S.Simplex

UL, CSFM Listed; FM Approved*

AUTOCALL® TFX Equipment Migration
to 4100ES Fire Alarm Control

Features

Convert an existing AUTOCALL TFX system to 4100ES operation while retaining TFX peripherals:

- **TFX Addressable Loop Interface Module 4100-6066** communicates to existing addressable TFX devices and allows system expansion to be accomplished from the 4100ES fire alarm control panel

- **Voltage Regulator Module 4100-5130** provides compatible regulated 24 VDC

- **TFX Audio Interface Module 4100-1340** provides an AMP-96 compatible analog audio riser to retain existing amplifiers and speaker circuits

- **TFX Master Firefighter Phone Assembly 4100-1298** and module 4100-1297 provide an interface to existing ATM-500 Addressable Phone Modules to control existing CommFone™ 500 firefighter telephones

- Modules are UL Listed to Standard 864

WALKTEST™ system test:

- 4100ES will perform 4100ES WALKTEST system test on the TFX addressable monitor devices

- WALKTEST system testing is not supported on the TFX signal/sounder devices

General migration considerations:

- Existing AUTOCALL equipment is housed separately from the 4100ES equipment; use existing cabinets or new, dedicated 4100ES style cabinets

- DirecTone audio head end equipment is not supported and requires replacement with 4100ES audio equipment

- **For existing Automatic Extinguishing, and Deluge and Preaction Sprinkler System Releasing Control**, existing TFX smoke detection and audible/visible notification appliances and controls can be retained; manual/abort controls and valve control is migrated to 4100ES operation as described in data sheet S4100-0040
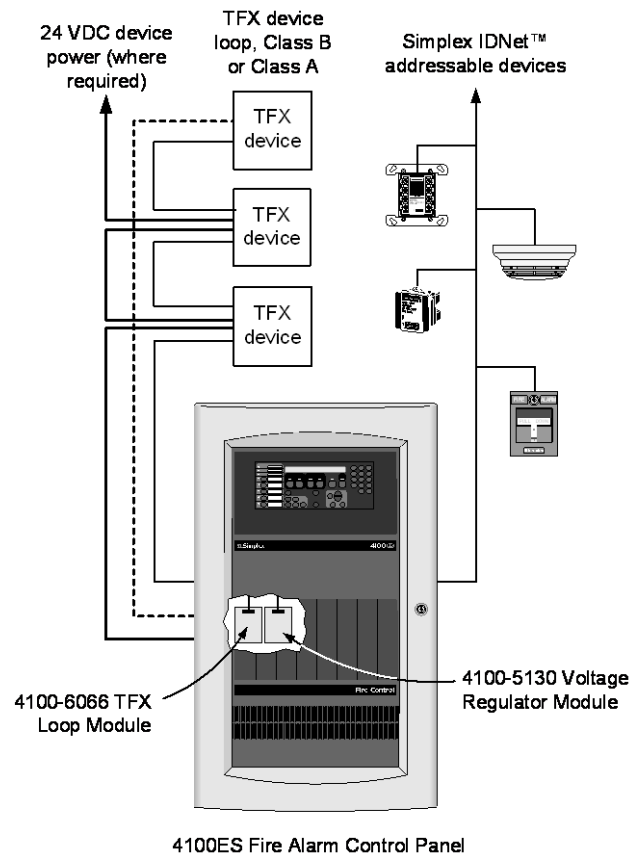
Firefighter phone system considerations:

- Expand existing *CommFone* systems using 4100ES compatible, 2084 Series firefighter phones

- Expand existing *CommFone 500* systems using an expansion phone loop with *cabinet mounted,* 4100ES compatible, 2084 Series phones

- Existing *CommFone 500 plug-in* firefighter telephones are not compatible with 2084 Series plug-in phones; refer to page 2 for expansion options

Description

TFX Equipment Migration. When AUTOCALL fire alarm systems are in need of updating and/or expansion, migration to Simplex® 4100ES controls can be conveniently accomplished using 4100ES AUTOCALL TFX system interface modules.

Migration to 4100ES Retains Existing TFX Loop Devices and Allows Expansion using IDNet Addressable Devices

Description *(Continued)*

Migration Modules. TFX addressable devices connect to the 4100-6066 TFX Interface Module. Regulated 24 VDC power requirements are met using the 4100-5130 Voltage Regulator Module. Existing Amp-96 amplifiers can be driven using the 4100-1340 Audio Interface Module. Existing CommFone 500 systems can be connected to the 4100ES through their existing ATM-500 addressable controllers using the 4100-1298 Master Phone Module.

Enclosure Considerations. Existing AUTOCALL products to be retained in the system mount separately from the 4100ES cabinet, either in their existing enclosure, or in a separate 4100ES cabinet dedicated for the purpose. Refer to data sheet S4100-0037 for 4100ES cabinet information.

Module Details

4100-6066 TFX Addressable Loop Interface Module:

- Each module operates one TFX addressable loop with up to 99 devices; connections are available for either Style 4 or Style 6 operation

- 4100ES custom control is used to support complex TFX devices such as CommFone 500 firefighter phones and AMP-96 amplifiers *(continued next page)*

Module Details *(Continued)*

4100-6066 TFX Addressable Loop Interface Module *(Continued)***:**

- TFX Loop circuitry is electrically isolated from the 4100ES; LED indicators detail communications status
- Mounting location requires a power supply in the same 4100ES bay to provide both card and signal power from the PDI connection

4100-5130 Voltage Regulator Module:

- Provides TFX compatible, regulated 24 VDC, from the 4100ES to replace TFX RPS-424 and PSM800 power supplies
- Module ratings: 25 VDC nominal (22.8 to 26.4), 2.5 A supervisory, 4 A alarm
- Input is from the signal power circuit of the 4100ES PDI bus, maximum of one per power supply if using full 4 A
- The output is isolated and resettable and includes earth detection circuit and trouble relay for status monitoring

4100-1340 TFX Audio Interface Module:

- Output is a transformer coupled audio riser compatible with Amp-96 amplifiers
- System requirements include use of the 4100-1210, 4100ES Analog Audio Controller
- The 10 V RMS signal on the PDI is converted to a 0.77 VRMS audio riser signal; signal is 0 dBm and is adjustable +/– 6 dB
- Module power is from the 24 V card power connection

Other Audio Migration Considerations:

- Existing control panel mounted AMP-96 amplifiers require replacement with 4100ES amplifiers that connects to the existing speaker circuits
- Remotely located AMP-96 audio amplifiers operate with control provided by 4100ES custom control and 4100ES LED/Switch modules; mounting is in cabinets separate from those used for 4100ES equipment

Firefighter Phone Operation

Two different system types are involved, CommFone and CommFone 500. CommFone 500 systems are controlled from ATM-500 addressable phone interface modules. Standard (non-ATM-500) CommFone systems are similar to, and compatible with, Simplex phone controls per the following information.

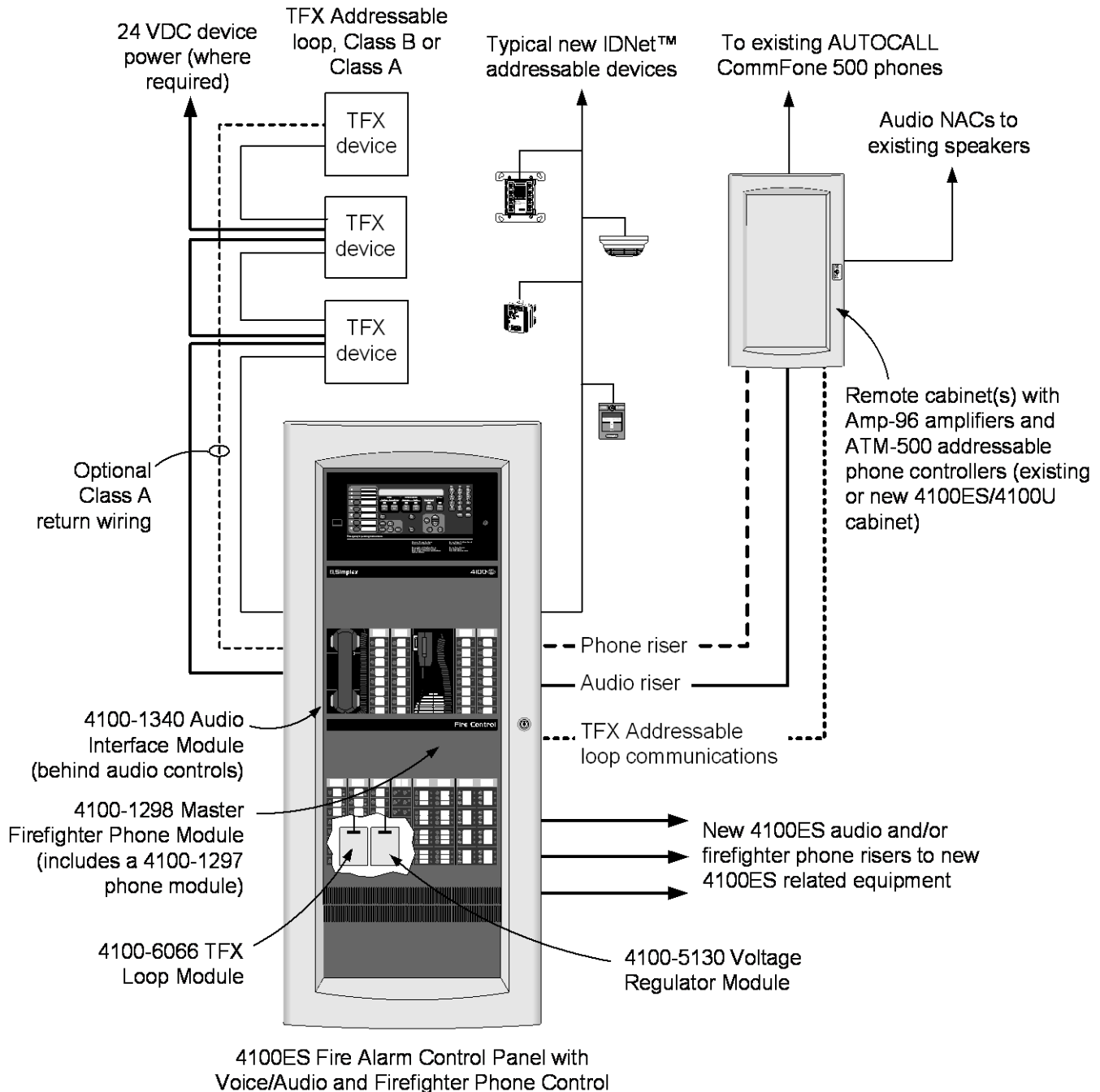**To retain ATM-500 addressable phone interfaces and CommFone 500 phones:**

- Select a 4100-1298 Master Firefighter phone control for the 4100ES control panel; includes 3 Class B phone NACS; (custom control will be required); use additional 4100-1297 Phone Control Modules as required
- Retained ATM-500 addressable phone modules also require connection to the TFX Loop Interface Module and are mounted separately from the 4100ES equipment
- System expansion can be accomplished using a separate expansion phone loop with cabinet mounted 2084 Series phones
- **NOTE:** CommFone 500 plug-in firefighter telephones are not compatible with 2084 Series plug-in phones; systems requiring additional plug-in phones and jacks will require upgrade to 2084 Series equipment

For conversion of existing CommFone systems or for conversion of CommFone 500 systems:

- CommFone Upgrade Kits convert existing CommFone cabinet mounted phones for 4100ES compatibility, refer to data sheet S2084-0002; existing plug-in phone jacks are compatible with Simplex 2084 Series plug-in phones
- If firefighter phone system expansion of ATM-500 controlled CommFone 500 plug-in phones is required, remove existing ATM-500 addressable phone modules and replace CommFone 500 phones (both cabinet mounted and phone jacks) with Simplex 2084 Series phones, rewired as necessary

Product Selection

Model	Description
4100-6066	TFX Addressable Loop Interface Module
4100-5130	Voltage Regulator Module, 25 VDC nominal; isolated and resettable output; includes earth detection circuit and trouble relay for status monitoring
4100-1340	TFX Audio Interface Module; converts 10 VRMS input audio to 0 dBm (0.77 VRMS) audio riser signal; adjustable +/- 6 dB
4100-1298	4100ES Master Firefighter Phone Assembly for control of ATM-500 addressable firefighter phone controllers; includes master telephone assembly and one 4100-1297 control module; use 4100 Series LED/Switch modules for phone circuit monitoring, refer to data sheets S4100-0034 and S4100-0032 for details; capacity information is detailed on page 4
4100-1297	Expansion Firefighter Phone Control Module with three Class B telephone NACs for control of ATM-500 modules, one is included with 4100-1298

Additional Migration Reference

Subject	Document	Subject	Document
TFX to 4100ES Migration Guide	579-841	CommFone Firefighter telephone upgrade	S2084-0002
4100-6066 Installation Instructions	579-811	TFXnet Network Interface for 4100ES	S4100-0042
4100-5130 Installation Instructions	579-812	XA Loop Interface for 4100ES	S4100-0041
4100-1340 Installation Instructions	579-815	4100ES Basic System Reference	S4100-0031
4100-1298/-1297 Installation Instructions	579-862	4100ES Enclosure Reference	S4100-0037
4100ES Releasing Systems Reference	S4100-0040	4100ES Audio and Firefighter telephone controls	S4100-0034
AUTOCALL to 4100ES Box Retrofit Kits	S4100-0047	4100ES LED/Switch modules	S4100-0032

NOTE: Refer to Migration Guide 579-841 and individual module Installation Instructions for detailed application information (refer to list on page 2).

24 VDC device power (where required)

TFX Addressable loop, Class B or Class A

TFX device

TFX device

TFX device

Typical new IDNet™ addressable devices

To existing AUTOCALL CommFone 500 phones

Audio NACs to existing speakers

Optional Class A return wiring

Remote cabinet(s) with Amp-96 amplifiers and ATM-500 addressable phone controllers (existing or new 4100ES/4100U cabinet)

Fire Control

Simplex 4100

- - Phone riser - - -

—— Audio riser ——

4100-1340 Audio Interface Module (behind audio controls)

- - - TFX Addressable loop communications

4100-1298 Master Firefighter Phone Module (includes a 4100-1297 phone module)

New 4100ES audio and/or firefighter phone risers to new 4100ES related equipment

4100-6066 TFX Loop Module

4100-5130 Voltage Regulator Module

4100ES Fire Alarm Control Panel with Voice/Audio and Firefighter Phone Control

S4100-0050-2

General Module Specifications

Operating Temperature Range	32° F to 120° F (0° C to 49° C)
Humidity Range	Up to 93% RH, non-condensing @ 90° F (32° C)
Wire Sizes	18 to 12 AWG (0.82 mm^2 to 3.31 mm^2)

4100-6066 TFX Loop Interface Module Specifications

Input Voltage		System supplied 24 VDC
Input Current, Supervisory or Alarm	No Load	72 mA; Card Power = 30 mA, Signal Power = 42 mA
	Full Load, US	125 mA maximum; Card Power = 30 mA; Signal Power = 95 mA
	Full Load, UK	306 mA maximum; Card Power = 26 mA; Signal Power = 280 mA
TFX Loop Wiring Specifications		99 devices maximum; allowable TFX addresses, 1 to 126; Style 4 or Style 6
		Capable of limited Style 7 if used with CAA-500LI Isolators, limited to 12 maximum
		6500 ft (1981 m) twisted, shielded pair (TSP) maximum for one continuous run; terminate shield only at TFX Loop Interface Module wiring terminals
		75 Ω maximum loop resistance; inclusive of any CAA 500LI Isolators which add 2 Ω each
		0.5 µ F line-to-line capacitance maximum; 1.5 mH maximum inductance per loop
		26.5 V maximum; 500 mA peak maximum current
4100ES Allocation Requirements		Up to ten 4100-6066 modules per 4100ES
Point Mapping Reference Information		Device types map to equivalent 4100ES point types
Mounting Requirements		4 x 5 single block module; requires mounting in same bay as connected power supply

4100-5130 Voltage Regulator Module

Input Voltage	System supplied 24 VDC
Input Current	Supervisory = 3 A max. with 2.5 A output load; Alarm = 4.9 A max. with 4 A output load
Output Voltage	22.8 to 26.4 VDC (25 VDC nominal); output is resettable, will track state of RESET input
Output Current	2.5 A maximum supervisory; 4 A maximum alarm
Ripple	600 mV pk-pk maximum
Trouble Relay	1 Form C dry contact for monitoring; rated 400 mA @ 30 VDC; changes state for Earth or output voltage trouble; normally held energized
Mounting Requirements	4 x 5 single block module; requires mounting in same bay as connected power supply

4100-1340 TFX Audio Interface Module

Input Voltage	System supplied 24 VDC
Input Current, Supervisory and Alarm	29 mA
Audio Input	10 VRMS from 4100ES analog audio control module
Audio Output	0 dBm adjustable +/– 6 dB (0.77 VRMS nominal, 0.84 VRMS max.); transformer isolated
Audio Riser Wiring	Twisted, shielded pair (TSP); 75 Ω maximum loop resistance
Mounting Requirements	4 x 5 single block module

4100-1298/4100-1297 TFX Master Firefighters Phone Module (one 4100-1297 is included with 4100-1298)

Input Voltage	System supplied 24 VDC			
Input Current	Supervisory = 95 mA; Alarm = 145 mA with master phone in use and network energized			
ATM-500 Addressable Module	Supervisory = 2 mA; Alarm = 12 mA			
TFX CommFone Remote (zonal) phone	Supervisory = 0 ma; Alarm/In Use = 14 mA for each phone			
4100-1297 Output	3 Class B NAC phone risers for connection to ATM-500 Addressable Phone Modules per details below			
4100-1297, ATM 500 Loading Limit	30 maximum per 4100-1297 phone module; can be all on one phone NAC/riser, or distributed over the three NAC/.riser outputs			
ATM 500 Addressable Firefighter Phone Control Module, Loading per Riser	**Maximum Riser Resistance**	**Maximum Quantity of ATM-500s**	**Maximum Riser Resistance**	**Maximum Quantity of ATM-500s**
	50 Ω	15	20 Ω	25
	40 Ω	18	10 Ω	30
	30 Ω	20		
Mounting Requirements	4100-1297 is a 4 x 5 single block module; the 4100-1298 has a 2 slot wide front mounted master phone assembly with space behind for 4100ES flat modules only			