DUKANE

COMPACT 3200 SERIES ADMINISTRATIVE COMMUNICATIONS SYSTEM

Features

- *Microprocessor Controlled*

- *12A/B3200 and 12A/B3212 UL Listed*

- *One-Touch Emergency Paging*

- *All Call and Selective Paging*

- *Built-In Paging Microphone*

- *15-Watt Intercom Amplifier*

- *60-Watt Program Amplifier*

- *Manual Time and Emergency Tone Distribution*

- *Built-In Tone Generator with Seven Tone Types*

- *Audible and Visible Call-In Annunciation*

- *Program Output Monitoring with Audible and Visible Level Indication*

- *Simultaneous Intercom and Distribution of Background Music*

- *Color-Coded Control Panel*

- *Supervisory (Privacy) Signal*

- *+24Vdc Battery Backup Operation Capability*

- *Optional Plug-In Telephone Interface*

*Model 12A3200-75
with Optional AM-FM Tuner/Cassette Player*

General Description

The Compact 3200 Series Administrative Communications System is a microprocessor-based, single-master intercom and sound distribution controller. It is available in rack-mount and console (tabletop) models. The Compact 3200 controls remote speaker stations individually, for two-way communication, page announcements, and audio program distribution; and collectively, for emergency and all call announcements in multiple-room buildings.

System operation is dictated by the function priority order listed below:
1. Emergency paging
2. Emergency tone distribution
3. Time tone distribution
4. All call
5. Intercom
6. Program

(General Description)

Higher priority functions automatically interrupt lower priority functions. Lower priority functions automatically resume when higher priority functions have ended. For example, selective intercom communication is interrupted by an all call page, which is interrupted by an emergency page.

Using the built-in front panel microphone or the optional console handset, the console operator can hold a two-way conversation with any properly equipped remote station connected to the system. The front panel INTERCOM PUSH TO TALK button or the handset's voice-activated switch controls audio direction.

The console can monitor any remote station that has two-way audio capability and is not in privacy mode. An intermittent privacy tone sounds at the remote station speaker(s) during console monitoring of that station.

One-touch emergency paging is accomplished by pressing the EMERGENCY PUSH TO TALK button, which automatically interrupts any audio program or intercom communication in progress. A tone is automatically sent to all speakers, after which an emergency announcement can be sent at a preset volume level.

All call and selective paging announcements can be sent to all or selected remote stations. These announcements can be made using the built-in front panel microphone, the optional desk microphone, or the optional console handset. All call pages can also be made using the optional remote all call microphone.

A built-in, solid-state, 15-watt amplifier module and preset incoming and outgoing speaker level controls are provided for intercom power. A power supply/power amplifier module provides DC power for the entire system. The 25-volt line output is standard, but is selectable to 45-ohm output. This module also provides power to the system's 24Vdc external connections for associated equipment. The module has multiple circuit protection, including power supply and output amplifier fusing to protect against major failures, thermal and short circuit protection, and current limiting. Models 12A/B/C/D3200 contain a 60-watt program amplifier. Models 12A/B/C/D3212 come equipped with an external 125-watt program amplifier in place of the 60-watt amplifier.

Connections are provided for 24Vdc input from an external backup battery in case of main AC power failure.

A diagnostic routine can be initiated at any time to check system integrity. A built-in integrated monitor checks the microprocessor during operation and automatically resets it in the event of power loss or other failure.

The PROGRAM SELECTION TONE button can be used to manually send time tones to remote stations. A separate, locking EMERGENCY TONE button, when pressed, sends an emergency tone to all remote stations until the pushbutton is disengaged. The tone automatically interrupts any audio program or intercom communication in progress. Connections are also provided to trigger the emergency tone by the closure of external contacts.

The built-in tone generator provides seven distinct tones:
1. Emergency paging
2. Emergency tone
3. Time signaling tone
4. All call paging
5. Intercom
6. Privacy (remote station monitoring)
7. Door tone (external contact)

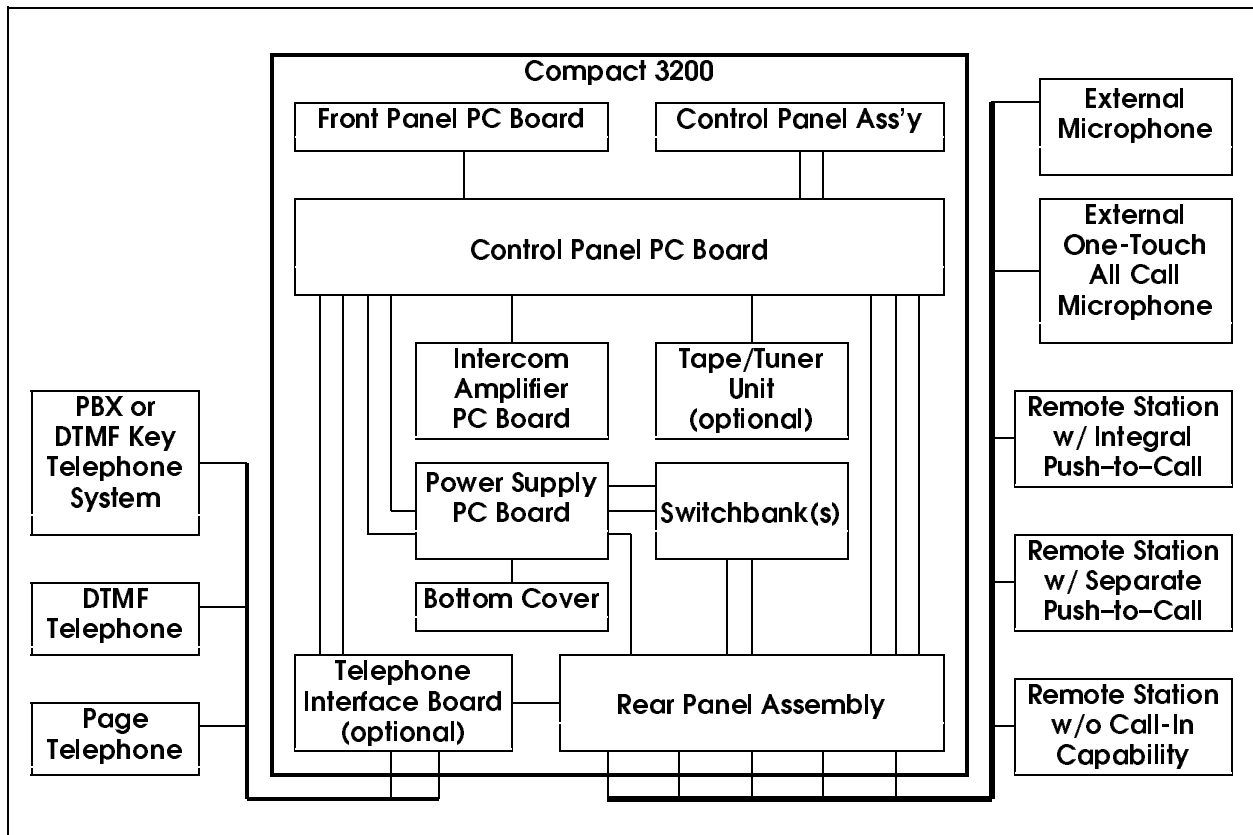The tone volume levels are adjusted at the console.

The tabletop unit uses one, two, or three 3-position switchbanks for capacities of 25, 50, or 75 remote stations. Rack units have a capacity of up to 150 stations. All switches in a unit do not have to be used if not needed. Each switchbank is equipped with 25 three-position (INTERCOM, OFF, PROGRAM) switches. Each switch controls one speaker. On Models 12A/C3200 and 12A/C3212, the LED below each switch lights and the built-in tone generator sounds a tone when a remote station calls in.

The last two switches on the last switchbank can be configured to isolate these locations from any communication while the switches are off. The Model 438-672 Time Bus Relay Kit can be installed to automatically feed emergency and time tone signals to these stations, while still isolating them from all call and background music distribution.

A speaker with its own volume control and an LED bar-graph output level indicator are provided for monitoring audio program output. Distribution of background music or other audio program material does not interfere with simultaneous intercom use.

A color-coded control panel contains all controls and instructions on a single front panel for easy operation. LEDs indicate intercom mode and emergency mode use. A separate adjustment is provided for audio program output level. Program mode pushbuttons (ALL, SELECT) are provided for selecting individual remote stations or all remote stations to receive program material. The program selection pushbuttons are TONE, PANEL MIC, MIC1, TAPE/TUNER, AUX 1, and AUX 2.

An optional plug-in telephone interface allows paging and intercom functions to be performed from any standard pushbutton telephone connected to the interface. These functions include emergency page distribution, emergency tone distribution, time tone distribution, all call paging, selective paging (through the system operator), telephone–to–console intercom, and telephone–to–classroom intercom (through the system operator). A DTMF telephone connected to the PHONE 1 inputs can also monitor program channel audio through the telephone handset or the speaker of a speaker phone.

(General Description)

System Block Diagram

System Options

110-2926 DTMF Telephone Interface Board

This plug-in board provides paging and intercom capability from any standard DTMF telephone connected to it. These capabilities include emergency paging, emergency tone distribution, time tone distribution, all call paging, selective paging (through the system operator), telephone–to–console intercom, and telephone–to–classroom intercom (through the system operator).

110-2929 Voice Call-In Board

This board allows voice annunciation of call-in from properly equipped remote stations.

9A1042 and 9A1043 Programmable Time Zone Modules

These modules allow clock-driven tone distribution to selected remote stations.

438-671 Output Mode Relay Kit

These relays trigger external devices when the emergency, all call, or intercom call-in functions are selected.

7A620 Console Handset
This is a telephone-style handset that can be used in place of the front panel microphone for page announcements and for privacy during intercom conversations.
It includes a plug-in handset interface PC board.

110-2925 Interface Panel
This panel supplies screw terminal connections for:
    110-2926 DTMF Telephone Interface Board
    110-2929 Voice Call-In Board
    9A1042 and 9A1043 Programmable Time Zone Modules
    438-671 Output Mode Relay Kit
    7A620 Console Handset

This panel is required when any of the options listed above are installed.

438-672 Time Bus Relay Kit
This kit automatically feeds emergency and time tone signals to the last two stations of the last switchbank when those stations have been isolated from all call and background music distribution. The two isolated stations can be used to control remote stations, such as outdoor speakers, that do not need to receive all call pages or background music.

15A266A Multitone Generator
This generator supplies additional tone types, including chime. It attaches to the rear panel of the console.

7A625 External Page Microphone
An additional microphone can be connected to the MIC 1 inputs for all call and selective paging. A remote external microphone can be connected to the MIC 2 inputs to allow one-touch all call paging. Pressing the microphone's PUSH TO TALK button automatically initiates the all call tone.

10A186 AM-FM Tuner/Cassette Tape Player
This is a single, front panel mounted unit with a sensitive AM-FM tuner and digital read-out, and an auto reverse tape player for standard size cassettes.

Functional Description

1. Facility for function priority control which allows higher level functions to automatically interrupt lower level functions. The system shall automatically restore the lower level function when higher level functions are ended.

2. Facility for a diagnostic routine that can be initiated at any time during operation to check system integrity.

3. Facility for distribution of a paging announcement to all remote stations, regardless of switchbank switch position, using the control panel microphone (all call function).

4. Facility for single-switch distribution of an emergency page or announcement to all remote stations, regardless of switchbank switch position, using the control panel microphone (emergency function).

5. Provides choice of two separate auxiliary inputs and preamplifiers for two optional external page and all call microphones.

6. Facility for two-way voice (intercom) communication with any selected, properly equipped remote station.

7. Facility for annunciation of remote station call-ins by individual visual indicator and common call-in tone.

8. Facility for separate service level controls for all five program inputs (to balance program sources).

9. Facility for monitoring and pre-monitoring all programs both visibly by an LED bar graph and audibly through the panel speaker.

10. Facility for generation and distribution of an intermittent supervisory tone to a remote station being monitored.

11. Facility for privacy function at a remote station. The privacy function allows all signals to reach the remote station but prevents monitoring when the privacy switch at the station is activated.

12. Facility for connecting 24Vdc battery backup power for operation during primary AC power failure.

1. Facility for receiving AM or FM broadcasts and/or cassette tape programs for distribution to any or all speakers through the addition of a Model 10A186 AM-FM Tuner/Cassette Tape Player.

2. Facility for access to emergency paging, emergency tone distribution, time tone distribution, all call paging, selective paging (through the system operator), telephone–to–console intercom, and telephone–to–classroom intercom (through the system operator) using one or more standard DTMF telephones. Requires optional Model 110-2926 DTMF Telephone Interface Board and Model 110-2925 Interface Panel.

3. Facility for voice call-in to allow voice annunciation of call-ins from properly equipped remote stations. Requires Model 110-2929 Voice Call-In Board and Model 110-2925 Interface Panel.

4. Facility for programmable, clock-driven tone distribution to selected rooms. Requires optional Model 9A1042 or 9A1043 Programmable Time Zone Modules and Model 110-2925 Interface Panel.

5. Facility for triggering external devices by relays when the emergency, all call, and/or intercom call-in functions are selected. Requires optional Model 438-671 Output Mode Relay Kit and Model 110-2925 Interface Panel.

6. Facility for supplying additional tones, including chime, using an external tone generator that fastens to the rear of the console. Requires Model 15A266A Multitone Generator.

RATED OUTPUT
Program
60W (rms), 25V or 45Ω output (standard on models 12A/B/C/D3200)
125W (rms), 25V output (external on console models 12A/B3212)

Intercom
15W (rms), 25V or 45Ω output

POWER REQUIRED
60-Watt Models
120Vac, 60Hz, 2.0A
+24Vdc, 5.5A (battery backup for AC power)

125-Watt Models
120Vac, 60Hz, 5.0A
+24Vdc, 17A (battery backup for AC power)

AUXILIARY POWER OUTPUT
+24Vdc at 250mA

(Specifications)

<u>INPUTS</u>
Two low impedance: microphone
Three high impedance: tuner/tape, auxiliary 1, auxiliary 2

<u>INPUT SENSITIVITY</u>
Low Impedance
$300\mu V$ nominal, balanced

High Impedance
$300\mu V$ nominal, greater than $10k\Omega$

<u>FREQUENCY RESPONSE</u>
Program
50Hz to 15kHz

Intercom
Voice filtered for maximum intelligibility

<u>FILTERS</u>
RF filter to suppress interference on intercom listen channel

<u>DISTORTION</u>
Program
Less than 2% at full load

Intercom
Less than 2% at full load

<u>NOISE LEVELS</u>
Microphone
–60dB

Auxiliary
–60dB

Intercom
–60dB

<u>OUTPUT REGULATION</u>
Program
Better than 2dB from no load to full load

Intercom
Better than 2dB from no load to full load

<u>INDICATORS</u>
Five-segment LED bar graph for program power output level
Power-on LED
INTERCOM mode LED
EMERGENCY mode LED

FUSES
AC Line—2A (60W amplifier), 4A (125W amplifier) slow-blow
DC Supply—6.25A slow-blow

TERMINATIONS
CHAMP connectors, screw terminal strips, and RCA phono jacks

DIMENSIONS
Console
14-1/2" (36.8 cm) high x 20-1/2" (52 cm) wide x 16-3/8" (41.6 cm) deep

Rack
53" (134 cm) high x 21" (53 cm) wide x 17-1/2" (44 cm) deep

NET WEIGHT
Console
50 to 55 lb (22.7 kg to 25 kg)

Rack
140 to 150 lb (63.5 kg to 68 kg)

FINISH
Charcoal-colored, baked enamel with gray trim

TONES
Emergency paging, emergency tone, time tone, door tone, all call paging,
intercom, privacy tone

CONTROLS
Five input selector locking pushbuttons
One tone input selector pushbutton
Two program selector locking pushbuttons
One EMERGENCY PUSH TO TALK pushbutton
One EMERGENCY TONE locking pushbutton
One INTERCOM PUSH TO TALK pushbutton
Three-position room selector switches
Two level controls, listen and program

CAPACITY
25, 50, or 75 stations for consoles; up to 150 stations for rack units
60W or 125W program amplifier

Associated Equipment	**99A800**	Console Stand

99A800	Console Stand
PCS822	Remote Station Telephone Handset for 25V System with Hook-switch and Single-Gang Plate (beige)
PCS821	Remote Station Telephone Handset with Rocker Call-In Switch and Two-Gang Plate
PCS820	Remote Station Telephone Handset (single-gang)
PCS819	Remote Station Telephone Handset (two-gang)
PCS499	Call-In Switch, Privacy, Single-Gang
9A1765	Call-In Switch, Single-gang
PCS-G10WS	Baffle, Pacer Eight Speaker, Transformer
PCS-G31WS	Baffle, Pacer Eight Speaker, Transformer
PCS-G31WSE	Baffle, Pacer Eight Speaker, Transformer with Call-In Switch
PCS-B105S	Bi-Directional Baffle, Pacer Eight Speaker, Transformer
PCS-B303S	Sloping Front Metal Baffle, Pacer Eight Speaker, Transformer
PCS-B303-8	Sloping Front Metal Baffle with 8-Inch Speaker Only
PCS-B303E	Sloping Front Metal Baffle with Slot and Markings for Call-In Switch (not supplied)

Available System Models

		Console w/ Annunciate	**Console w/o Annunciate**	**Rack w/ Annunciate**	**Rack w/o Annunciate**
60-Watt Program Amplifier	25 stations	12A3200-25	12B3200-25	12C3200-25	12D3200-25
	50 stations	12A3200-50	12B3200-50	12C3200-50	12D3200-50
	75 stations	12A3200-75	12B3200-75	12C3200-75	12D3200-75
125-Watt Program Amplifier	25 stations	12A3212-25	12B3212-25	13C3212-25	12D3212-25
	50 stations	12A3212-50	12B3212-50	12C3212-50	12D3212-50
	75 stations	12A3212-75	12B3212-75	12C3212-75	12D3212-75
	100 stations			12C3212-100	12D3212-100
	125 stations			12C3212-125	12D3212-125
	150 stations			12C3212-150	12D3212-150

Printed in USA