Overview

GE's StarCall family of intercommunication and timekeeping solutionsbrings usability, flexibility, and cost effectiveness within easy reach of all industrial/commercial/ institutional settings, including schools, offices, small businesses, and correctional facilities.

StarCall lets you determine the level of sophistication you need for your application by offering three communication and timekeeping feature sets – each geared to a specific level of service; each offering precisely the capabilities you need to get the job done right.

This layered solution means you won't be shoehorned into a system that can't keep pace with the needs of your building, and you won't find yourself rattling around in a system heavy with costly features that go unused. It also means there is always a clear and cost-effective migration path to higher-end features and increased capacity, should building expansion or changes in occupancy warrant an upgrade in the future.

Regardless of the StarCall feature set, your communication and timekeeping system will incorporate the very latest technology in a powerful package engineered to deliver exquisite performance, and built to provide reliable service in even the most demanding settings.

Standard Features

- Advanced Multiprocessor Design
- System Configuration by local PC/laptop or LAN and IP port server remote connection
- Built-In User-Programmable Master Clock for synchronized timekeeping
- Automatic Daylight Savings Time and Leap Year Adjustments
- Simultaneous Phone, Intercom, Program, and Page Distribution
- PBX and CO Interface
- Compatible with Standard 2500 DTMF Phone Instruments with Electronic Ringers
- Rack- Mounted Central Equipment Cabinet
- Two-way intercom for voice communication
- All-page for general announcements
- Zone page for announcements to selected areas
- Program distribution via CD, cassette, tuner, etc.
- Variety of call-in devices and speakers
- Integrated bell and tone signaling for schedule management and emergency situations
- Remote display of system calls
- In-house telephone capability
- Remote system programming and diagnostics
- Inputs from external devices and systems; Outputs to external devices and systems

StarCall™ Integrated Intercom System

Application

Whether your facility is as demanding as a multi-building school environment, or as straightforward as a small office setting, StarCall delivers the level of service needed for occupants to keep in touch, in sync, and out of harm's way.

Robust intercom and paging, reliable timekeeping control, flexible program source distribution, powerful event processing, intuitive software tools, and fully integrated telephone capabilities all headline this powerful suite with cost-effective features designed for maximum efficiency. To make an informed decision on your communication system, take a close look at the powerful StarCall features outlined below, then turn to the inside back cover for a selection guide to the feature set that meets your needs.

System traffic is managed over 32 global telephonic links, one to four high power intercom channels, and one or two page/program distribution channels. StarCall allows selection of up to 26 distinct tone events for system use, each of which can be programmed from a selection of up to 23 tone types and two program sources. A paging microphone input is also provided. Each intercom amplifier module (IAM) is capable of 15 watts output at 25 volts.

The StarCall System is available in a rack-mount configuration. This configuration includes a primary shelf (Model 110-3546A) and up to two expansion shelves (Model 110-3547A).

The rack-mount primary shelf has 14 card slots. Slot 1 is reserved for the central processor card (CPC) and slot 2 for the audio routing card (ARC), leaving 12 slots for line and option cards. The expansion shelf, which does not require a CPC or ARC, has 14 slots available for line and option cards. Both primary and expansion shelves have space for up to two IAMs. The expansion shelf (Model 110-3547A) comes with cables for interconnection to a primary shelf or to another expansion shelf.

StarCall's extensive hardware modularity is accomplished through plug-in circuit cards.

Features Comparison

	StarCall	StarCall Plus	StarCall Fusion
Two-way intercom for voice communication	•	•	•
All-page for general announcements	•	•	•
Zone page for announcements to selected areas	•	•	•
Program distribution via CD, cassette, tuner, etc.	•	•	•
Master clock for synchronized timekeeping	•	•	•
Variety of call-in devices and speakers	•	•	•
Integrated tone and bell signaling for schedule management and emergency situations	•	•	•
Remote display of system calls	• 12 basic I/O ports	• Up to 1,024 enhanced I/O ports	• Up to 1,024 enhanced I/O ports
In-house telephone capability	•	•	•
Remote system programming and diagnostics	•	•	•
Inputs from external devices and systems; Outputs to external devices and systems	•	•	•
Remote display of E911		•	•
Software application suite compatibility		•	•
Non-proprietary caller ID phone compatibility		•	•
Enhanced PC-based graphical user interface for zone paging, phone call management, program distribution, and overall system control		•	•
Up to 32 analog trunk lines allowing StarCall to operate as a telephone system			•
Enhanced telephony package including voice mail, auto attendant, PC attendant, classes of service, SMDR reporting, etc.			•

System Features

- Distribution of timed audio program events (march to music)
- Selectable listen tone frequency response (low and high)
- Automatic night mode call-in redirection
- Temporary speaker station exclusion from an associated classroom telephone
- Automatic time scheduled event delay during page
- Station-to-station dialing
- Station-to-speaker-station dialing
- Call on hold
- Call transfer
- Three-party conference
- Speaker station call-in to telephone
- Classroom telephone initiated voice page
- Automatic associated room speaker station muting during paging
- Tone distribution
- Program distribution
- Automatic or manual transfer of intercom between classroom telephone and associated speaker station
- Emergency voice paging
- Off-hook duress call-in
- Off-hook telephone call
- Off-hook page
- Off-hook intercom
- Automatic call-in activation of event
- Manual activation of remote event
- Call restrictions
- Account codes
- Attendant rollover
- Direct dial to foreign systems
- Telephone call pickup
- Message waiting indication
- Privacy indication

Audio Features

All audio features in the system operate within the following priority scheme. Emergency intercom has the highest priority. Additional audio functions in descending order of priority are: emergency page, civil emergency, manual time tone and high priority event tone, all call and zone page, intercom, custodial tone, low priority event tone, and audio program distribution. A lower priority event may be interrupted by a higher priority event if necessary. Interrupted lower priority functions will be restored after the higher priority function ends. Telephone conversations will not be interrupted by the above listed functions.

Timekeeping Features

StarCall provides a 500-event, 16-schedule, and 32 multipurpose zone master clock. This clock can function as a slave or master time keeping device, capable of correcting both digital and analog secondary clocks. Users can select schedules and change time or date from any ATEL or standard phone, or use RAPID software.

The clock is capable of maintaining system time for 10 years in the event of a power failure. It automatically adjusts for daylight savings time and leap years. All ATELs display the time when there are no call-ins present and the unit is not in use. This display may be configured for 12 or 24-hour mode. The day of the week and date are also displayed.

Telephone Features

Each standard telephone location can be customized by programming the following attributes:

- Telephone Extension Number—3, 4, or 5-digit alphanumeric numbering can be used Dial Access—Determines if calls can be initiated from this telephone.
- Ring Access—Specifies whether this telephone annunciates calls by ringing.
- Page Access—Specifies whether all call and zone pages can be made from this telephone.
- Emergency Ring Access—Determines whether this telephone can receive emergency call-ins from speaker stations.
- Normal Ring Access—Determines whether this telephone can receive normal call-ins from speaker stations.
- Trunk Access—Determines whether this telephone can call outside StarCall with or without dialing a password.
- Off-Hook Duress—Specifies whether this telephone initiates a call-in for its associated speaker station when going off-hook for a programmable period of time without dialing.
- Intercom Off-Hook Answer—Specifies whether this telephone answers a call-in by going off-hook or whether an answer code must be dialed after going off-hook.
- Intercom Speaker to Handset Transfer—Specifies whether the call at the speaker station is transferred to this telephone immediately when telephone goes off hook, or whether transfer code must be dialed after going off-hook.

Amplifiers

Intercom Amplifier Module (IAM)

The Intercom Amplifier Module provides 15 watts of intercom to a 25-volt speaker. Audio direction switching can be VOX or push-to-talk. A frequency response setting of the intercom listen is also provided to filter low frequencies and improve talkback from acoustically active environments. Each speaker station can be individually configured for either a high or low frequency response.

All IAMs include two cables for input and output connections.

Power Amplifier (1A4060)

A GE Security Model 1A4060 Power Amplifier is used to provide 60 watts of power for paging and program distribution using 25-volt distributed audio. Larger amplifiers such as the GE Security Model 1A4125 (125 watts) or 1A4250 (250 watts) will be substituted where required.

Cards and Modules

Central Processor Card (CPC)

The CPC manages the connections between the different types of line cards and the ARC. Data communication between cards is managed over a LON. Each card slot has a fixed node address that is constructed during system configuration. This provides "plug and play" installation of the line cards. The CPC also has an RS-232 port to configure the system through a local PC/laptop or remotely via LAN and IP port server. A modem may also be used for this purpose. System configuration is accomplished by using an IBM PC or compatible PC running Windows® 98 or higher with RAPID (Remote Programming and Diagnostics) PC programming application. The remote modem is required to be Hayes compatible.

The CPC contains the system software, which controls all StarCall functions and features. System software can be upgraded from a PC, either directly or via modem, using the RMU (Remote Maintenance Utility) PC application.

- CPC-E Features
- Set system time, date, and schedule
- All administrative telephone intercom features
- Alphanumeric room numbers
- Normal call to emergency call upgrade
- Seven call-in priority levels plus privacy
- Distinctive ring tones for standard and emergency calls
- Emergency call-in to specified emergency stations
- Thirty-two multipurpose zones
- Thirty-two call destination groups
- Remote zone page microphone
- User-selective call answer from ATEL
- Up to three call-in switches plus privacy and call assurance LED on a single pair of wires
- Capacity beyond one shelf in the rack-mount configuration
- An RS-485 port for interface to external devices
- Two SPDT relay ports
- Two multifunction open collector driver outputs (can be configured for digital secondary clock control)
- Four multifunction dry contact input port
- Four ports that can be used as open collector driver outputs or as additional input ports
- Attendant call waiting
- Trunk access by trunk group
- Optional daylight savings time
- Dial access using password
- Call-in recall
- RDU350 tone enable
- Programmable hookswitch flash

Audio Routing Card (ARC)

The audio routing card manages the system's common shared resources.

DTMF receivers	Up to four
Call progress tones	Four
Tone types	24 including wail, warble, chime and two program sources
Intercom amplifier modules	Up to four
Paging/program source inputs	Two
Microphone inputs	One
Three-way phone conference circuits	Two

Administrative Telephone Card (ATC)

The administrative telephone card manages data and audio for the ATELs. Field wiring is terminated at the administrative telephones through a customer-provided distribution punch block. Each ATC includes a 12-foot (3.7 m) pigtail cable with connector. The connector plugs into the receptacle on the ATC. Power (+24Vdc) for the ATELs is bussed separately, not within the pigtail cables. Each ATEL requires two shielded 22AWG pairs for data and an 18AWG pair for power. DC power for the ATEL is brought to the punchblock by a separate pair of customer-provided wires. Each shelf power supply can support up to eight ATELs. Every additional group of 24 ATELs requires an additional power supply (Model 17A365). The use of one or more remote display units (RDUs) reduces this capacity. An RDU uses approximately twice the power of an ATEL. ATEL-initiated voice paging can be distributed via All-Call or any combination of 32 possible multipurpose zones.

ATELs	Four

Standard Telephone Card (STC)

Standard Telephone Card field wiring for is terminated at the telephones through customer-provided distribution punch blocks. Each STC includes a 12-foot (3.7 m) pigtail cable with a connector that plugs into the receptacle on the STC. Standard telephone-initiated voice paging can be distributed via all call or any combination of 32 possible multipurpose zones.

Standard 2500 DTMF Telephones	16

Balanced Telephone Card (BTC-P)

The balanced telephone card provides the same functionality as the STC, but provides superior noise rejection due to the balanced nature of the signal pair. The card also provides protection from excessive communication line voltage. Each BTC includes a 12-foot (3.7 m) pigtail cable with a connector that plugs into the receptacle on the BTC. BTC telephone wiring requires only twisted pairs.

BTC-P (Protected)

Standard 2500 DTMF Telephones	16

Trunk Interface Card (TIC)

The trunk interface card (TIC) provides StarCall with trunk ports for connection to loop start central office trunks or to KSU/PBX extension ports. The field wiring is terminated at the TIC via RJ-11 telephone jacks mounted on the card edge.

	TIC-E4	TIC-E8
Trunk interface ports	Four	Eight

Audio Switching Card (ASC)

The Audio Switching Card manages 16 speaker station ports providing call-in and privacy. The card requires two pairs of wire per speaker station port: one for audio and one for signaling.

	ASC-B	ASC-E
Speaker station ports	16	16
25-volt high level audio bus	One	Two
12-volt high level audio system audio channel access	Two	Six
Call-in switches	One	Three
Privacy switch	One	One
Call assurance LED	N/A	One

For optimum audio performance with minimum crosstalk between stations, it is recommended that the audio pair from the ASC to the speaker be shielded, 22AWG twisted pair. Field wiring connects to an ASC with a 12-foot (3.7 m) pigtail-to-connector cable assembly.

Each call switch can be assigned one of seven priority levels and up to 32 call-in destination groups. There are three priority levels for emergency calls and three for normal calls. The seventh priority allows remote call cancel. A normal call-in may be upgraded to an emergency call by rapidly pressing the call button twice. Each speaker station can be a member of up to 32 multipurpose zones through system configuration programming. There is also a permanent global page/program distribution room speaker exclusion table. This table allows the exclusion of certain speaker stations from all call, page, time signal, and program distribution.

A speaker station may be temporarily excluded from all paging, timed events, and program distribution by telephone command for up to 24 hours. Emergency pages cannot be excluded. Exclusion can be canceled manually using the telephone, or will be automatically canceled by the system on the change of day.

Engineering Specification

Comprehensive StarCall engineering specifications can be customized and produced in CSI format with GE Security's SpecBuilder software tool. This tool provides an easy-to-use interface that allows the selection of individual system features and outputs a formatted StarCall specification in standard Rich Text Format. To download your copy of SpecBuilder, visit *gesecurity.com*.

Specifications

StarCall	StarCall Plus	StarCall Fusion
Audio		
Rated Audio Output: 25V Line, 15W Intercom, 60W to 250W Program/Page		
KSU/PBX: Loop start CO trunk port to BTC/STC telephone port for telephone/intercom/paging functionality	KSU/PBX: Loop start CO trunk port to BTC/STC/ CTC telephone port for telephone/intercom/ paging interface functionality	KSU/PBX: Loop start CO trunk port to BTC/STC/ CTC telephone port for telephone/intercom/ paging interface functionality
Loop start TIC trunk port to KSU/PBX telephone port for telephone/intercom communications.		Loop start COC trunk port to KSU/PBX telephone port for telephone/intercom/outside line communications
Tone Events		
Emergency page preannounce, Civil emergency, Auxiliary alarm, Emergency reminder tone, Page preannounce, Normal reminder tone, Custodial tone, Door tone, Intercom preannounce, Privacy tone, Event tones 1 through 16. Each tone event uses one of 22 tone types or two program sources		
Terminations		
All telephone and speaker station wiring terminates to a customer-provided punch block. Every line card except the TIC includes a 12-foot (3.7 m) pigtail to connector cable assembly. TICs have RJ-11 receptacles. Other line cards have receptacles and terminal strips where applicable.		
Interfaces		
RS-232: PC or modem Service Port		RS-232: 1 PC or modem Service Port 1 PC applications port
RS-485: Remote Display Unit		
I/O Ports: Clock correction, relay control and special function I/O contact control		
Controls		
CPC-E System reset pushbutton	CPC2 System reset pushbutton	
Eight DIP switch option selector		
ARC only Page microphone input level, program source 1 & 2 input level, amp 1 & 2 preamp output level, music on hold level		
TIC Two line build-out jumpers per port		COC Two balance network jumpers per port
IAM Talk level, listen level, Balance, Sensitivity, Relay release time		
	CTC Two balance network jumpers per port	
	OCC Normally open/closed selction jumper per port	
System Capacity		
Capacity (with three card shelves, CPC-E and ARC) 40 available card slots 640 ports, consisting of a mixture of telephones and speakers based on a maximum of: 16 speaker ports per ASC (1 card slot) 16 telephone ports per STC/BTC (1 card slot) 4 ATEL ports per ATC (1 card slot) available card slots	Capacity (with three card shelves, CPC2 and ARC) 40 available card slots 1024 ports, consisting of a mixture of telephones and speakers based on a maximum of: 16 speaker ports per ASC (1 card slot) 16 telephone ports per STC/BTC (1 card slot) 2/4 telephone ports per CTC-2/CTC-4 (1 card slot) 4 ATEL ports per ATC (1 card slot) 48 inputs per ICC (1 card slot) 48 outputs per OCC (1 card slot) available card slots	
32 trunk ports based on a maximum of: 4/8 trunk ports per TIC-E4/TIC-E8 (1 card slot) available card slots	32 trunk ports based on a maximum of: 4/8 trunk ports per TIC-E4/TIC-E8 available card slots 1 NIC per system (1 card slot)	32 trunk ports based on a maximum of: 4/8 trunk ports per COC4/COC8 (1 card slot) available card slots 1 NIC per system (1 card slot)

Ordering Information

System-specific Equipment

StarCall Hardware Modules

110-3521A	CPC-E Central Processor Card 640 Ports, 500 Time Events, Remote Display Unit and External Inputs /Outputs

StarCall Plus Hardware Modules

110-3763A	CPC-2 Central Processor Card 1024 Ports, 500 Time Events, Remote Display Unit and External Inputs /Outputs
110-3823A	ICC 48 Independent Inputs Contacts
110-3824B	OCC 48 Independent Output Contacts
110-3851A	CTC2 Call Notification Telephone Card (2 ports)
110-3852A	CTC4 Call Notification Telephone Card (4 Ports)
110-3889A	NIC Network Card, Supports Networking 16 Systems Together

StarCall Fusion Hardware Modules

110-3763A	CPC-2 Central Processor Card 1024 Ports, 500 Time Events, Remote Display Unit and External Inputs /Outputs
110-3823A	ICC 48 Independent Inputs Contacts
110-3824B	OCC 48 Independent Output Contacts
110-3851A	CTC2 Call Notification Telephone Card (2 ports)
110-3852A	CTC4 Call Notification Telephone Card (4 Ports)
110-3889A	NIC Network Card, Supports Networking 16 Systems Together
110-4001	Central Office Card (4 ports)
110-4002	Central Office Card (8 ports)
110-4003	Trunk Caller ID Module (4 ports)
DSS5415	Interactive Voice Response Telephone Card – 4 Port

StarCall Fusion Software

SW-4000	StarCall Fusion Server

Common Equipment (compatible with StarCall, StarCall Plus, and StarCall Fusion)

Hardware Modules

110-3524C	ARC-E Audio Routing Card 2 Program Channels and 4 Intercom Channels
110-3527A	ATC E4 Administrative Telephone Card (4 ports)
110-3531A	STC-E Standard Telephone Card (16 ports)
110-3533B	ASC-B Audio Switching Card (16 stations, 1 bus, 2 channels)
110-3534A	ASC-E Audio Switching Card (16 stations, 2 bus, 6 channels)
110-3543	Ring Supply Module
110-3544C	IAM Intercom Amplifier Module
110-3551A	TIC-E4 Trunk Interface Card (4 trunks)
110-3552B	TIC-E8 Trunk Interface Card (8 trunks)
110-3555	Intercom Amplifier Module Expansion Shelf
110-3775B	BTC-P Balanced Telephone Card with Protection (16 ports)

Software

437-00120A	RAPID Configuration Software Package
437-00131A	StarCall Remote Maintenance Utility (RMU)

Amplifiers

1A4060	60-Watt Power Amplifier
1A4125	125-Watt Power Amplifier (optional)
1A4250	250-Watt Power Amplifier (optional)

Power Supplies

17A365	Power Supply (for Administrative Telephones and Remote Display Units)

Telephones

7A1110	Administrative Telephone
7A1111	Classroom Telephone

Call-in Switches

9A4300	Call-In Switch with Call, Emergency, Cancel, and Privacy buttons, and Assurance LED
9A4301	Call-In Switch with Call button and Assurance LED
9A4302	Call-In Switch with Call and Cancel buttons, and Assurance LED
9A4303	Call-In Switch with Call and Privacy buttons, and Assurance LED
9A1765	Call-In Switch with Call button
PCS499	Call-In Switch with Call and Privacy buttons

Tuners, Cassette Players

RTC350/TC350	AM-FM Tuner Cassette/Player
RTC350P/TC350P	AM-FM Tuner Cassette/Player with Mixer/Preamp

Displays

RDU350	Remote Display Unit

Remote operation

CSD551	TCP/IP Single Port Server Terminal
77A1000	56K External Modem Kit (includes cable)

Cabinets and racks

110-3546A	Primary Shelf
110-3547A	Expansion Shelf
110-3592	Assembly - 70" (178 cm) StarCall Floor Rack
110-3593	Assembly - 53" (135 cm) StarCall Floor Rack

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