call-ins until selected.

Telephone Circuit Control. A call request causes the local call-in tone sounder and assigned telephone circuit LED to pulse quickly. Pushing the calling circuit's switch silences the local sounder and connects that circuit to the talk line. Activating the switch again places that circuit on hold with a hold tone being heard at the remote telephones and causing that circuit's LED to pulse slowly. Subsequent pushes toggles from active to hold. Activating a telephone circuit switch when no call is incoming places a request to pick up on remote telephones equipped with local LEDs. Master telephones can be also be connected as an input to an audio controller module to allow audio system message broadcasting without using a microphone.

Remote Master Telephones mount in Remote Annunciator Cabinets and are wired as the only connection to a telephone circuit. By adding local LED/switch modules, operation is that of the Master Telephone.

Remote telephones are available cabinet mounted or for plugging into a dedicated telephone jack. Each hears a ring tone when a call-in is selected and a hold tone when placed on hold. When on hold, the remote telephones are each separated from the talk line.

The Telephone Interface Module provides three Class B (Class A option is available) telephone circuits, connection for a master telephone, and a telephone riser input. One module is supplied when selecting a Master Telephone. Additional telephone interface modules can be added as required. Telephone circuit outputs can be programmed as remote telephones, as a Remote Master, or for telephone riser operation. Telephone circuits are supervised for opens, shorts, and overload conditions. The Master Telephone is supervised for broken cord or off-hook.

Telephone riser operation can be programmed to provide a telephone riser output that is used to interconnect telephone interface modules in different locations. This output type has ring and hold tones disabled.

Degraded Mode. If the telephone interface module loses communications with the host fire alarm control panel, telephone circuits off-hook are automatically connected to the talk line allowing any telephone to talk to another simply by being picked up (or plugged in).

Master Telephone Control Current with Remote Telephones. The following table lists Master Telephone Control current with the addition of remote firefighter telephones.

Remote Phones	0	1	2	3	4	5	6
Current (mA)	140	180	220	250	276	304	329

Expansion Bay Module Loading Reference

	Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7	Slot 8
8								
	Blo	ck A	Bloc	k C	Blo	ck E	Bloo	k G
	Blo	ck B	Bloc	k D	Blo	ck F	Bloo	k H
<u> </u>		 				 		
'		1	E	xpansion l	∟ Bay Chassi	s	l	

Size Definitions: Block = 4" W x 5" H (102 mm x 127 mm) card area Slot = 2" W x 8" H (51 mm x 203 mm) motherboard with daughter card

Description	Mounting
Audio Controller Modules	Blocks A & B
Network Riser Controller Module	Block A
Audio Riser Modules	Block B
SPS or RPS	Blocks E, F, G & H ONLY
XPS	Blocks G & H ONLY*
Flex-35 Amplifiers, 2 max /bay*	Blocks E & F; C & D; or A & B
Flex-50 Amplifiers, 2 max/bay*	Blocks E & F or C & D
100 W Amplifiers, 1 max/bay	Blocks E, F, G & H
100 W Backup Amplifiers, 1 max. per bay with primary amplifier	Blocks A, B, C & D
Master or Remote Phone Module	Blocks A & B
Master or Remote Microphone Module	Two vertical Blocks, any location (except next to telephone)
Telephone Module	1 Block
Expansion Signal Module	1 Block
Operator LED/Switch Modules	1 Slot
NPU to 4100ES Audio Interconnect Module	1 Block

* NOTE: When mounting dual Flex amplifiers on an expansion bay, special mounting rules apply.

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General Spe	Cilications							
Input Power								
Power Supplies; S	SPS, XPS, RPS, 1	20 VAC Models 4 A n	naximum @	102 to 1	132 VAC, 60 Hz			
and 100 W Amplif		40 VAC Models 2 A n	naximum @	204 to 2	264 VAC, 50/60 Hz; with t	aps for 220/230	/240 VAC	
Amplifier Ratin	igs	•				•		
Built-in Tones		500 Hz horn tone ope audio controller	erated at ter	nporal pa	attern, provided when am	plifiers are separ	rated from	
		Input Voltage	19 to 35 V	DC from	adjacent power supply			
Flex-35 Amplifiers	: :	Supervisory Current	425 mA w	ith power	r stage supervised			
4100-1361 4100-1362		Supervisory Current	85 mA in l	ow powe	r mode			
4100-1362 4100-1363 4100-1364		Alarm Current	5.5 A with	continuo	ous horn tone	Use this value supply loading	,	
		@ full output power	1.64 A ave	erage, wi	th temporal pattern horn	Use this value backup referen		
		Input Voltage	19 to 35 V	DC from	adjacent power supply			
Flex-50 Amplifiers	3 :	Supervisory Current	425 mA w	ith power	r stage supervised			
4100-1312 4100-1313		Supervisory Current	85 mA in l	ow powe	r mode			
4100-1313 4100-1326 4100-1327		Alarm Current	5.55 A wit	h continu	ious horn tone	Use this value supply loading	,	
4100 1027		@ full output power	2.27 A average, with temporal pattern horn			Use this value backup referen		
100 W Amplifiers	and Backup Amplifiers:	Supervisory Current	400 mA (analog); 220 mA (digital) with power stage supervised					
	1100-1314, 4100-1316, 4100-1318, 1100-1320, 4100-1322, 4100-1324:		85 mA in low power mode					
4100-1320, 4100-1322, 4100-1324; 4100-1328, 4100-1330, 4100-1332,		Alarm Current	9.6 A with continuous horn tone					
4100-1334, 4100-		@ full output power	3.8 A average, with temporal pattern horn Use this value for ba backup reference					
Total Amplifier Po	wer per Cabinet	300 W maximum						
Audio Controll	er Ratings							
Current	4100-9620, 4100-1210				Add for local speaker in alarm: 75 mA min. volume; 190 mA half volume; 333 mA full volume;			
Requirements	4100-9621, 4100-1311	Digital = 85 mA super	visory Add microphone current separate Active = 30 mA			tely; Supv.= 2.4 mA;		
Analog Riser Dista	ance				G (0.82 mm²) shielded twi			
except as noted (I Instructions 574-8	ed pair (UTP) required, refer to Installation (44)*	4100-1341 MCC Digit Audio Riser Modules repeated); wire runs o * NOTE: Wire runs o	tal Riser Into or 4100-13 over 100 ft (erface; ui 41 MCC l 30 m) red	pital Controller to 4100-06 p to 2500 ft (762 m) betw Digital Riser Interfaces (s quire UTP wire ss require shielded twis	een 4100-0622 ignal is reformat	Digital ted and	
	ephone Distance Ratin							
Distance					ne, 18 AWG shielded twis	sted pair (STP)		
Battery Charge	er, System and Remote				•			
Battery capacity ra	ange	remote battery cabine	et); ŬLČ liste	ed for cha	to 110 Ah (batteries larg arging up to 50 Ah batteri	es	•	
<u> </u>	ristics and performance	Standard 864, to 70%			harges depleted batteries s per ULC Standard S527		per UL	
	and Installation Instru							
Operating Temper		32° to 120°F (0° to 49			(000 0)			
Operating Humidi	ty Range	Up to 93% RH, non-c				14014 ::	T==0 = /=	
Installation Instruc	ctions Reference	Flex Amplifiers	579-		Constant Supervision N	IAC Modules	579-515	
		Digital/Analog Amplifi	ers 579-	1/4	Firefighter Phones		579-226	

Additional 4100ES Product Reference

Subject	Data Sheet	Subject		Subject	Data Sheet
Battery and Battery Cabinet		NDU with SPS Power		4100ES Basic Panels with EPS	
Reference for 4100ES	S2081-0006	Supplies for 4120 Network	S4100-0036	Power Supplies	S4100-0100
110 Ah Batteries and		4100ES Remote		InfoAlarm Command Center	
Cabinets for 4100ES	S2081-0012	Annunciator Panels	S4100-0038	with EPS Power Supplies	S4100-0101
Seismic Battery Brackets		InfoAlarm Command Center		NDU with EPS Power Supplies	
Reference	S2081-0019	with SPS Power Supplies	S4100-0045	for 4120 Network	S4100-0102
4100ES Basic Panels with		NDU with SPS Power		NDU with EPS Power Supplies	
SPS Power Supplies	S4100-0031	Supplies for ES Net	S4100-0077	for ES Net	S4100-0104

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